



DOOR CLOSERS

Hager Companies offers a variety of surface door closers to meet a wide range of applications and uses. Heavy duty, Grade 1 door closers are ideal for schools, hospitals, and other high-use environments.

Surface door closers are easy to install, with only a few holes for the body and the arm, requiring a minimum amount of preparation of the door and frame.

There are a number of factors to consider when choosing how to mount your closer. These factors can be influenced by aesthetics, environment, or application. The main things to consider when defining how to mount a surface door closer include:

- Architectural appearance
- Accessibility to the closer arm
- Space limitations of the frame above the door
- Space limitations on the top rail of the door
- Closer position on the door

There are three basic methods of mounting surface door closers to the door and frame: regular arm, parallel arm, and top jamb mounts. All Hager door closers are supplied standard with a tri-pack for mounting any of the three types of applications. The package includes regular, parallel, and top jamb arm mounts.

REGULAR ARM

The regular arm application is used when there is ample room on the top rail of the door and you are not concerned about the arm extending out away from the door. The closer body is mounted on the hinge side of the top rail of the door. The forearm is then mounted to the frame face by a mounting shoe. The arm projects at approximately a 90° angle away from the door. The regular arm mount will make the closer more power-efficient than the parallel arm or top jamb mount.

PARALLEL ARM

The depth of the top rail is an important consideration when using this application. The closer body is mounted on the top rail of the door opposite the hinge side of the door. The forearm is mounted by a parallel arm bracket to the underside of the frame. The arm is parallel to the door, which makes it less likely to be damaged and aids in the overall aesthetics. The power efficiency of the closer may be reduced by the mounting applications.

TOP JAMB

This is the preferred method of mounting a closer if you are faced with a narrow rail on a door. The closer body is mounted to the frame face above the door, opposite the door hinge side. The forearm is then mounted to the top rail of the door. The top jamb mount is more power-efficient than the parallel arm application.

DOOR CLOSER SIZING CHART

Exterior (and Vestibule) Door Width

Minimum Door Width (24")

| | 24" (610 mm) | 30" (762 mm) | 36" (914 mm) | 42" (1067 mm) | 48" (1219 mm) |
|------------------------|-----------------|-----------------|-----------------|------------------|------------------|
| Regular Arm & Top Jamb | Size 3 | Size 4 | Size 5 | Size 5 | Size 6 |
| Parallel Arm | Size 3 | Size 4 | Size 5 | Size 5 | - |

Interior Door Width

Minimum Door Width (24")

| | 24" (610 mm) | 30" (762 mm) | 34" (865 mm) | 38" (965 mm) | 48" (1219 mm) | 54" (1372 mm) | 60" (1524 mm) |
|------------------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| Regular Arm & Top Jamb | Size 1 | Size 2 | Size 3 | Size 4 | Size 5 | Size 6 | Size 6 |
| Parallel Arm | Size 1 | Size 2 | Size 3 | Size 4 | Size 5 | Size 5 | - |





DOOR HANDING

Hager Companies' surface door closers are all non-handed, meaning they can be placed on a door so that they will operate a left-opening or a right-opening door. Some of the accessories that can be ordered with these closers are handed and the hand of the door should be specified when ordering a closer with these components.

CLOSER SIZING

The American National Standards Institute (ANSI) has set the standard for sizing and has ensured that each manufacturer's closers are tested to the same standards. The door closer sizing chart on page 4 shows the closer size required to fit your door size and application.

MEETING ADA REQUIREMENTS

Doors and doorways that are non-labeled and part of an accessible route shall comply with Section 404 of the ANSI 117.1 standard.

Door closers shall be adjusted so that from the open position of 90°, the time required to move the door to an open position of 12° shall be 5 seconds minimum.

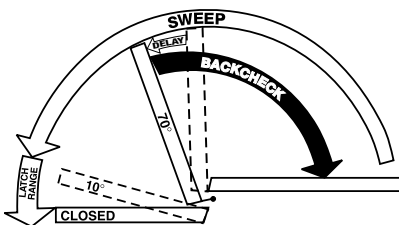
The maximum force for pushing open or pulling open an interior hinged door (other than a fire door) is five pounds.

FIRE DOORS

Fire doors shall have the minimum opening force allowable by the appropriate administrative authority.

CLOSER ADJUSTMENT

All Hager Companies' door closers are equipped with key control valves that allow for easy adjustments while decreasing the chances for tampering.



SWEEP AND LATCHING SPEEDS

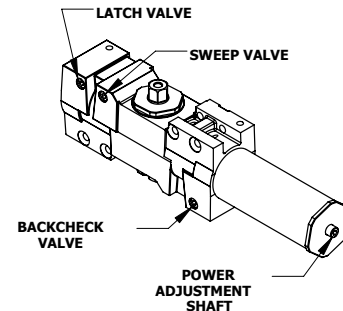
Two separate valves control the closing speed of the door. The sweep speed controls the speed of the door from full opening to within approximately 2° to 10° of the closed position. The latching speed valve controls the speed of the door from approximately 2° to 10° to full closing.

BACKCHECK

Backcheck starts at approximately 70° door opening and slows the door as it opens. This feature is not to be used as a positive stop. An auxiliary stop must be used.

DELAYED ACTION

The delayed action feature is available for all 5100 Series applications. The closing time between 90° and 70° shall be a minimum of 20 seconds, but is adjustable to be even slower.



ADJUSTABLE SPRING FEATURE

The 5100 Series closer offers an adjustable spring feature for sizing. Spring power of the closer can be increased or decreased by turning the power adjustment shaft clockwise.

USE OF DOOR STOPS

It is important to use an auxiliary door stop in order to protect the wall, trim, door, and closer. A stop should be used even when a closer with backcheck is used.

HOW TO SELECT THE PROPER CLOSER

1. Size and Weight of Door
5100 Series closers are non-sized so that closing force can be adjusted in the field to accommodate various door sizes, weights, and applications.
2. Interior Application
Where possible, the standard regular arm application should be used as it is the most efficient in terms of power and control.
3. Exterior Application
Exterior doors require greater closing forces because of draft and wind conditions. Therefore, where possible, use an extra heavy duty arm for these applications.
4. Degree of Opening
The closer should permit the door to open far enough to allow for easy traffic flow. The selection of the proper arm and position on the door are very important.
5. Function
Closers can be equipped with special arms that can serve many functions such as hold open, positive stop, or hold open stop when necessary.
6. Abusive Environment
Closers can be equipped with extra heavy duty arms that can withstand vandalism and extreme use.