WELCOME
Hager Companies provides single-source solutions for the door hardware industry with a line of quality products that includes:

- Architectural Hinges
- Residential Hinges
- Roton Continuous Geared Hinges
- Stainless Steel Continuous Hinges
- Trim & Auxiliary
- Thresholds & Weatherstripping
- Sliding Door Hardware
- Locks
- Door Closers
- Exit Devices

Since 1849, Hager's focus has been innovative products, exceptional value, and incomparable customer service. Additionally, Hager offers complimentary comprehensive consulting services. Our services include design development assistance, budget preparation, door hardware specification writing, code compliance, submitted schedules review and approval, and technical project support.

We believe that by offering these value-added services, along with our premium quality, value-priced products, you'll see for yourself how Hager gives you "more for your door than any other brand."

So whatever you're looking for—from simple everyday needs to solutions for unconventional applications—you'll find it in our 2016 Catalog.
TERMINOLOGY
Terminology used in this catalog complies with the following ANSI/BHMA standards:
• ANSI A156.1 - Butts and Hinges
• ANSI A156.2 - Bored and Pressembled Locks and Latches
• ANSI A156.3 - Exit Devices
• ANSI A156.4 - Door Controls-Closers
• ANSI A156.5 - Auxiliary Locks and Associated Products
• ANSI A156.6 - Architectural Door Trim
• ANSI A156.7 - Template Hinge Dimensions
• ANSI A156.8 - Door Controls-Overhead Stops and Holders
• ANSI A156.12 - Interconnected Locks
• ANSI A156.13 - Mortise Locks and Latches
• ANSI A156.14 - Sliding and Folding Door Hardware
• ANSI A156.15 - Release Devices-Closer Holder, Electromagnetic and Electromechanical
• ANSI A156.16 - Auxiliary Hardware
• ANSI A156.17 - Self Closing Hinges and Pivots
• ANSI A156.18 - Materials and Finishes
• ANSI A156.21 - Thresholds
• ANSI A156.22 - Door Gasketing Systems
• ANSI A156.25 - Electrified Locking Devices
• ANSI A156.26 - Continuous Hinges
• ANSI A156.28 - Keying Systems

ANSI NUMBERING SYSTEM
Letter “A” denotes section “A” of ANSI Standard

First Numeral
The first numeral indicates general type of material used.
1 – Cast, Forged or Extruded Brass or Bronze
2 – Wrought Brass or Bronze
5 – Stainless Steel, 300 Series
8 – Wrought Steel, Forged Steel or Malleable Iron

Second Numeral
The second numeral identifies type of product.
1 – Full Mortise Hinges
2 – Half Mortise Hinges
3 – Full Surface Hinges
4 – Half Surface Hinges
5 – Anchor, Pivot Reinforced or Thrust Pivot Unit and Hinge Sets
6 – Olive Knuckle Hinges
7 – Pivot Hinges
8 – Rescue Hardware

Third Numeral
The third numeral identifies the function or the description of the item or both.
1 – Anti-Friction Bearing
2 – Anti-Friction Bearing – Swing Clear
3 – Plain Bearing
4 - Thru 0 – Special Conditions

Fourth Numeral
The fourth numeral designates the grade classification of the item.
1 – Grade 1 – 4BB Extra Heavy Weight – 2,500,000 Cycles
2 – Grade 2 – 2BB Standard Weight – 1,500,000 Cycles
3 – Grade 3 – Plain Bearing – 350,000 Cycles

Information taken from: ANSI A156.1 (Butts and Hinges)

CODES AND ILLUSTRATIONS
Units of Measure
EACH - Item in a box either with or without screws.
PACK - Items poly bagged (1 or more) per bag.
PAIR - Items (1 or more) pair per box.
SET - Items (1 or more) sets per box.

Illustrations
Pictures and illustrations shown in this catalog are for general product information only and are not meant to be used as templates. Contact Hager Companies Sales and Service for templates or installation instructions, or go to www.hagerco.com to download.

Packaging
The following codes have been established to provide clarification of packaging methods. The basic code letter(s) are shown in parenthesis in the unit column of each page. The letter designation refers to the standard Hager Pack.

Hager Companies reserves the right to change the packaging methods when deemed necessary and to increase or decrease quantities to make full case quantities on a specific item.

B = Boxed
PB = Poly Bag
BLK = Bulk Pack
SET = Set

APPROVAL
Hager Companies has been approved by the U.S. Corps of Engineers and by the Veterans Administration for use on all veterans hospitals and on other buildings that would come under their jurisdiction. Approved samples are on file at the National Bureau of Standards, Washington, D.C.
Approximate Door Weights - pounds per square foot

<table>
<thead>
<tr>
<th>Door Material</th>
<th>1-3/8&quot; (35 mm)</th>
<th>1-3/4&quot; (45 mm)</th>
<th>2&quot; (51 mm)</th>
<th>2-1/4&quot; (57 mm)</th>
<th>2-1/2&quot; (64 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ash</td>
<td>4.5</td>
<td>5.3</td>
<td>6.0</td>
<td>6.8</td>
<td>7.5</td>
</tr>
<tr>
<td>Birch</td>
<td>3.8</td>
<td>4.3</td>
<td>5.0</td>
<td>5.6</td>
<td>6.3</td>
</tr>
<tr>
<td>Fir</td>
<td>3.0</td>
<td>3.5</td>
<td>4.0</td>
<td>4.5</td>
<td>5.0</td>
</tr>
<tr>
<td>Mahogany</td>
<td>4.5</td>
<td>5.3</td>
<td>6.0</td>
<td>6.8</td>
<td>7.5</td>
</tr>
<tr>
<td>Oak</td>
<td>6.0</td>
<td>7.3</td>
<td>8.0</td>
<td>9.0</td>
<td>10.0</td>
</tr>
<tr>
<td>White Pine</td>
<td>3.0</td>
<td>3.5</td>
<td>4.0</td>
<td>4.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Residential Hollow Core</td>
<td>1.7</td>
<td>2.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Institutional Hollow Core</td>
<td>-</td>
<td>3.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Staved Core</td>
<td>3.3</td>
<td>4.2</td>
<td>-</td>
<td>5.4</td>
<td>-</td>
</tr>
<tr>
<td>Particle Board Core</td>
<td>4.0</td>
<td>5.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mineral Core</td>
<td>-</td>
<td>4.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Acoustical Core</td>
<td>-</td>
<td>8.3</td>
<td>-</td>
<td>10.6</td>
<td>-</td>
</tr>
<tr>
<td>Fiberglass</td>
<td>-</td>
<td>3.8</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hollow Metal 18 gauge</td>
<td>4.3</td>
<td>4.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hollow Metal 16 gauge</td>
<td>5.4</td>
<td>5.8</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hollow Metal 15 gauge</td>
<td>6.2</td>
<td>6.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hollow Metal 14 gauge</td>
<td>7.0</td>
<td>7.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hollow Metal 13 gauge</td>
<td>8.3</td>
<td>8.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hollow Metal 12 gauge</td>
<td>9.9</td>
<td>15.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hollow Metal 11 gauge</td>
<td>11.2</td>
<td>11.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hollow Metal 10 gauge</td>
<td>12.8</td>
<td>13.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1-3/4&quot; Wood + 1/16&quot; Lead</td>
<td>-</td>
<td>8.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1-3/4&quot; Wood + 1/8&quot; Lead</td>
<td>-</td>
<td>12.4</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1-3/4&quot; Wood + 3/16&quot; Lead</td>
<td>-</td>
<td>16.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1-3/4&quot; Wood + 1/4&quot; Lead</td>
<td>-</td>
<td>19.8</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1-3/4&quot; Wood + 3/8&quot; Lead</td>
<td>-</td>
<td>27.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1-3/4&quot; Wood + 1/2&quot; Lead</td>
<td>-</td>
<td>34.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Frequency of Use

<table>
<thead>
<tr>
<th>Type of Building</th>
<th>Daily</th>
<th>Yearly</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large Department Store Entrance</td>
<td>5,000</td>
<td>1,825,000</td>
</tr>
<tr>
<td>Large Office Building Entrance</td>
<td>4,000</td>
<td>1,460,000</td>
</tr>
<tr>
<td>Hospital Corridor and Surgical Doors</td>
<td>3,000</td>
<td>1,095,000</td>
</tr>
<tr>
<td>School Entrance</td>
<td>1,250</td>
<td>456,250</td>
</tr>
<tr>
<td>Office Stairwell</td>
<td>500</td>
<td>182,500</td>
</tr>
<tr>
<td>Medium Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital Consultation Rooms</td>
<td>100</td>
<td>36,500</td>
</tr>
<tr>
<td>School Corridor</td>
<td>100</td>
<td>36,500</td>
</tr>
<tr>
<td>Office Building Corridor</td>
<td>80</td>
<td>29,200</td>
</tr>
<tr>
<td>Storage Room</td>
<td>50</td>
<td>18,250</td>
</tr>
<tr>
<td>Low Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Entrance</td>
<td>30</td>
<td>10,950</td>
</tr>
<tr>
<td>Residential Interior</td>
<td>20</td>
<td>7,300</td>
</tr>
</tbody>
</table>

Note: Frequency chart recommendations apply to all average weight doors. Heavy ball bearing hinges should be used for doors having a thickness of 2" (51 mm) or more over a width of 3’ 4” (1016 mm). Any doors on which a closing device is used should be equipped with bearing hinges, regardless of frequency of use.
TRADE ORGANIZATIONS

The American Hardware Manufacturers Association
The purpose of AHMA is to promote the sale of American made products through the hardware distribution system. Hager Companies is a member in good standing of the American Hardware Manufacturers Association, the owner of the AHMA registered trademark.

Door and Hardware Institute
The purpose of the Institute is to represent the architectural openings industry as a major component of the construction industry. Hager recommends the service of a qualified A.H.C. for the preparation of hardware specification and schedules. Members of this society are qualified through years of experience and rigid examination to handle the most complex hardware situations.

Builders Hardware Manufacturers Association
The Builders Hardware Manufacturers Association is a national trade group of manufacturers whose products are classified (Standard Industrial Classification #34294) and most familiarly recognized as locks and builders hardware. Where applicable this catalog shows BHMA numbers in conjunction with Hager numbers. The purpose is to advance the interests of the Builders Hardware Industry in all lawful ways.

Association of Millwork Distributors
The Association of Millwork Distributors has continued to be recognized as the leader in the millwork wholesale distribution industry for almost half a century. The Southern Sash and Door and Northern Sash and Door organizations, joined forces 42 years ago to become the National Sash and Door Jobbers Association (NSDJ A). On the 40th Anniversary of NSDJ A, the association changed its name to the Association of Millwork Distributors (AMD). This change signified that the leadership and membership of the association recognized the changes in the millwork industry.

AMD represents the millwork industry with over 1,000 distributor, manufacturer, and manufacturer’s representative companies, nationally and internationally, that promote the best in products and services that the millwork industry has to offer.

AMD is a chief advocate, actively engaged in issues regarding standards, trends, and resources in the millwork distribution industry. AMD monitors Congressional activity and various regulatory agencies, continually seeking to promote industry benefits for AMD members.

AMD is committed to being an essential resource for its members, providing educational products, networking events, and pertinent industry information to help members stay updated on millwork industry trends and available opportunities.
Florida Building Codes

The following products have been approved for statewide acceptance by the Florida Building Commission pursuant to Rule 9B-72.090, F.A.C., for approval of products and systems for use on Exterior Swinging Door Assemblies, in compliance with the structural requirements of the 2007 Florida Building Code.

Verification of Florida Statewide acceptance can be found at www.floridabuilding.org under the Product Approval section.

Severe Windstorm Resistant Components for Swinging Door Assemblies - ANSI A250.13 - 2003 Standard

<table>
<thead>
<tr>
<th>Certified Hardware</th>
<th>Assembly Configuration</th>
<th>Door Size</th>
<th>Door Stiffness Class</th>
<th>Design Load</th>
<th>Florida Certification Number (FL#)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100 Series Grade 1 Deadbolt</td>
<td>Single - Out Swing</td>
<td>3-0 x 7-0</td>
<td>-</td>
<td>1150 lbf (100 psf)*</td>
<td>6118</td>
</tr>
<tr>
<td></td>
<td>Single - Out Swing</td>
<td>4-0 x 8-0</td>
<td>-</td>
<td>1150 lbf (70 psf)*</td>
<td>6118</td>
</tr>
<tr>
<td>3200 Series Grade 2 Deadbolt</td>
<td>Single - Out Swing</td>
<td>3-0 x 7-0</td>
<td>-</td>
<td>1150 lbf (100 psf)*</td>
<td>6118</td>
</tr>
<tr>
<td></td>
<td>Single - Out Swing</td>
<td>4-0 x 8-0</td>
<td>-</td>
<td>1150 lbf (70 psf)*</td>
<td>6118</td>
</tr>
<tr>
<td>3400 Series Grade 1 Lockset</td>
<td>Single - Out Swing</td>
<td>3-0 x 7-0</td>
<td>-</td>
<td>1150 lbf (100 psf)*</td>
<td>6118</td>
</tr>
<tr>
<td></td>
<td>Single - Out Swing</td>
<td>4-0 x 8-0</td>
<td>-</td>
<td>1150 lbf (70 psf)*</td>
<td>6118</td>
</tr>
<tr>
<td>3500 Series Grade 2 Lockset</td>
<td>Single - Out Swing</td>
<td>3-0 x 7-0</td>
<td>-</td>
<td>860 lbf (80 psf)*</td>
<td>7683</td>
</tr>
<tr>
<td></td>
<td>Single - Out Swing</td>
<td>4-0 x 8-0</td>
<td>-</td>
<td>860 lbf (50 psf)*</td>
<td>7683</td>
</tr>
<tr>
<td>3800 Series Grade 1 Mortise</td>
<td>Single - Out Swing</td>
<td>3-0 x 7-0</td>
<td>-</td>
<td>1150 lbf (100 psf)*</td>
<td>12932</td>
</tr>
<tr>
<td></td>
<td>Single - Out Swing</td>
<td>4-0 x 8-0</td>
<td>-</td>
<td>1150 lbf (70 psf)*</td>
<td>12932</td>
</tr>
<tr>
<td>4500 Rim Exit Device</td>
<td>Single - Out Swing</td>
<td>4-0 x 8-0 max.</td>
<td>I</td>
<td>+/- 70 psf - 350 ft-lbs Impact</td>
<td>9481</td>
</tr>
<tr>
<td>4500 SVR Exit Device</td>
<td>Out Swing</td>
<td>8-0 x 8-0 pair max.</td>
<td>I</td>
<td>+/- 50 psf - 350 ft-lbs Impact</td>
<td>13178</td>
</tr>
<tr>
<td>4700 Rim Exit Device</td>
<td>Single - Out Swing</td>
<td>4-0 x 8-0 max.</td>
<td>I</td>
<td>+/- 40 psf - 350 ft-lbs Impact</td>
<td>8293</td>
</tr>
<tr>
<td>780-102 Roton Hinge</td>
<td>Single Swing</td>
<td>4-0 x 8-0 max.</td>
<td>I</td>
<td>1150 lbf (72 psf)* - 350 ft-lbs Impact</td>
<td>6118</td>
</tr>
<tr>
<td>780-111, 780-224, 780-226 Roton Hinge (5D &amp; HD)</td>
<td>Single Swing</td>
<td>4-0 x 8-0 max.</td>
<td>I</td>
<td>1150 lbf (72 psf)* - 350 ft-lbs Impact</td>
<td>13776</td>
</tr>
<tr>
<td>BB1191 Hinge</td>
<td>Single - Out Swing</td>
<td>-</td>
<td>-</td>
<td>1780 lbf**</td>
<td>6118</td>
</tr>
<tr>
<td>1279, 1191, BB1279, BB1168, BB1199</td>
<td>Single - Out Swing</td>
<td>-</td>
<td>-</td>
<td>1780 lbf**</td>
<td>13776</td>
</tr>
</tbody>
</table>

* Load in parenthesis indicates the equivalent load in pounds per square foot based on indicated door size and door stiffness (if applicable). This load is based on the hardware item taking half of the force applied to the door assembly by the wind load and the hinges taking the other half.

** This load indicates the design load for a single butt hinge. Maximum wind load should be calculated based on door size, number of hinges used, and the other available door hardware on the door assembly.
Basic Requirements for an Opening to be Classified as Fire-rated

The wall, frame, and door all have to be fire-rated. For example, as it would not make much sense to put a labeled door in a non-rated wall just as you cannot put a non-labeled door in a rated wall and call the opening fire-rated. The purpose of a fire-rated opening is to retard fire for a specific length of time. All components of the opening have to be rated. When an opening is also required to be "S" (smoke) labeled then additional gasketing items will be required to comply with the code.

Every swinging fire door must have a listed and labeled self-latching device to engage the strike to be fire-rated. Push and pull plates cannot be used on a fire-rated door. The door has to latch into the frame when closed so it stays closed. The latch prevents the door from opening during a fire if something falls against it. This means you must use at least a passage lock set on the door. Deadbolts cannot be used in place of a latching device because they are not self-latching.

The door must be self-closing to be fire-rated. A properly sized, listed and labeled closing device is part of basic fire door hardware requirements. If the door is left open during a fire, then that opening cannot retard the fire as it was meant to do; the door needs to close after somebody passes through it. This is usually done by a door closer or, in some cases, spring hinges.

Steel ball bearings and steel based hinges must be used on fire-rated doors. Brass, bronze and other base materials cannot be used, unless tested as an assembly. Continuous hinges are allowed as tested. Plain bearing hinges cannot be used. Bearing hinges minimize wear from everyday operation and help prevent door sag. During a fire, the door needs to operate smoothly so closers and latching devices work properly. Some manufacturers may provide doors with non-bearing type hinges only when they are part of the listed assembly.

Fire-rated and listed louvers can be installed on fire doors but they have to be a fusible link type. This means that once the heat from the fire reaches a certain temperature (usually 105°F) (41° C), the fusible link will melt which causes the louver blades to close. This will help prevent the spread of fire. The maximum size for these louvers is 24” x 24” (610 x 610 mm). There is no glass allowed in a fire-rated door if it has a louver and no louvers can be installed in a 3-hour rated door.

Basic fire door frames do not have hourly ratings. The exception being frames specially labeled for less than 3 hours. Frames bearing a recognized fire label may support a 3-hour, 1-1/2-hour, 3/4-hour or a 1/3-hour door. Frames used in masonry walls can be used with a maximum 3-hour fire door. While frames in drywall are intended for use with fire doors rated up to 1-1/2-hour, some manufacturers have tested for a 3-hour frame in drywall. Verify with your manufacturer for individual listing.

Remember, these are basic requirements. Codes differ from area to area and are enforced by the Authority Having Jurisdiction (AHJ)

The purpose of a fire-rated opening is to retard fire for a specific period of time.

The hourly designation indicates the duration for the fire test exposure and is known as the fire protection rating.

A Label: 3-hour rating (for a 4-hour wall): These doors are used for openings in walls separating buildings that are joined together. They are metal doors and glass is allowed as tested. “A” label doors might not require additional seals applied to the frame, check with your individual manufacturer’s procedure. Typically, a hollow metal door needs no added seals. Metal and some composite doors expand when heated. The door itself effectively seals the opening and often does not require the addition of an edge sealing system for the fire label. However, this door would still need a smoke gasket if it were functioning as a smoke control door.

B Label: 1-1/2-hour rating (for a 2-hour wall): These doors are usually used for stairwell doors but are sometimes used at all the rated walls in a building (i.e., mechanical or electrical rooms). One-hundred square inches of exposed glass per door leaf is allowed. These are mostly wood composite and hollow metal doors. A “B” label 1-hour rating (1-hour wall) exists for use in buildings less than four stories tall; this rating currently only applies to wood doors. “B” label fire doors require the addition of an edge-sealing system (category “G” gasket) to the frame to comply with the new positive pressure test method. Some wood doors do not require the additional category “G” gasket; check with your manufacturer for availability.
C Label: 3/4-hour rating (for a 1-hour wall): These doors are used for openings from a corridor into another room in the same building. 1,296 square inches of exposed glass is allowed per vision light. These are mostly wood composite doors. “C” label fire doors require the addition of an edge-sealing system (category “G” gasket) to the frame to comply with the new positive pressure test method. Some wood doors do not require the additional category “G” gasket, check with your manufacturer for availability.

D Label: 1-1/2-hour rating (for a 2-hour wall): These are hollow metal doors used in exterior walls subject to severe fire exposure from outside the building. One-hundred square inches of exposed glass per door leaf is allowed. Check with your manufacturer’s listing for the addition of a category “G” gasket to meet positive pressure requirements.

E Label: 3/4-hour rating (for a 1-hour wall): These are hollow metal doors used in exterior walls subject to moderate to light fire exposure from the outside of the building. 1,296 square inches of exposed glass is allowed per vision light. Check with your manufacturers listing for the addition of a category “G” gasket to meet positive pressure requirements.

1/3-Hour Door: 20-minute rating (for a 1-hour wall): These doors do not have a letter designation for their rating and can be a wood or particle core door. 1,296 square inches of exposed glass is allowed per vision light. They are tested with or without hose stream. Doors tested without hose stream are specially labeled: “Twenty Minute-Rating Without Hose Stream.” These doors are used on condo/apartment entrances, offices of a 1-hour rated corridor wall and other applications where smoke and draft control is the primary concern.

S Label: The letter “S” is the designation on a door’s fire label indicating it can be used as a Smoke Control Door. Door manufacturers are allowed to put an “S” on a fire label when the door opening has passed the air infiltration test. The door opening does not become approved for a Smoke and Draft Control unit until an approved category “H” gasket system has been installed on the frame. The federal government, many owners and some states require at least some openings to be labeled for smoke as well as fire. This is not limited to 20-minutes but includes all fire labeled doors that are rated 20-minutes and above. The addition of an approved category “H” smoke control gasket completes the installation instructions necessary to validate the labeled door to become a Smoke Control Door.

All of the labels listed above have the capability of being both fire and smoke barrier openings. Openings requiring smoke labels are detailed either by the fire authority having jurisdiction, local code, NFPA 101 or NFPA 5000.
In the mid 1800s, Charles Hager had a successful business forging metal wheel rims and hinges for wagons headed west. As a smart businessman who valued quality and innovation, Charles soon became a pioneer in product development, designing a revolutionary hinge that became a prototype for more than 5,000 hinges to follow.

Today, the Hager name is synonymous with commercial hinges. In fact, we are the industry’s premiere designer and manufacturer of commercial hinges, with a product line that offers one of the widest varieties of sizes, shapes, and finishes—all of which meet or exceed ANSI standards. With legendary quality, time-tested durability, and consistent superior performance, Hager is the one name, and one brand, you can count on to provide it all.

Table of Contents

General Information ............................................................ 2
Specialty Hinges ................................................................. 8
Electric Hinges ................................................................. 10
Hinge Selector ................................................................. 11
Full Mortise ................................................................. 13
Half Mortise ................................................................. 26
Full Surface ................................................................. 28
Half Surface ................................................................. 31
Aluminum Entrance ......................................................... 34
Swing Clear ................................................................. 35
Anchors ................................................................. 38
Pivots ................................................................. 40
Detention Hardware ......................................................... 44
Accessories ................................................................. 45
**Determine Type of Hinge**
- What is the door material (wood, stainless steel, fiberglass, or hollow metal)?
- What is the frame material (wood, stainless steel, channel iron, or hollow metal)?

Hinges are manufactured in accordance with ANSI/BHMA A156.1. Self-closing hinges and pivots are in accordance with ANSI/BHMA A156.17 using three hinges per opening on a 3’0” x 7’0” x 1-3/4” (914 mm x 2134 mm x 44 mm) door.

Round corners are available in 1/4” (6 mm) (standard) or 5/8” (16 mm) radius.

**Full Mortise**
Both leaves are mortised, one leaf in the door and one leaf in the frame (wood door or hollow metal door with wood or hollow metal frame).
Example: BB1279 4-1/2” x 4-1/2” (114 mm x 114 mm), US26D

**Half Mortise**
One leaf is mortised in the door and the other is surface applied to the frame (hollow metal door with channel iron frame).
Example: BB1109 4-1/2” (114 mm), US26D

**Full Surface**
Both leaves are applied to the surface, one to the door and the other to the frame (metal clad door or hollow metal door with channel iron frame).
Example: BB2171 5” (127 mm), USP

**Half Surface**
One leaf is mortised in the frame and the other is surface applied to the face of the door (wood door with wood frame or hollow metal door with hollow metal frame).
Example: BB1163 5” (152 mm), US26D

**Select the Proper Weight and Bearing Structure**
Because of the variety of door sizes and weights, hinges are placed into three groups:

- **Heavy Weight - Ball Bearing**
  Example: BB1199 5” x 5” (127 mm x 127 mm), US32D

- **Standard Weight - Ball Bearing**
  Example: BB1279 4-1/2” x 4-1/2” (114 mm x 114 mm), US26D

- **Standard Weight - Plain Bearing**
  Example: 1279 4” x 4” (102 mm x 102 mm), US10

**Hinge Type Minimum Cycle Requirements**
- Plain Bearing = 350,000
- Standard Weight Ball Bearing = 1,500,000
- Heavy Weight Ball Bearing = 2,500,000

There are three factors that determine the weight and structure of the hinge: weight and width of the door and frequency of use. It is advisable to include the approximate weight of additional hardware that will be installed on the door.

**Determine the Size of Hinge**
The first thing to find is the height of the hinge. Follow the examples below. These are only examples. Job situations will offer many more variables.

Only on the full mortise hinges are there two dimensions, such as a 4-1/2” x 4-1/2” (114 x 114 mm). The first dimension indicates the height and the second dimension indicates the width when the hinge is in the open position.

**Height of Hinge**

<table>
<thead>
<tr>
<th>Thickness of Door</th>
<th>Width of Door</th>
<th>Height of Hinge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3/8” (35 mm) Door</td>
<td>To 32” (813 mm)</td>
<td>3-1/2” (89 mm)</td>
</tr>
<tr>
<td>1-3/8” (35 mm) Door</td>
<td>32” to 36” (813 to 914 mm)</td>
<td>4” (102 mm)</td>
</tr>
<tr>
<td>1-3/4” (45 mm) Door</td>
<td>To 36” (914 mm)</td>
<td>4-1/2” (114 mm)</td>
</tr>
<tr>
<td>1-3/4” (45 mm) Door</td>
<td>36” to 48” (914 to 1219 mm)</td>
<td>5” (127 mm)</td>
</tr>
<tr>
<td>1-3/4” (45 mm) Door</td>
<td>Over 48” (1212 mm)</td>
<td>6” (152 mm)</td>
</tr>
<tr>
<td>2”, 2-1/4”, 2-1/2” Door (51, 57 &amp; 64 mm)</td>
<td>To 42” (1067 mm)</td>
<td>5” (127 mm) Heavy Weight</td>
</tr>
<tr>
<td>2”, 2-1/4”, 2-1/2” Door (51, 57 &amp; 64 mm)</td>
<td>Over 42” (1067 mm)</td>
<td>6” (152 mm) Heavy Weight</td>
</tr>
</tbody>
</table>

**Width of Hinge**
There are three dimensions to know in order to determine the minimum width of the hinge: door thickness, hinge backset, and clearance required.

1. When figuring the calculations for a wood door and wood frame, the door is flush with the casing or face of the frame. When figuring the calculations for a wood or metal door with a hollow metal frame, the door is inset approximately 1/8” (3.2 mm).
2. For doors up to 2-1/4” (57 mm) thick, the hinge backset is 1/4” (6.4 mm) from the back face of the door.
3. For doors over 2-1/4” (57 mm) thick, the hinge backset is 3/8” (9.5 mm) from the back face of the door.

Once these dimensions are known, the formula can then be applied. **Take the door thickness, subtract the backset, multiply by two, and add the clearance required.** If the hinge size is not standard, then go to the next larger hinge width. If the width of the hinge is greater than the height of the hinge [example: 4-1/2” x 6” (114 mm x 152 mm)] this is referred to as a wide throw hinge. This would apply only to full mortise hinges.
Minimum Width of Hinge

Determine the Number of Hinges
The next determination is the number of hinges per door leaf. A general rule of thumb: one hinge for every 30" (762 mm) of door height or fraction thereof.

<table>
<thead>
<tr>
<th>Door Thickness</th>
<th>Standard Backset</th>
<th>Max. Clearance Provided</th>
<th>Width of Hinge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3/8&quot; (35 mm)</td>
<td>1/4&quot; (6.4 mm)</td>
<td>1-1/4&quot; (32 mm)</td>
<td>3-1/2&quot; (89 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-3/4&quot; (45 mm)</td>
<td>4&quot; (102 mm)</td>
</tr>
<tr>
<td>1-3/4&quot; (45 mm)</td>
<td>1/4&quot; (6.4 mm)</td>
<td>1&quot; (25 mm)</td>
<td>4&quot; (102 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1/2&quot; (38 mm)</td>
<td>4-1/2&quot; (114 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&quot; (51 mm)</td>
<td>5&quot; (127 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; (76 mm)</td>
<td>6&quot; (152 mm)</td>
</tr>
<tr>
<td>2&quot; (51 mm)</td>
<td>1/4&quot; (6.4 mm)</td>
<td>1&quot; (25 mm)</td>
<td>4-1/2&quot; (114 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1/2&quot; (38 mm)</td>
<td>5&quot; (127 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-1/2&quot; (64 mm)</td>
<td>6&quot; (152 mm)</td>
</tr>
<tr>
<td>2-1/4&quot; (57 mm)</td>
<td>1/4&quot; (6.4 mm)</td>
<td>1&quot; (25 mm)</td>
<td>5&quot; (127 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&quot; (51 mm)</td>
<td>6&quot; (152 mm)</td>
</tr>
<tr>
<td>2-1/2&quot; (64 mm)</td>
<td>3/8&quot; (9.5 mm)</td>
<td>3/4&quot; (19 mm)</td>
<td>5&quot; (127 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-3/4&quot; (45 mm)</td>
<td>6&quot; (152 mm)</td>
</tr>
</tbody>
</table>

Hinge Backset:
- 1/4" (6.4 mm) for doors up to 21/2" (64 mm) thick
- 1/2" (9.5 mm) for doors over 21/2" (64 mm) thick

Full Mortise Hinge Specifications:

<table>
<thead>
<tr>
<th>Full Mortise Hinge Height</th>
<th>Frequency of Use</th>
<th>Max Door Weight</th>
<th>Maximum Door Width</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2&quot; (114 mm) Low</td>
<td></td>
<td>75</td>
<td>36&quot; (914 mm)</td>
<td>1279</td>
</tr>
<tr>
<td>4-1/2&quot; (114 mm) Medium</td>
<td></td>
<td>150</td>
<td>36&quot; (914 mm)</td>
<td>BB1279</td>
</tr>
<tr>
<td>4-1/2&quot; (114 mm) High</td>
<td></td>
<td>150</td>
<td>36&quot; (914 mm)</td>
<td>BB1168</td>
</tr>
<tr>
<td>5&quot; (127 mm) Low</td>
<td></td>
<td>100</td>
<td>36&quot; (914 mm)</td>
<td>1279</td>
</tr>
<tr>
<td>5&quot; (127 mm) Medium</td>
<td></td>
<td>175</td>
<td>36&quot; (914 mm)</td>
<td>BB1279</td>
</tr>
<tr>
<td>5&quot; (127 mm) High</td>
<td></td>
<td>175</td>
<td>36&quot; (914 mm)</td>
<td>BB1168</td>
</tr>
<tr>
<td>6&quot; (152 mm) Low</td>
<td></td>
<td>125</td>
<td>36&quot; (914 mm)</td>
<td>1279</td>
</tr>
<tr>
<td>6&quot; (152 mm) Medium</td>
<td></td>
<td>230</td>
<td>36&quot; (914 mm)</td>
<td>BB1279</td>
</tr>
<tr>
<td>6&quot; (152 mm) High</td>
<td></td>
<td>230</td>
<td>36&quot; (914 mm)</td>
<td>BB1168</td>
</tr>
</tbody>
</table>

Determine Type of Material

Steel
This has great strength, but it is a corrosive material. If the atmosphere that steel is used in is not stable, steel will begin to rust. The best application for steel is in a controlled environment, such as inside a building where the temperature and humidity are controlled.

Stainless Steel
This also has great strength. It is rust resistant and can be polished to a satin or bright finish. For highly corrosive areas, 316 grade or clear coat over 304L may be recommended. Hager Companies standard grade stainless steel is 304L.

Brass
This material is non-corrosive, rust resistant, and very decorative. However, it has less strength than the steel or stainless steel material. Brass is often used where appearance is of great concern as it may be polished and plated in various finishes.

Both steel and stainless steel hinges may be used on listed fire rated or labeled door openings. Brass material may not be used on fire rated or labeled openings because of the low melting point.
GENERAL INFORMATION - SELECTING A HINGE

Determine Type of Finish
All steel and brass material hinges can be plated to match the available finishes that are listed in the American National Standards Institute, standard ANSI/BHMA A156.18 Materials and Finishes.

Special Resisting Finishes
A nickel undercoat is a standard process that is applied to all steel basted PLATED hinges. The nickel undercoat is an optional process for steel based PAINTED hinges and must be ordered as an option if desired.

Note: Hager Companies only warrants US10B finish over brass base material. If steel base is necessary, Hager Companies recommends US10A lacquer finish.

Antimicrobial Protection
Hager Companies uses a powder coat process to apply antimicrobial treated coating to guarantee durability and protection. Antimicrobial resistance on products is affected by moisture in the air. Silver ions interact with humidity and are released creating a cleaner surface.

Architectural Finish Symbols

<table>
<thead>
<tr>
<th>Powder Coat Finishes</th>
<th>Steel</th>
<th>Brass &amp; Bronze</th>
<th>Stainless Steel</th>
<th>HEWI#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hager</td>
<td>Description</td>
<td>693</td>
<td>693</td>
<td>N/A</td>
</tr>
<tr>
<td>L1</td>
<td>Flat Black</td>
<td>693</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>L2</td>
<td>Dark Bronze</td>
<td>695</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>L3</td>
<td>Medium Bronze</td>
<td>694</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>LS</td>
<td>Luma Sheen® Aluminum Paint</td>
<td>689</td>
<td>689</td>
<td>N/A</td>
</tr>
<tr>
<td>13P</td>
<td>White</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>83P</td>
<td>Black</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>84P</td>
<td>Olive</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>85P</td>
<td>Brown</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>86P</td>
<td>Burgundy</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>87P</td>
<td>Dark Green</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>88P</td>
<td>Dark Blue</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
**Bearing Options**
When using steel based hinges, special options are available such as stainless steel pins, stainless steel bearings and stainless steel raceways.

**Ball Bearing (BB)** - Ball bearings are engineered to throw the knuckle weight against specially hardened steel raceways, which ride on the bearing surfaces. The one-piece cup protects the bearings from moisture and dust. The cup supports no weight so it is not subjected to functional friction, pressure or wear. Lateral wear is minimized because the pin is held against thrust by the hardened steel top and bottom raceways. The bearing units are securely press-fit to the leaf knuckle to prevent loss when the hinge is disassembled.

**Oilite Bearings (OB)** - The oilite bearing is made of porous metal that has been press-formed and impregnated with oil. The slight pressure and heat generated when the door is operated causes the oil to come to the surface of the bearing causing the surface to be slick and smooth.

**Anti-Friction Nylon Bearings (AB/CB)** - These are made of resilient engineering plastics that provide a self-lubricant and very strong bearing surface. The nylon acts as a cushion for the door yet it allows the door to flow smoothly on the surface of the nylon with an extremely low wear factor. (AB is standard on 3-knuckle hinges. CB is an option for 5-knuckle hinges).

**Care and Maintenance**
- Hinges must be free swinging without any binding. The use of shims to align hinges, if required, is satisfactory. Steel shims to be used on labeled openings.
- Hinges should be well greased and checked on a regular basis for lubrication. We recommend that hinges used in commercial, high-frequency applications or those in extreme environmental conditions be lubricated annually to ensure quiet operation and long life.
- Standard hinges are best lubricated by removing the pin, applying a generous coating of lithium grease, and reinserting the pin by driving it completely down to the shoulder of the pin head.
- Hospital Tip (HT) hinges that have fixed hinge pins have an oil port on the knuckle for the purpose of lubrication.
- Water displacing sprays such as WD-40 are not recommended for hinge lubrication.
- To remove dirt, simply wipe with a soft damp cloth. Abrasive cleaners or lacquer thinner should not be used to clean the surface of hinges. To do so will void any warranty for the product.

**Determine Handing**
On some applications it will be necessary to order hinges that are handed. Most manufacturers use the suffix RH (right hand) and LH (left hand). Another general rule of thumb, most manufacturers make the half surface, half mortise and full surface hinges for right hand use. Conversion from right hand to left hand is very simple; take the pin out of the knuckle, remove the bottom plug, turn the hinge over, replace the plug in the bottom and the pin in the top of the knuckle, and the handing is reversed.

- The hand of a hinge is determined from the key of the door to which it is applied. This is usually the locked side.
- When standing keyside, if the door opens away (into the area) to the right, it takes a right hand hinge (also referred to as RH). If it opens to the left, it takes a left hand hinge (also referred to as LH).
- When standing keyside, if the door opens (out of the area) toward the right, it takes a left hand hinge (also referred to as right hand reverse bevel – RHRB). If it opens to the left, it takes a right hand hinge (also referred to as a left hand reverse bevel – LHRB).

**Determine Pin and Tip Style**
- The standard in the industry is the Flat Button Tip for 5-knuckle hinges.
- The flush/concealed tip is standard on 3-knuckle. If button tip is required, specify Exposed Tip (ET).
- Hospital Tips (HT) are used primarily for security areas in hospitals and in prisons. This tip prevents hanging any objects on the tip of the hinge. Hager provides all hospital tipped hinges with two non-removable cross pins, stainless steel hinge pin, and an oil port for lubrication purposes. If the hinge is ball bearing, the components used for the bearing are made of stainless steel. Using a Hospital Tip on spring hinges voids the UL listing.
- Decorative tips such as Acorn, Ball, Steeple, and Urn are used in highly decorative areas of offices and residences.
**Swaging**
Swaging is a slight offset of the hinge leaf at the barrel. This offset permits the leaves to come closer together when the door is in the closed position. If the hinge were to be left in the natural state after the knuckle was rolled, the hinge would be referred to as a “flatback”. A flatback hinge has a gap between the leaves of approximately 5/16” (7.9 mm). This would allow heat and air-conditioning to escape, not to mention the unsightly gap between the door and frame. Standard gap (Swag) is 1/16”, specify "O" Swag for no gap.

The swaging on standard weight and heavy weight full mortise hinges provides 1/16” (1.6 mm) clearance between the leaves when the leaves are in the closed position. Full mortise hinges used on beveled doors will affect lockside clearance, especially for wide throw applications.

**Security Features**
Three additional features that are commonly used are: Non-Removable Pin (NRP), Safety Stud (SH), and Reverse Security Stud (RSS). These features are intended as deterrents only.

**Non-Removable Pin**
The Non-Removable Pin (NRP) hinge barrell is drilled and tapped to receive a small set screw which is tightened against the hinge pin. The pin has a groove in the position where the set screw makes contact, allowing the set screw to seat. The set screw is positioned so it cannot be reached unless the door is opened. If pin removal is necessary, the set screw is merely removed and the pin tapped from the bottom in the usual manner.

**Safety Stud**
The Safety Stud (SH) 3/16” (4.8 mm) projection is a feature that places a stud on one leaf and a locking hole on the other leaf. When the door is closed, the stud is anchored into the opposite leaf. Even if the hinge pin is removed, the door is secure because the leaves are locked together.

**Reverse Security Stud**
The Reverse Security Stud (RSS) 7/16” (11.1 mm) projection is a feature that has a welded stud projecting from the back of both leaves into the reinforcing plate of both the frame and the door. It is intended to keep the hinge locked in place from abuse of battering or trying to shear the hinge and screws. This feature is primarily used in prisons and psychiatric areas.

**Tip Styles**
- Flat Button Tip (ET - 3 Knuckle)
- Tri-Con Flush Pin
- Hospital Tip (HT)
- Acorn Tip
- Ball Tip
- Steeple Tip
- Urn Tip
### Standard Screw Packs for Full Mortise Architectural Hinges

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Size</th>
<th>Finish</th>
<th>Screws</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other than listed above</td>
<td>4-1/2”</td>
<td>Other than listed above</td>
<td>AMS &amp; AWS</td>
</tr>
<tr>
<td>All</td>
<td>3-1/2”</td>
<td>All</td>
<td>AWS &amp; 1/2 MS</td>
</tr>
<tr>
<td>All</td>
<td>4”</td>
<td>All</td>
<td>AWS &amp; 1/2 MS</td>
</tr>
<tr>
<td>All</td>
<td>5”</td>
<td>All</td>
<td>AWS &amp; 1/2 MS</td>
</tr>
<tr>
<td>All</td>
<td>6”</td>
<td>All</td>
<td>AWS &amp; 1/2 MS</td>
</tr>
<tr>
<td>All</td>
<td>8”</td>
<td>All</td>
<td>AWS &amp; 1/2 MS</td>
</tr>
<tr>
<td>All hinges with decorative tips</td>
<td>All</td>
<td>All</td>
<td>AWS</td>
</tr>
</tbody>
</table>

### Fire-Rated Application

<table>
<thead>
<tr>
<th>Door Rating (Hr)</th>
<th>Maximum Door Size Width</th>
<th>Minimum Door Size Height</th>
<th>Minimum Hinge Size Thickness</th>
<th>Type Hinge</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 1-3/4” (44.5 mm) or thicker doors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3, 1-1/2, 1, 3/4, 1/2, 1/3</td>
<td>4 (1.22)</td>
<td>10 (3.05)</td>
<td>4-1/2 (114.3)</td>
<td>0.180 (4.57)</td>
</tr>
<tr>
<td>3, 1-1/2, 1, 3/4, 1/2, 1/3</td>
<td>4 (1.22)</td>
<td>8 (2.44)</td>
<td>4-1/2 (114.3)</td>
<td>0.134 (3.40)</td>
</tr>
<tr>
<td>1-1/2, 3/4, 1/2, 1/3</td>
<td>3-1/16 (0.96)</td>
<td>8 (2.44)</td>
<td>6 (152.4)</td>
<td>0.225 (5.72)</td>
</tr>
<tr>
<td>3, 1-1/2, 1, 3/4, 1/2, 1/3</td>
<td>4 (1.22)</td>
<td>10 (3.05)</td>
<td>4 (101.6)</td>
<td>0.225 (5.72)</td>
</tr>
<tr>
<td>1-1/2, 1, 3/4, 1/2, 1/3</td>
<td>3 (0.91)</td>
<td>5 (1.52)</td>
<td>4 (101.6)</td>
<td>0.130 (3.30)</td>
</tr>
<tr>
<td>1-1/2, 1, 3/4, 1/2, 1/3</td>
<td>2 (0.61)</td>
<td>3 (0.91)</td>
<td>3 (76.2)</td>
<td>0.092 (2.34)</td>
</tr>
<tr>
<td>3, 1-1/2, 1, 3/4, 1/2, 1/3</td>
<td>3 (0.91)</td>
<td>7 (2.13)</td>
<td>4-1/2 (114.3)</td>
<td>0.134 (3.40)</td>
</tr>
<tr>
<td>3, 1-1/2, 1, 3/4, 1/2, 1/3</td>
<td>3 (0.91)</td>
<td>7 (2.13)</td>
<td>4 (101.6)</td>
<td>0.105 (2.67)</td>
</tr>
<tr>
<td>For 1-3/8” (34.9 mm) doors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3, 1-1/2, 3/4, 1/2, 1/3</td>
<td>3 (0.91)</td>
<td>7 (2.13)</td>
<td>3-1/2 (89.9)</td>
<td>0.123 (3.12)</td>
</tr>
<tr>
<td>3, 1-1/2, 1, 3/4, 1/2, 1/3</td>
<td>2-2/3 (0.81)</td>
<td>7 (2.13)</td>
<td>3-1/2 (89.9)</td>
<td>0.105 (2.67)</td>
</tr>
</tbody>
</table>

Notes:
1. All hinges or pivots, except spring hinges, shall be of the ball bearing type. Hinges or pivots employing other anti-friction bearing surfaces shall be permitted if they meet the requirements of ANSI A156.1, Standard for Butts and Hinges. Spring hinges shall be labeled and shall meet the requirements of ANSI A156.17, Standard for Self Closing Hinges and Pivots, Grade 1.

2. Heavy weight hinges 4-1/2” (114 mm) high, 0.180” (4.57 mm) thick shall be permitted for use on wide and heavy doors or doors that are subjected to heavy use or unusual stress.

3. Some manufacturers can provide fire doors with hinges of lighter weight that are not of the ball bearing type where they are part of a listed assembly and meet the requirements of ANSI A156.1, Standard for Butts and Hinges, and have been tested to a minimum of 350,000 cycles.

4. Pivot sets made up of components that are smaller or of a lighter gauge than shown in this table shall be permitted to be used, provided they meet the requirements of ANSI A156.4, Door Controls (Closers) and are in accordance with the manufacturer’s label service procedures.
### Specialties Hinges

**Spring**

NFPA 80 has restricted the use of architectural grade spring hinges to fire-rated doors of a maximum size of 3'0" x 7'0" (914 mm x 2134 mm). Hager spring hinges have been tested and labeled for up to a 4'0" x 8'0" (1219 mm x 2438 mm) door when a minimum of three springs are used. Spring hinges must be used with ball bearing hinges. Do not use plain bearing hinges with spring hinges.

**Air Transfer Hinge (ATH)**

Pneumatic transfer hinge is used to transfer as much as 120 pounds of air pressure through the hinge in order to operate an air modified lock or exit device. Pneumatic power may be used in explosion-proof areas or where electric power is not sufficient to perform the necessary job.

**Swing Clear**

This is used when the passage area must be the full width of the opening. Swing clear hinges are designed to swing the door completely clear of the opening when the door is opened 95°. Assembled RH, reversible to LH. Can be ordered as LH.

**Detention**

Investment cast full mortise hinges (IHTHB953 Series) are the standard 4-1/2" x 4-1/2" (114 mm x 114 mm) size with a mortise depth of 0.187" (4.7 mm). These hinges can carry doors weighing up to 600 pounds.

**Anchor**

The anchor hinges are intended for use on heavy wood or hollow metal doors in high frequency applications such as hospitals, schools, and public use buildings. These hinges are especially designed for use on doors where additional hardware (door closers or holders) may cause excessive strain or abuse to the door, frame, and/or hinges. Anchor plates may be attached to either the frame and/or door. This prevents the hinges from pulling loose on the door or the frame.

There are two variations of the reinforcing/anchor hinge: one has a single extension leaf which is mortised into the frame only; the second has two extension leaves. One leaf is mortised into the frame and the other leaf is mortised into the top edge of the door. It will be necessary to know if the doors are square edged or beveled edged.

**Aluminum Entrance**

A slip-in hinge, plain bearing or ball bearing, is used with aluminum doors and frames. These hinges are manufactured for low to average frequency and medium weight aluminum doors and frames.

- 1277 or BB1277 – Both leaves are drilled and tapped for insertion into a slot in the door and the frame.
- 1278 or BB1278 – One leaf has the standard template hole punch and countersinking and the other leaf is drilled and tapped for insertion into a slot in the door or frame.

### Raised Barrel and Jamb Surface Mount

This option is used when the door is set back into the frame. The hinge knuckle is offset to allow it to clear the obstruction of the frame. There are three different types of applications:

- **Jamb Surface Mount (JSM)** application, the door is double mortised to accommodate both hinge leaves; it is also referred to as double mortise. The Jamb Surface Mount may be applied to either a square or beveled edged door. For casel opening, sometimes referred as one leaf swagged flat.
- **Raised Barrel for Square Edged (RBS)** and the **Raised Barrel for Beveled Edged (RBB)** door applications are mortised into the frame and door as a standard full mortise hinge. Standard offset is 3/8" (10 mm). Depending on the depth of the frame, all three of these applications may restrict the degree of opening. Specify handing and door thickness.
SPECIALTY HINGES

DROP LEAF HINGES

BB1279
Ball Bearing - Standard Weight

BB1168
Ball Bearing - Heavy Weight
- Drop leaf applied to door will lower the door away from the head 1/8”
- Adjustable to 1/16” drop by repositioning and removing one of the 1/16” spacers
- Non-rising removable pin with button tip and plug
- Handed. Non-reversible
- Also available 1/4” drop

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.134</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: Additional sizes and hinges available. Contact Hager Customer Service for information.

SHORT LEAF HINGES

BB1279
Ball Bearing - Standard Weight

BB1168
Ball Bearing - Heavy Weight
- Two ball bearings
- Steel with steel pin
- For use on medium doors requiring medium frequency service

BB1191
Ball Bearing - Standard Weight
- Two ball bearings
- Brass with stainless steel pin or stainless steel with stainless steel pin
- For use on medium doors requiring medium frequency service

BB1168
Ball Bearing - Heavy Weight
- Four ball bearings
- Steel with steel pin
- For use on heavy doors requiring high frequency service

BB1199
Ball Bearing - Heavy Weight
- Four ball bearings
- Brass with stainless steel pin or stainless steel with stainless steel pin
- For use on heavy doors requiring high frequency service
- Short leaf applied to door will move the door 1/8” away from the stop. Reverse movement is accomplished by applying the short leaf to the frame.
- Non-rising removable pin with button tip and plug

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4-3/8</td>
<td>114 x 111</td>
<td>0.134</td>
<td>8</td>
</tr>
</tbody>
</table>

UNEQUAL LEAF HINGES

BB1279
Ball Bearing - Standard Weight
- Two ball bearings
- Steel with steel pin
- For use on medium doors requiring medium frequency service

BB1168
Ball Bearing - Heavy Weight
- Four ball bearings
- Steel with steel pin
- For use on heavy doors requiring high frequency service
- For use when door and frame have 4-1/2” and 5” cut-outs
- An equal amount of material is trimmed from the top and bottom leaf
- Two/Four ball bearings
- Non-rising removable pin with button tip and plug
- Handed. Right hand standard.
- Unequal top/bottom available. Contact Hager Customer Service for information

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.180</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: Additional sizes and hinges available. Contact Hager Customer Service for information.
The electric hinge provides an easy means to monitor the opening as well as transferring power from the frame into the door.

Electric hinge modifications can be either exposed on the surface of the hinge or concealed in the hinge. When concealed, the modifications are not visible and normally go undetected by personnel using the openings.

All of the Hager Companies electric hinges have been tested through UL in order that our products can be used on fire-rated or labeled openings.

Another important point to remember, an electrically modified hinge is for **low voltage power transfer only (48 volts or under)**. Higher voltages are not allowed because of the potential dangers. Also a consideration is the amperage rating of the power transfer hinges. Hager’s 18 gauge wires are rated for 50 volts AC/DC at 10 amps continuous. The maximum inrush is 20 AMPS for 4 seconds per wire. Hager 28 gauge wires include amperage ratings of 3.5 AMPS/continuous duty and 16.0 AMPS/intermittent duty (pulse).

Modifications are made to full mortise hinges. Swing Clear modifications are only available on heavy weight hinges. For other applications, consult Hager Engineering for availability.

It is recommended that the **CENTER HINGE LOCATION** be used with all electrically modified hinges.

Hager Companies recommends the use of a mortar box or jamb box in order to protect the wire terminations on the inside of the frame. If this box is not used, the grout that may be poured into the frame will destroy the wiring and usually void the warranty on the product.
## Hinge Selector - Full Mortise & Half Mortise Hinges

<table>
<thead>
<tr>
<th>Hinge Description</th>
<th>Full Mortise</th>
<th>Half Mortise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hollow Metal or Wood Door</td>
<td>Hollow Metal or Wood Door</td>
</tr>
<tr>
<td></td>
<td>Hollow Metal or Wood Frame</td>
<td>Channel Iron Frame</td>
</tr>
<tr>
<td>Tri-Con Std. Wt. PB, Steel</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>Tri-Con Std. Wt. PB, Brass/Stainless Steel</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>Tri-Con Std. Wt. AB, Steel</td>
<td>AB700</td>
<td>AB701</td>
</tr>
<tr>
<td>Tri-Con Std. Wt. AB, Brass/Stainless Steel</td>
<td>AB800</td>
<td>AB801</td>
</tr>
<tr>
<td>Tri-Con Hvy. Wt. AB, Steel</td>
<td>AB750</td>
<td>AB751</td>
</tr>
<tr>
<td>Tri-Con Hvy. Wt. AB, Brass/Stainless Steel</td>
<td>AB850</td>
<td>AB851</td>
</tr>
<tr>
<td>Spring Hinge Std. Wt., Steel</td>
<td>1250</td>
<td></td>
</tr>
<tr>
<td>Std. Wt., PB, Steel</td>
<td>1279</td>
<td>1129</td>
</tr>
<tr>
<td>Std. Wt., PB, Brass/Stainless Steel</td>
<td>1191</td>
<td></td>
</tr>
<tr>
<td>2BB, Std. Wt., Steel</td>
<td>BB1279</td>
<td>BB1129</td>
</tr>
<tr>
<td>2BB, Std. Wt., Brass/Stainless Steel</td>
<td>BB1191</td>
<td>BB1109</td>
</tr>
<tr>
<td>4BB, Hvy Wt., Steel</td>
<td>BB1168</td>
<td>BB1138</td>
</tr>
<tr>
<td>4BB, Hvy Wt., Brass/Stainless Steel</td>
<td>BB1199</td>
<td>BB2098</td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Steel, One Prong</td>
<td>AB7505/BB1160</td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Brass/Stainless Steel One Prong</td>
<td>AB8505/BB1190</td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Steel, Two Prong, Square Edge Door</td>
<td>AB7506/BB1162</td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Brass/Stainless Steel, Two Prong/Square Edge Door</td>
<td>AB8506/BB1192</td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Steel/Two Prong, Beveled Edge Door</td>
<td>AB7508/BB1166</td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Brass/Stainless Steel, Two Prong/Beveled Edge Door</td>
<td>AB8508/BB1196</td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge/One Long/One Short Prong/Square Edge Door</td>
<td>AB7507/BB1165</td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Brass/Stainless Steel/One Long/One Short Prong/Square Edge Door</td>
<td>AB8507/BB1195</td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Steel/One Long/One Short Prong/Beveled Edge Door</td>
<td>AB7509/BB1167</td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Brass/Stainless Steel/One Long/One Short Prong/Beveled Edge Door</td>
<td>AB8509/BB1197</td>
<td></td>
</tr>
<tr>
<td>Bronze Pivot Hinge - Top</td>
<td>495</td>
<td></td>
</tr>
<tr>
<td>Bronze Pivot Hinge - Intermediate</td>
<td>496</td>
<td></td>
</tr>
<tr>
<td>Bronze Pivot Hinge - Bottom</td>
<td>497</td>
<td></td>
</tr>
<tr>
<td>3K/5K Swing Clear/Std. Wt., BB Steel/Beveled Edge Door</td>
<td>AB7001/BB1260</td>
<td>BB1264</td>
</tr>
<tr>
<td>3K/5K Swing Clear/Std. Wt., BB Steel/Beveled Edge Door</td>
<td>AB7002/BB1261</td>
<td>BB1265</td>
</tr>
<tr>
<td>3K/5K Swing Clear/Hvy. Wt., BB Steel/Square Edge Door</td>
<td>AB7501/BB1262</td>
<td>AB7511</td>
</tr>
<tr>
<td>3K/5K Swing Clear/Hvy. Wt., BB Steel/ Beveled Edge Door</td>
<td>AB7502/BB1263</td>
<td>AB7512</td>
</tr>
<tr>
<td>3K/5K Swing Clear/Hvy. Wt., BB Steel</td>
<td>700/1279</td>
<td></td>
</tr>
<tr>
<td>3K/5K Std. Wt., PB, Wide Throw/Steel</td>
<td>800/1191</td>
<td></td>
</tr>
<tr>
<td>3K/5K Std. Wt., AB, Wide Throw/Steel</td>
<td>AB700/BB1279</td>
<td></td>
</tr>
<tr>
<td>3K/5K Std. Wt., AB, Wide Throw/Brass/Stainless Steel</td>
<td>AB800/BB1191</td>
<td></td>
</tr>
<tr>
<td>3K/5K Hvy. Wt., AB, Wide Throw/Steel</td>
<td>AB750/BB1168</td>
<td></td>
</tr>
<tr>
<td>3K/5K Hvy. Wt., AB, Wide Throw/Brass/Stainless Steel</td>
<td>AB850/BB1199</td>
<td></td>
</tr>
</tbody>
</table>

For Hospital Tip, use prefix “HT” on above number. Hospital Tip hinges are available on all architectural hinges with the exception of anchor hinges.

Note: When ordering round corner hinges, please specify a radius of either 1/4” (6.4 mm) or 5/8” (15.9 mm). If radius is not specified, 1/4” (6.4 mm) will be supplied.

Note: For special requirements - In the event a particular hinge is not found to meet your requirements, please contact our Customer Service Department and provide Hager with the specific requirements. The Hager Technical Service Staff will prepare drawings for the appropriate application.
# Hinge Selector - Full Surface & Half Surface Hinges

<table>
<thead>
<tr>
<th>Hinge Description</th>
<th>Full Surface</th>
<th>Half Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Composite or Tubular Steel Door</td>
<td>Composite or Wood Door</td>
</tr>
<tr>
<td></td>
<td>Channel Iron Frame</td>
<td>Hollow Metal or Wood Frame</td>
</tr>
<tr>
<td>Tri-Con Std. Wt. PB, Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tri-Con Std. Wt. PB, Brass/Stainless Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tri-Con Std. Wt. AB, Steel</td>
<td>AB702</td>
<td>AB703</td>
</tr>
<tr>
<td>Tri-Con Std. Wt. AB, Brass/Stainless Steel</td>
<td>AB802</td>
<td>AB803</td>
</tr>
<tr>
<td>Tri-Con Hvy. Wt. AB, Steel</td>
<td>AB752</td>
<td>AB753</td>
</tr>
<tr>
<td>Tri-Con Hvy. Wt. AB, Brass/Stainless Steel</td>
<td>AB852</td>
<td>AB8853</td>
</tr>
<tr>
<td>Spring Hinge Std. Wt., Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Std. Wt., PB, Steel</td>
<td></td>
<td>1173</td>
</tr>
<tr>
<td>Std. Wt., PB, Brass/Stainless Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2BB, Std. Wt., Steel</td>
<td>BB2171</td>
<td>BB1173</td>
</tr>
<tr>
<td>2BB, Std. Wt., Brass/Stainless Steel</td>
<td>BB2110</td>
<td>BB2112</td>
</tr>
<tr>
<td>4BB, Hvy Wt., Steel</td>
<td>BB2168/BB2169</td>
<td>BB1163</td>
</tr>
<tr>
<td>4BB, Hvy Wt., Brass/Stainless Steel</td>
<td>BB2108/BB2109</td>
<td>BB2113</td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Steel, One Prong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Brass/Stainless Steel One Prong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Steel, Two Prong, Square Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Brass/Stainless Steel, Two Prong/Square Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Steel/Two Prong, Beveled Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Brass/Stainless Steel, Two Prong/Beveled Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Steel/One Long/One Short Prong/Square Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Anchor Hinge Steel/One Long/One Short Prong/Beveled Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bronze Pivot Hinge - Top</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bronze Pivot Hinge - Intermediate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bronze Pivot Hinge - Bottom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Swing Clear/Std. Wt., BB Steel/Beveled Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Swing Clear/Std. Wt., BB Steel/Beveled Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Swing Clear/Hvy. Wt., BB Steel/Square Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Swing Clear/Hvy. Wt., BB Steel/ Beveled Edge Door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Swing Clear/Hvy. Wt., BB Steel</td>
<td>AB7523/BB1266</td>
<td>AB7534/BB1270</td>
</tr>
<tr>
<td>3K/5K Std. Wt., PB, Wide Throw/Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Std. Wt., PB, Wide Throw/Brass/Stainless Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Std. Wt., AB, Wide Throw/Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Std. Wt., AB, Wide Throw/Brass/Stainless Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Hvy. Wt., AB, Wide Throw/Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3K/5K Hvy. Wt., AB, Wide Throw/Brass/Stainless Steel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For Hospital Tip, use prefix “HT” on above number. Hospital Tip hinges are available on all architectural hinges with the exception of anchor hinges.

Note: When ordering round corner hinges, please specify a radius of either 1/4” (6.4 mm) or 5/8” (15.9 mm). If radius is not specified, 1/4” (6.4 mm) will be supplied.

Note: For special requirements - In the event a particular hinge is not found to meet your requirements, please contact our Customer Service Department and provide Hager with the specific requirements. The Hager Technical Service Staff will prepare drawings for the appropriate application.
## TWO KNUCKLE HINGES

### 920
Plain Bearing - Standard Weight
Steel with steel pin (ANSI A8133)

### AB920
Concealed Anti-Friction Bearing - Standard Weight
Steel with steel pin (ANSI A8112)

### AB923
Concealed Anti-Friction Bearing - Standard Weight
- Brass with stainless steel pin (ANSI A2112) or stainless steel with stainless steel pin (ANSI A5112)
- Handed
- With door closer use ball bearing hinge or anti-friction
- For use on medium weight doors or doors requiring medium frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>

### AB930
Concealed Anti-Friction Bearing - Heavy Weight
Steel with steel pin (ANSI A8111)

### AB933
Concealed Anti-Friction Bearing - Heavy Weight
- Brass with stainless steel pin (ANSI A2111) or stainless steel with stainless steel pin (ANSI A5111)
- Handed
- For use on heavy weight doors or doors requiring high frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>0.180</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.180</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>

## THREE KNUCKLE HINGES

### 700
Plain Bearing - Standard Weight
Steel with steel pin (ANSI A8133)

### 800
Plain Bearing - Standard Weight
- Brass with stainless steel pin (ANSI A2133) or stainless steel with stainless steel pin (ANSI A5113)
- Non-rising removable pin with flush pin and plug
- With door closer use ball bearing hinge
- For use on medium weight doors or doors requiring low frequency service

### AB700
Concealed Anti-Friction Bearing - Standard Weight
Steel with steel pin (ANSI A8112)

### AB800
Concealed Anti-Friction Bearing - Standard Weight
- Brass with stainless steel pin (ANSI A2133) or stainless steel with stainless steel pin (ANSI A5113)
- Non-rising removable pin with flush pin and plug
- AB800 available with SecureCoat® Lifetime finish (US3SC)
- For use on medium weight doors or doors requiring medium frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>3-1/2 x 3-1/2</td>
<td>89 x 89</td>
<td>0.119</td>
<td>1/2 x 10-24</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>0.129</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 4</td>
<td>127 x 102</td>
<td>0.145</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.145</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 5</td>
<td>127 x 127</td>
<td>0.145</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>
THREE KNUCKLE HINGES

WTAB700
Concealed Anti-Friction Bearing - Standard Weight - Wide Throw
Steel with steel pin (ANSI A8112)

WTAB800
Concealed Anti-Friction Bearing - Standard Weight - Wide Throw
• Brass with stainless steel pin (ANSI A2112) or stainless steel with stainless steel pin (ANSI A5112)
• For square edge doors. Consult Hager Tech Service for bevel application.
• Wide throw
• Non-rising removable pin with flush pin and plug
• For use on medium weight doors or doors requiring medium frequency service
• Note: Wide throw hinges will reduce the weight capacity. Consult Hager Tech Service.

AB750
Concealed Anti-Friction Bearing - Heavy Weight
Steel with steel pin (ANSI A8111)

AB850
Concealed Anti-Friction Bearing - Heavy Weight
• Brass with stainless steel pin (ANSI A2111) or stainless steel with stainless steel pin (ANSI A5111)
• Non-rising removable pin with flush pin and plug
• AB850 available with SecureCoat® Lifetime finish (US3SC)
• For use on heavy weight doors or doors requiring high frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>4-1/2 x 5</td>
<td>114 x 127</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 6</td>
<td>114 x 152</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 7</td>
<td>114 x 178</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 8</td>
<td>114 x 203</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 6</td>
<td>127 x 152</td>
<td>0.145</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 7</td>
<td>127 x 178</td>
<td>0.145</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 8</td>
<td>127 x 203</td>
<td>0.145</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>

Note: Weight capacity diminishes the farther the pin is away from the door.
FULL MORTISE

THREE KNUCKLE HINGES

WTAB750
Concealed Anti-Friction Bearing - Heavy Weight - Wide Throw
Steel with steel pin (ANSI A8111)

WTAB850
Concealed Anti-Friction Bearing - Heavy Weight - Wide Throw
• Brass with stainless steel pin (ANSI A2111) or stainless steel with stainless steel pin (ANSI A5111)
• Wide throw
• Non-rising removable pin with flush pin and plug
• For use on heavy weight doors or doors requiring high frequency service

FIVE KNUCKLE HINGES

1191
Plain Bearing - Standard Weight
Brass with stainless steel pin (ANSI A2133) or stainless steel with stainless steel pin (ANSI A5133)

1279
Plain Bearing - Standard Weight
• Steel with steel pin (ANSI A8133)
• Non-rising removable pin with button tip and plug
• Use ball bearing hinge when door closer is installed on door
• 3-1/2” x 3-1/2” (89 mm x 89 mm) available with reverse hole pattern
• For use on medium weight doors or doors requiring low frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td>Machine</td>
</tr>
<tr>
<td>4-1/2 x 5</td>
<td>114 x 127</td>
<td>0.180</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 6</td>
<td>114 x 152</td>
<td>0.180</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 7</td>
<td>114 x 178</td>
<td>0.180</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 8</td>
<td>114 x 203</td>
<td>0.180</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 6</td>
<td>127 x 152</td>
<td>0.190</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 7</td>
<td>127 x 178</td>
<td>0.190</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 8</td>
<td>127 x 203</td>
<td>0.190</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gaue of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td>Machine</td>
</tr>
<tr>
<td>2 x 2</td>
<td>51 x 51</td>
<td>0.083</td>
<td>4</td>
</tr>
<tr>
<td>2-1/2 x 2-1/2</td>
<td>64 x 64</td>
<td>0.089</td>
<td>6</td>
</tr>
<tr>
<td>3 x 3</td>
<td>76 x 76</td>
<td>0.097</td>
<td>6</td>
</tr>
<tr>
<td>3-1/2 x 3-1/2</td>
<td>89 x 89</td>
<td>0.119</td>
<td>6</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>0.129</td>
<td>8</td>
</tr>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>0.134</td>
<td>8</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.134</td>
<td>8</td>
</tr>
<tr>
<td>5 x 4</td>
<td>127 x 102</td>
<td>0.145</td>
<td>8</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.145</td>
<td>8</td>
</tr>
<tr>
<td>5 x 5</td>
<td>127 x 127</td>
<td>0.145</td>
<td>8</td>
</tr>
<tr>
<td>6 x 4-1/2</td>
<td>152 x 114</td>
<td>0.160</td>
<td>10</td>
</tr>
<tr>
<td>6 x 5</td>
<td>152 x 127</td>
<td>0.160</td>
<td>10</td>
</tr>
<tr>
<td>6 x 6</td>
<td>152 x 152</td>
<td>0.160</td>
<td>10</td>
</tr>
</tbody>
</table>
FULL MORTISE

FIVE KNUCKLE HINGES

**WT1191**
**Plain Bearing - Standard Weight - Wide Throw**
Brass with stainless steel pin (ANSI A2133) or stainless steel with stainless steel pin (ANSI A5133)

**WT1279**
**Plain Bearing - Standard Weight - Wide Throw**
- Steel with steel pin (ANSI A8133)
- Wide throw
- Non-rising removable pin with button tip and plug
- Use ball bearing hinge when door closer is installed on door
- For use on medium weight doors or doors requiring low frequency service
- Note: Wide throw hinges will reduce the weight capacity. Consult Hager Tech Service.

**CB1191**
**Concealed Bearing - Standard Weight**
- Stainless steel with stainless steel pin (ANSI A5112) or brass
- Non-rising removable pin with button tip and plug

### Hinge Size Gauge of Metal Hole Count Screw Size

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inches</strong></td>
<td><strong>mm</strong></td>
<td><strong>Machine</strong></td>
<td><strong>Wood</strong></td>
</tr>
<tr>
<td>3-1/2 x 5</td>
<td>89 x 127</td>
<td>6</td>
<td>1/2 x 10-24</td>
</tr>
<tr>
<td>3-1/2 x 6</td>
<td>89 x 152</td>
<td>6</td>
<td>1/2 x 10-24</td>
</tr>
<tr>
<td>4 x 5</td>
<td>102 x 127</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4 x 6</td>
<td>102 x 152</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4 x 7</td>
<td>102 x 178</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 5</td>
<td>114 x 127</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 6</td>
<td>114 x 152</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 7</td>
<td>114 x 178</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 8</td>
<td>114 x 203</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 6</td>
<td>127 x 152</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 7</td>
<td>127 x 178</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>5 x 8</td>
<td>127 x 203</td>
<td>8</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>
FULL MORTISE

FIVE KNUCKLE HINGES

BB1191
Ball Bearing - Standard Weight
Brass with stainless steel pin (ANSI A2112) or stainless steel with stainless steel pin (ANSI A5112)

BB1279
Ball Bearing - Standard Weight
• Steel with steel pin (ANSI A8112)
• Two ball bearings
• Non-rising removable pin with button tip and plug
• 3-1/2” x 3-1/2” (89 x 89 mm) BB1279 available with reversible hole pattern
• For use on medium weight doors or doors requiring medium frequency service

WTBB1191
Ball Bearing - Standard Weight - Wide Throw
Brass with stainless steel pin (ANSI A2112) or stainless steel with stainless steel pin (ANSI A5112)

WTBB1279
Ball Bearing - Standard Weight - Wide Throw
• Steel with steel pin (ANSI A8112)
• Wide throw
• Two ball bearings
• Non-rising removable pin with button tip and plug
• For use on medium weight doors or doors requiring medium frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
<th>Machine</th>
<th>Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-1/2 x 3-1/2</td>
<td>89 x 89</td>
<td>0.119</td>
<td>6</td>
<td>1/2 x 10-24</td>
<td>1 x 9</td>
</tr>
<tr>
<td>4 x 3-1/2</td>
<td>102 x 89</td>
<td>0.129</td>
<td>8</td>
<td>1/2 x 10-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>0.129</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>0.134</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.134</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 4</td>
<td>127 x 102</td>
<td>0.145</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.145</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 5</td>
<td>127 x 127</td>
<td>0.145</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>6 x 4-1/2</td>
<td>152 x 114</td>
<td>0.160</td>
<td>10</td>
<td>1/2 x 1/4-20</td>
<td>1-1/2 x 14</td>
</tr>
<tr>
<td>6 x 5</td>
<td>152 x 127</td>
<td>0.160</td>
<td>10</td>
<td>1/2 x 1/4-20</td>
<td>1-1/2 x 14</td>
</tr>
<tr>
<td>6 x 6</td>
<td>152 x 152</td>
<td>0.160</td>
<td>10</td>
<td>1/2 x 1/4-20</td>
<td>1-1/2 x 14</td>
</tr>
</tbody>
</table>

WTBB1191
Ball Bearing - Standard Weight - Wide Throw
Brass with stainless steel pin (ANSI A2112) or stainless steel with stainless steel pin (ANSI A5112)

WTBB1279
Ball Bearing - Standard Weight - Wide Throw
• Steel with steel pin (ANSI A8112)
• Wide throw
• Two ball bearings
• Non-rising removable pin with button tip and plug
• For use on medium weight doors or doors requiring medium frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
<th>Machine</th>
<th>Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-1/2 x 5</td>
<td>89 x 127</td>
<td>0.119</td>
<td>6</td>
<td>1/2 x 10-24</td>
<td>1 x 9</td>
</tr>
<tr>
<td>3-1/2 x 6</td>
<td>89 x 152</td>
<td>0.119</td>
<td>6</td>
<td>1/2 x 10-24</td>
<td>1 x 9</td>
</tr>
<tr>
<td>4 x 5</td>
<td>102 x 127</td>
<td>0.129</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>4 x 6</td>
<td>102 x 152</td>
<td>0.129</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>4 x 7</td>
<td>102 x 178</td>
<td>0.129</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 5</td>
<td>114 x 127</td>
<td>0.134</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 6</td>
<td>114 x 152</td>
<td>0.134</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 7</td>
<td>114 x 178</td>
<td>0.134</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 8</td>
<td>114 x 203</td>
<td>0.134</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 6</td>
<td>127 x 152</td>
<td>0.145</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 7</td>
<td>127 x 178</td>
<td>0.145</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 8</td>
<td>127 x 203</td>
<td>0.145</td>
<td>8</td>
<td>1/2 x 12-24</td>
<td>1-1/4 x 12</td>
</tr>
</tbody>
</table>

Note: Optional concealed bearings available, see page 5 for options.
FULL MORTISE

FIVE KNUCKLE HINGES

**BB1168**
Ball Bearing - Heavy Weight
Steel with steel pin (ANSI A8111)

**BB1199**
Ball Bearing - Heavy Weight
- Brass with stainless steel pin (ANSI A2111) or stainless steel with stainless steel pin (ANSI A5111)
- Four ball bearings
- Non-rising removable pin with button tip and plug
- For use on heavy weight doors or doors requiring high frequency service

**WTBB1168**
Ball Bearing - Heavy Weight - Wide Throw
Steel with steel pin (ANSI A8111)

**WTBB1199**
Ball Bearing - Heavy Weight - Wide Throw
- Brass with stainless steel pin (ANSI A2111) or stainless steel with stainless steel pin (ANSI A5111)
- Wide throw
- Four ball bearings
- Non-rising removable pin with button tip and plug
- For use on heavy weight doors or doors requiring high frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 4</td>
<td>127 x 102</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 5</td>
<td>127 x 127</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>6 x 4-1/2</td>
<td>152 x 114</td>
<td>10</td>
<td>1/2 x 1/4-20 1-1/2 x 14</td>
</tr>
<tr>
<td>6 x 5</td>
<td>152 x 127</td>
<td>10</td>
<td>1/2 x 1/4-20 1-1/2 x 14</td>
</tr>
<tr>
<td>6 x 6</td>
<td>152 x 152</td>
<td>10</td>
<td>1/2 x 1/4-20 1-1/2 x 14</td>
</tr>
<tr>
<td>8 x 6</td>
<td>203 x 152</td>
<td>16</td>
<td>1/2 x 1/4-20 1-1/2 x 14</td>
</tr>
<tr>
<td>8 x 8</td>
<td>203 x 203</td>
<td>16</td>
<td>1/2 x 1/4-20 1-1/2 x 14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 5</td>
<td>114 x 127</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 6</td>
<td>114 x 152</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 7</td>
<td>114 x 178</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 8</td>
<td>114 x 203</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 6</td>
<td>127 x 152</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 7</td>
<td>127 x 178</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>5 x 8</td>
<td>127 x 203</td>
<td>8</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
</tbody>
</table>

Note: Optional concealed bearings available, see page 5 for options.
**EXPOSED ELECTRIC MODIFICATIONS**

The following exposed electric modifications are available on our architectural grade ball bearing and anti-friction bearing hinges. To order a hinge with exposed electric modification, please add the modification code to the product number (for example, BB1279 E2).

### E2 Electric Contact
- Three or five knuckle
- Available on architectural grade ball bearing and anti-friction bearing
- Two contacts minimum required to transfer electrical current
- Design includes insulated copper contacts
- Furnished with non-removable pins

### E2/E1S Electric Contact/Switch
- Three or five knuckle
- Available on architectural grade ball bearing and anti-friction bearing
- Single pole, double throw switch
- Design includes insulated copper contacts
- Furnished with non-removable pins

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Contacts</th>
<th>Volts</th>
<th>Amperes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>2 or 3</td>
<td>48</td>
<td>3.5 amps</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>2, 3, or 4</td>
<td>VDC</td>
<td>16.0 amps</td>
</tr>
<tr>
<td>5 x 5</td>
<td>2, 3, or 4</td>
<td>48</td>
<td>3.5 amps</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>2, 3, or 4</td>
<td>VDC</td>
<td>16.0 amps</td>
</tr>
</tbody>
</table>

### E1S Electric Switch
- Three or five knuckle
- Available on architectural grade ball bearing and anti-friction bearing
- Single pole, double throw switch
- Furnished with non-removable pins

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Volts</th>
<th>Amperes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>24</td>
<td>.250</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>48</td>
<td>VDC</td>
</tr>
<tr>
<td>5 x 5</td>
<td>24</td>
<td>.250</td>
</tr>
</tbody>
</table>

### Switch Maximum Electrical Rating
- 24 VDC @ .250 amps
CONCEALED ELECTRIC MODIFICATIONS

The following concealed electric modifications are available on our architectural grade ball bearing and anti-friction bearing hinges. To order a hinge with concealed electric modification, please add the modification code to the product number (for example, BB1279 EMN).

**EMN**
**Electric Monitor Only**
- Three or five knuckle
- Available on architectural grade ball bearing and anti-friction bearing
- Available in steel, brass, or stainless steel
- 28 gauge wire standard
- Standard size available 4” (102 mm) through 8” (203 mm)
- Hinge pins are not field removable - NRP variation is not available
- Monitoring capability only
- Concealed subminiature snap action, SPDT switch
- Adjustment feature for a wide range of switch sensitivity
- Preset switching circuit
- For open loop secure, closed loop secure or single pole double throw (SPDT)

**ETM**
**Electric Through-Wire with Monitoring**
- Three or five knuckle
- Available on architectural grade ball bearing and anti-friction bearing
- Available in steel, brass, or stainless steel
- 18 and 28 gauge wire
- Standard size available 4” (102 mm) through 8” (203 mm)
- Hinge pins are not field removable - NRP variation is not available
- Both continuous electric conductors and monitoring capability
- Concealed monitor switch and 4, 8 or 10 continuous electrical conductors
- Adjustment feature for a wide range of switch sensitivity
- For open loop secure, closed loop secure or single pole double throw (SPDT)

---

**Switch Maximum Electrical Rating**
- 30 VDC @ .500 amps

---

**Contact Maximum Electrical Rating**

<table>
<thead>
<tr>
<th>Volts VDC</th>
<th>Amperes</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>3.5 amps CONTINUOUS</td>
</tr>
<tr>
<td></td>
<td>16.0 amps PULSE</td>
</tr>
</tbody>
</table>

**Wire Maximum Electrical Rating**

<table>
<thead>
<tr>
<th>Volts VDC</th>
<th>Amperes</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>3.5 amps CONTINUOUS</td>
</tr>
<tr>
<td></td>
<td>16.0 amps PULSE</td>
</tr>
</tbody>
</table>

*Quick Connect Option (QC) available with all ETW and ETM hinges - must specify.*
CONCEALED AIR TRANSFER

The following hinges are available with a concealed air transfer (ATH) modification. They are available on architectural grade ball bearing and anti-friction bearing full mortise. Please note:

- ATH modification is for doors that require the transfer of compressed air.
- The hinges with ATH modification available use 5/32” (4 mm) plastic air tubing, have quick-connect fittings, and are capable of transferring 80-100 PSI through the air tubing.
- Steel or stainless steel hinges are acceptable for use on labeled or fire-rated doors.
- Hinge pins are not field removable.
- NRP and safety stud are not available.

<table>
<thead>
<tr>
<th>AB700</th>
<th>Standard Weight</th>
<th>Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB800</td>
<td>Standard Weight</td>
<td>Stainless steel, brass</td>
</tr>
<tr>
<td>AB750</td>
<td>Heavy Weight</td>
<td>Steel</td>
</tr>
<tr>
<td>AB850</td>
<td>Heavy Weight</td>
<td>Stainless steel, brass</td>
</tr>
<tr>
<td>BB1191</td>
<td>Standard Weight</td>
<td>Stainless steel, brass</td>
</tr>
<tr>
<td>BB1279</td>
<td>Standard Weight</td>
<td>Steel</td>
</tr>
<tr>
<td>BB1168</td>
<td>Heavy Weight</td>
<td>Steel</td>
</tr>
<tr>
<td>BB1199</td>
<td>Heavy Weight</td>
<td>Stainless steel, brass</td>
</tr>
</tbody>
</table>

430 Mortar Box

- Galvanized steel 0.040 (1 mm)
- Dimensions - 9” (2.29 mm) length with tabs, 7” (1.78 mm) inside, 1-3/4” x 1-3/4” (45 mm x 45 mm) inside dimension
- Removable back for servicing
- Serves as mortar shield
- Top and bottom knockouts for standard conduit fittings
- Fits hinge reinforcements for 4-1/2” (114 mm) or 5” (127 mm) architectural grade hinges

Hinge Size

<table>
<thead>
<tr>
<th>Inches</th>
<th>mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4</td>
<td>112 x 102</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
</tr>
<tr>
<td>5 x 4</td>
<td>127 x 102</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
</tr>
<tr>
<td>5 x 5</td>
<td>127 x 127</td>
</tr>
</tbody>
</table>
**FULL MORTISE - SPRING**

**SINGLE ACTING**

The following single acting spring hinges are for automatic closing of doors, please note:

- 1150 is not available in 3-1/2” x 3-1/2” (89 mm x 89 mm) and 4” x 4” (102 mm x 102 mm) sizes.
- 1250 is available with raised barrel for square edge or beveled doors.
- 1250 UL approved for use on 4’ 0” x 8’ 0” (1219 mm x 2438 mm) doors. 3 springs/one BB for 8’ door.
- For maximum versatility, use all spring hinges or a combination of spring and ball bearing hinges. Do not use plain bearing hinges.
- Full spring tension may not be required on all hinges.
- Strong wind conditions, drafts, carpeting drag, twisted/misaligned frames, or weatherstripping on doors may require additional spring hinges. Available with HT - voids UL. Available with RBB/RBS - UL approved.

*Note: Hager does not recommend using spring hinges on doors over 7’0”.*

---

**1150**

**Square Corner**

Stainless steel with stainless steel components (ANSI K51071F)

**1151**

**1/4” Radius**

Stainless steel with stainless steel components (ANSI K51071F)

**1250**

**Square Corner**

Steel with steel components (ANSI K81071F)

**1251**

**1/4” Radius**

Steel with steel components (ANSI K81071F)

**1252**

**5/8” Radius**

Steel with steel components (ANSI K81071F)

**1255**

**Square Corner Set**

Steel with steel components (ANSI K81071F)

Two (2) each 1250 and one (1) each AB700

**1256**

**Square Corner Set**

Steel with steel components (ANSI K81071F)

Two (2) each 1250 and one (1) each BB1279

---

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td>Machine</td>
</tr>
<tr>
<td>3-1/2 x 3-1/2</td>
<td>89 x 89</td>
<td>0.134</td>
<td>1/2 x 10-24</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Series</th>
<th>Size</th>
<th>Recommended Max Door Weight (lbs)</th>
<th>Spring Hinge</th>
<th>Ball Bearing Hinge</th>
</tr>
</thead>
<tbody>
<tr>
<td>For use on 1-3/8” (35 mm) door</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1250</td>
<td>3-1/2 x 3-1/2</td>
<td>40</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1250</td>
<td>3-1/2 x 3-1/2</td>
<td>70</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1250</td>
<td>3-1/2 x 1/2</td>
<td>90</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>For use on 1-3/4” (45 mm) door</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1250</td>
<td>4 x 4</td>
<td>60</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1250</td>
<td>4 x 4</td>
<td>85</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1250</td>
<td>4 x 4</td>
<td>110</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>1150</td>
<td>4-1/2 x 4, 4-1/2 x 4-1/2</td>
<td>70</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1150</td>
<td>4-1/2 x 4, 4-1/2 x 4-1/2</td>
<td>115</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1150</td>
<td>4-1/2 x 4, 4-1/2 x 4-1/2</td>
<td>150</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>1250</td>
<td>4-1/2 x 4, 4-1/2 x 4-1/2</td>
<td>70</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1250</td>
<td>4-1/2 x 4, 4-1/2 x 4-1/2</td>
<td>115</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1255</td>
<td>4-1/2 x 4-1/2</td>
<td>115</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1256</td>
<td>4-1/2 x 4-1/2</td>
<td>115</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
REVERSE ACTION - SINGLE ACTING

The following reverse action, single acting spring hinges are for automatic opening of door, please note:
- For maximum versatility, use all spring hinges or a combination of spring and ball bearing hinges. Do not use plain bearing hinges.
- Full spring tension may not be required on all hinges.
- Strong wind conditions, drafts, carpeting drag, twisted/misaligned frames, or weatherstripping on doors may require additional spring hinges.

Note: Hager does not recommend using spring hinges on doors over 7’0”.

1257
Square Corner
Steel (ANSI K81071)

1258
1/4” Radius
Steel (ANSI K81071)

1259
5/8” Radius
Steel (ANSI K81071)

SWING CLEAR

The following swing clear spring hinge is for automatic closing of door. It provides the features of both a swing clear hinge and a spring hinge. It meets codes for hotels, motels, institutions, and commercial buildings. Please note:
- For maximum versatility, use all spring hinges or a combination of spring and ball bearing hinges. Do not use plain bearing hinges.
- Full spring tension may not be required on all hinges.
- Strong wind conditions, drafts, carpeting drag, twisted/misaligned frames, or weatherstripping on doors may require additional spring hinges.

Note: Hager does not recommend using spring hinges on doors over 7’0”.

1267
Square Corner
• Steel with steel components (ANSI K81071F)
• For square edge door. Use in conjunction with AB7001 or BB1260
FULL MORTISE - ECCO

FIVE KNUCKLE

**EC1100 | EC1100NRP**
*Plain Bearing - Standard Weight*
Steel with steel pin (ANSI A8133)

**EC1101**
*Plain Bearing - Standard Weight*
- Stainless steel with stainless steel pin (ANSI A5133) or brass with stainless steel pin (ANSI A2133)
- Non-rising removable pin with button tip and plug
- Use ball bearing hinge when a door closer is installed on the door
- For use on medium weight doors or doors requiring low frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>0.134</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.134</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
</tbody>
</table>

**ECRC1100**
*Plain Bearing - Standard Weight*
- Steel with steel pin (ANSI A8133)
- Non-rising removable pin with button tip and plug
- Use ball bearing hinge when a door closer is installed on the door
- Round corner with 1/4” (6 mm) radius standard
- For use on medium weight doors or doors requiring low frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>0.129</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
</tbody>
</table>

**ECBB1100 | ECBB1100NRP**
*Ball Bearing - Standard Weight*
Steel with steel pin (ANSI A8112)

**ECBB1101 | ECBB1101NRP**
*Ball Bearing - Standard Weight*
- Brass with stainless steel pin (ANSI A2112) or 304 stainless steel with stainless steel pin (ANSI A5112)
- Two ball bearings
- Non-rising removable pin with button tip and plug
- ECBB1101 and ECBB1101NRP only available in 4-1/2” x 4-1/2” (114 mm x 114 mm)
- For use on medium weight doors or doors requiring medium frequency service
- 304 stainless steel standard
- **316 stainless steel available**

**ECRCBB1100**
*Ball Bearing - Standard Weight*
- Steel with steel pin (ANSI A8112)
- Two ball bearings
- Non-rising removable pin with button tip and plug
- Round corner with 1/4” (6 mm) radius standard
- For use on medium weight doors or doors requiring medium frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>0.129</td>
<td>1/2 x 12-24 1-1/4 x 12</td>
</tr>
</tbody>
</table>
FULL MORTISE - ECCO

FIVE KNUCKLE

**ECBB1102 | ECBB1102NRP**
Ball Bearing - Heavy Weight
Steel with steel pin (ANSI A8111)

**ECBB1103 | ECBB1103NRP**
Ball Bearing - Heavy Weight
- Brass with stainless steel pin (ANSI A2111) or 304 stainless steel with stainless steel pin (ANSI A5111)
- Four (4) ball bearings
- Non-rising removable pin with flush pin and plug
- ECBB1102NRP and ECBB1103NRP are the same as ECBB1102 and ECBB1103, but with a non-removable pin
- For use on heavy weight doors or doors requiring high frequency service
- 304 stainless steel standard
- **316 stainless steel available**
- **No US26D finish available**

**SPRING HINGE**
The following ECCO single acting spring hinge is for automatic closing of door. Please note:
- For use on 1-3/4” (45 mm) doors
- For maximum versatility, use all spring hinges or a combination of spring and ball bearing hinges. Do not use plain bearing hinges.
- Full spring tension may not be required on all hinges.
- Strong wind conditions, drafts, carpeting drag, twisted/misaligned frames, or weatherstripping on doors may require additional spring hinges
- UL approved for 4’ x 8’ door
- Three (3) spring hinges and one (1) ball bearing hinge required for labeled openings

**EC1105**
Square Corner
Steel (ANSI K81071F)

Note: the 4.5” x 4” size is only available in US26D.

### Hinge Size Gauge of Metal Hole Count Screw Size
<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.180</td>
<td>8</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.190</td>
<td>8</td>
</tr>
</tbody>
</table>

### Hinge Size Gauge of Metal Hole Count Screw Size
<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>0.134</td>
<td>8</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.134</td>
<td>8</td>
</tr>
</tbody>
</table>

### Size Recommended Max Door Weight (lbs) Spring Hinge Ball Bearing Hinge
<table>
<thead>
<tr>
<th>Size</th>
<th>Recommended Max Door Weight (lbs)</th>
<th>Spring Hinge</th>
<th>Ball Bearing Hinge</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4, 4-1/2 x 4-1/2</td>
<td>70</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4-1/2 x 4, 4-1/2 x 4-1/2</td>
<td>115</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4-1/2 x 4, 4-1/2 x 4-1/2</td>
<td>150</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>
HALF MORTISE

THREE KNUCKLE HINGES

**AB751**
Concealed Anti-Friction Bearing - Heavy Weight
Steel with steel pin (ANSI A8211)

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>0.180</td>
<td>7</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>5</td>
<td>0.190</td>
<td>8</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>6&quot;</td>
<td>0.203*, 0.190*</td>
<td>9</td>
<td>1/2 x 1/4-20 FH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Door Leaf Width &quot;A&quot;</th>
<th>Jamb Leaf Width &quot;B&quot;</th>
<th>Jamb Leaf Offset &quot;C&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>2-1/16 53</td>
<td>1-1/2 38</td>
<td>7/16 11</td>
</tr>
<tr>
<td>5</td>
<td>2-1/16 53</td>
<td>1-1/2 38</td>
<td>7/16 11</td>
</tr>
<tr>
<td>6&quot;</td>
<td>2-1/8 54</td>
<td>1-1/2 38</td>
<td>1/2 12.5</td>
</tr>
</tbody>
</table>

* Door thickness must be specified.
* 0.203 for brass and steel. 0.190 for stainless steel.
## HALF MORTISE

### FIVE KNUCKLE HINGES

#### 1129

**Plain Bearing - Standard Weight**
- Steel with steel pin (ANSI A8233)
- Non-rising removable pin with button tip and plug
- Reversible
- Beveled surface leaf
- Not for use with door closer
- For use on medium weight hollow metal doors with channel iron frames requiring low frequency service

**Hinge Size Table**

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td>Door Leaf</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>0.134</td>
<td>1/2 x 12-24 FH</td>
</tr>
</tbody>
</table>

**Ball Bearing - Standard Weight**
- Steel with steel pin (ANSI A8212)
- Two ball bearings
- Non-rising removable pin with button tip and plug
- Reversible
- Beveled surface leaf
- For use on medium weight hollow metal doors with channel iron frames requiring medium frequency service

**Hinge Size Table**

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td>Door Leaf</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>0.134</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>0.145</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>6</td>
<td>152</td>
<td>0.203*</td>
<td>1/2 x 14-20 FH</td>
</tr>
</tbody>
</table>

#### BB1138

**Ball Bearing - Heavy Weight**
- Steel with steel pin (ANSI A8211)
- For use on heavy weight hollow metal doors with channel iron frames requiring high frequency service

**Hinge Size Table**

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td>Door Leaf</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>0.180</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>0.190</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>6</td>
<td>152</td>
<td>0.203*</td>
<td>1/2 x 14-20 FH</td>
</tr>
</tbody>
</table>

#### BB2098

**Ball Bearing - Heavy Weight**
- Brass with stainless steel pin (ANSI A2211) or stainless steel with stainless steel pin (ANSI A5211)
- Four ball bearings
- Non-rising removable pin with button tip and plug
- Reversible
- Beveled surface leaf
- For use on heavy weight hollow metal doors with channel iron frames requiring high frequency service

**Hinge Size Table**

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td>Door Leaf</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>0.180</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>0.190</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>6</td>
<td>152</td>
<td>0.203*</td>
<td>1/2 x 14-20 FH</td>
</tr>
</tbody>
</table>

---

* Door thickness must be specified.

* 0.203 for brass and steel. 0.190 for stainless steel.
### FULL SURFACE

**THREE KNUCKLE HINGES**

**AB752**  
Concealed Anti-Friction Bearing - Heavy Weight  
Steel with steel pin (ANSI A8311)

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
<th>Door Leaf</th>
<th>Jamb Leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>0.180</td>
<td>6</td>
<td>2 x 1/4-20 OH</td>
<td>1/2 x 12-24 OH</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.190</td>
<td>8</td>
<td>2 x 1/4-20 OH</td>
<td>1/2 x 12-24 OH</td>
<td></td>
</tr>
<tr>
<td>6+</td>
<td>0.203*</td>
<td>9</td>
<td>2 x 1/4-20 OH</td>
<td>1/2 x 12-20 OH</td>
<td></td>
</tr>
</tbody>
</table>

* Door thickness must be specified.
* 0.203 for brass and steel. 0.190 for stainless steel.
FULL SURFACE

FIVE KNUCKLE HINGES

BB2168
Ball Bearing - Heavy Weight
Steel with steel pin (ANSI A8361)
• Four ball bearings
• Thru-bolts and grommets for wood door applications
• Non-rising removable pin with button tip and plug
• Reversible
• Beveled surface leaves
• For use on tubular steel doors with channel iron frames requiring high frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>0.180</td>
<td>8</td>
<td>2 x 1/4-20 OH</td>
</tr>
<tr>
<td>5</td>
<td>0.190</td>
<td>8</td>
<td>2 x 1/4-20 OH</td>
</tr>
<tr>
<td>6+</td>
<td>0.203*</td>
<td>8</td>
<td>2 x 1/4-20 OH</td>
</tr>
</tbody>
</table>

* 0.203 for brass and steel. 0.190 for stainless steel.

Hinge Size Door Leaf Width "A" Jamb Leaf Width "B" Jamb Leaf Offset "C" Jamb Leaf Offset "D"

<table>
<thead>
<tr>
<th>Inches</th>
<th>mm</th>
<th>Inches</th>
<th>mm</th>
<th>Inches</th>
<th>mm</th>
<th>Inches</th>
<th>mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>2</td>
<td>51</td>
<td>1-1/2</td>
<td>38</td>
<td>9/16</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>2-5/16</td>
<td>59</td>
<td>1-1/2</td>
<td>38</td>
<td>9/16</td>
<td>14</td>
</tr>
<tr>
<td>6+</td>
<td>152</td>
<td>2-3/8</td>
<td>60</td>
<td>1-1/2</td>
<td>38</td>
<td>5/8</td>
<td>15</td>
</tr>
</tbody>
</table>

+ Door thickness must be specified.

BB2169
Ball Bearing - Heavy Weight
Steel with steel pin (ANSI A8311)
• Four ball bearings
• Thru-bolts and grommets for wood door applications
• Non-rising removable pin with button tip and plug
• Reversible
• Beveled surface leaves
• For use on heavy hollow metal or wood composite doors with channel iron frames requiring high frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>0.180</td>
<td>8</td>
<td>1/4 - 20 x 2&quot; OH</td>
</tr>
<tr>
<td>5</td>
<td>0.190</td>
<td>8</td>
<td>1/4 - 20 x 2&quot; OH</td>
</tr>
<tr>
<td>6+</td>
<td>0.203*</td>
<td>9</td>
<td>1/4 - 20 x 2&quot; OH</td>
</tr>
</tbody>
</table>

* 0.203 for brass and steel. 0.190 for stainless steel.

Hinge Size Door Leaf Width "A" Jamb Leaf Width "B" Jamb Leaf Offset "C" Jamb Leaf Offset "D"

<table>
<thead>
<tr>
<th>Inches</th>
<th>mm</th>
<th>Inches</th>
<th>mm</th>
<th>Inches</th>
<th>mm</th>
<th>Inches</th>
<th>mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>2-9/16</td>
<td>65</td>
<td>1-1/2</td>
<td>38</td>
<td>9/16</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>2-7/8</td>
<td>73</td>
<td>1-1/2</td>
<td>38</td>
<td>9/16</td>
<td>14</td>
</tr>
<tr>
<td>6+</td>
<td>152</td>
<td>3-1/4</td>
<td>83</td>
<td>1-1/2</td>
<td>38</td>
<td>5/8</td>
<td>15</td>
</tr>
</tbody>
</table>

+ Door thickness must be specified.

Hinge Size Door Leaf Width "A" Jamb Leaf Width "B" Jamb Leaf Offset "C" Jamb Leaf Offset "D"

<table>
<thead>
<tr>
<th>Inches</th>
<th>mm</th>
<th>Inches</th>
<th>mm</th>
<th>Inches</th>
<th>mm</th>
<th>Inches</th>
<th>mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>2-9/16</td>
<td>65</td>
<td>1-1/2</td>
<td>38</td>
<td>9/16</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>2-7/8</td>
<td>73</td>
<td>1-1/2</td>
<td>38</td>
<td>9/16</td>
<td>14</td>
</tr>
<tr>
<td>6+</td>
<td>152</td>
<td>3-1/4</td>
<td>83</td>
<td>1-1/2</td>
<td>38</td>
<td>5/8</td>
<td>15</td>
</tr>
</tbody>
</table>

+ Door thickness must be specified.

* 0.203 for brass and steel. 0.190 for stainless steel.
FULL SURFACE

FIVE KNUCKLE HINGES

BB2171
Ball Bearing - Standard Weight
• Steel with steel pin (ANSI A8312)
• Two ball bearings
• Thru-bolts and grommets for wood door applications
• Non-rising removable pin with button tip and plug
• Reversible
• Beveled surface leaves
• For use on medium weight hollow metal or wood composite doors with channel iron frames requiring medium frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
<th>Door Leaf</th>
<th>Jamb Leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>6</td>
<td>2 x 1/4-20 OH</td>
<td>1/2 x 12-24 OH</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>8</td>
<td>2 x 1/4-20 OH</td>
<td>1/2 x 12-24 OH</td>
<td></td>
</tr>
</tbody>
</table>

WELDING HINGES

1850
Riveted Pin Plain Bearing - Heavy Weight
• Steel with steel pin
• Flat surface with no swage
• No holes
• Square corners
• Fast riveted pin
• Manufactured with no holes and can easily be welded onto gates, dumpsters, and industrial applications such as bins or warehouse doors

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Pin Diameter</th>
<th>Recommended Max Door Weight (lbs)</th>
<th>Max Door Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>0.179</td>
<td>150</td>
<td>36” (91 cm)</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.179</td>
<td>150</td>
<td>36” (91 cm)</td>
</tr>
<tr>
<td>5 x 5</td>
<td>127 x 127</td>
<td>0.179</td>
<td>175</td>
<td>42” (107 cm)</td>
</tr>
<tr>
<td>6 x 6</td>
<td>152 x 152</td>
<td>0.203</td>
<td>230</td>
<td>48” (122 cm)</td>
</tr>
</tbody>
</table>

1850 6 x 6 LP (Loose Oval Pin)

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Door Thickness</th>
<th>Max Door Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>1-3/8” (35 mm) to 1-3/4” (45 mm)</td>
<td>36” (91 cm)</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>1-3/4” (45 mm) to 2” (51 mm)</td>
<td>36” (91 cm)</td>
</tr>
<tr>
<td>5 x 5</td>
<td>1-3/4” (45 mm) to 2-1/2” (64 mm)</td>
<td>42” (107 cm)</td>
</tr>
<tr>
<td>6 x 6</td>
<td>1-3/4” (45 mm) to 2-1/2” (64 mm)</td>
<td>48” (122 cm)</td>
</tr>
</tbody>
</table>

1850 6 x 6 LP (Loose Oval Pin)

SPRING HINGES

1303
Double Acting
• Steel (ANSI K81041)
• Adjustable

<table>
<thead>
<tr>
<th>Product</th>
<th>Hinge Size</th>
<th>3 Hinges Max Door Weight</th>
<th>3 Hinges Max Door Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1303-3</td>
<td>3</td>
<td>76</td>
<td>35 lbs</td>
</tr>
<tr>
<td>1303-4</td>
<td>4</td>
<td>102</td>
<td>75 lbs</td>
</tr>
<tr>
<td>1303-5</td>
<td>5</td>
<td>127</td>
<td>90 lbs</td>
</tr>
<tr>
<td>1303-6</td>
<td>6</td>
<td>152</td>
<td>100 lbs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product</th>
<th>Min Door Thickness</th>
<th>Min Door Height</th>
<th>Wood Screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>1303-3</td>
<td>3/4” - 1”</td>
<td>5’-0”</td>
<td>6 x (#6 x 3/4” FPH WS)</td>
</tr>
<tr>
<td>1303-4</td>
<td>7/8” - 1-1/4”</td>
<td>6’-8”</td>
<td>8 x (#6 x 3/4” FPH WS)</td>
</tr>
<tr>
<td>1303-5</td>
<td>1-1/8” - 1-1/2”</td>
<td>6’-8”</td>
<td>10 x (#8 x 1-1/4” FPH WS)</td>
</tr>
<tr>
<td>1303-6</td>
<td>1-1/4” - 1-3/4”</td>
<td>7’-0”</td>
<td>10 x (#10 x 1-1/4” FPH WS)</td>
</tr>
</tbody>
</table>
THREE KNUCKLE HINGES

AB753
Concealed Anti-Friction Bearing - Heavy Weight
Steel with steel pin (ANSI A8411)

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches mm</td>
<td></td>
<td>Door Leaf Jamb Leaf</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114 0.180</td>
<td>7</td>
<td>2 x 1/4-20 OH 1/2 x 12-24 FH</td>
</tr>
<tr>
<td>5</td>
<td>127 0.190</td>
<td>8</td>
<td>2 x 1/4-20 OH 1/2 x 12-24 FH</td>
</tr>
<tr>
<td>6+</td>
<td>152 0.203* 0.190*</td>
<td>10</td>
<td>2 x 1/4-20 OH 1/2 x 1/4-20 FH</td>
</tr>
</tbody>
</table>

+ Door thickness must be specified.
* 0.203 for brass and steel. 0.190 for stainless steel.

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Door Leaf Width &quot;A&quot;</th>
<th>Jamb Leaf Width &quot;B&quot;</th>
<th>Jamb Leaf Offset &quot;C&quot;</th>
<th>Application &quot;D&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches mm</td>
<td>Inches mm</td>
<td>Inches mm</td>
<td>Inches mm</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114 2-9/16</td>
<td>65 2-1/16</td>
<td>52 9/16</td>
<td>14 1-1/2</td>
</tr>
<tr>
<td>5</td>
<td>127 2-7/8</td>
<td>73 2-1/16</td>
<td>52 9/16</td>
<td>14 1-1/2</td>
</tr>
<tr>
<td>6+</td>
<td>152 3-1/4</td>
<td>83 2-1/8 or 2-1/2</td>
<td>54 or 64 5/8</td>
<td>16 1-1/2 or 1-7/8</td>
</tr>
</tbody>
</table>

* 0.203 for brass and steel. 0.190 for stainless steel.
### FIVE KNUCKLE HINGES

#### 1173
**Plain Bearing - Standard Weight**
- Steel with steel pin (ANSI A8433)
- Thru-bolts and grommets for wood door applications
- Non-rising removable pin with button tip and plug
- Reversible
- Beveled surface leaf
- For use on regular weight hollow metal or wood composite doors with hollow metal frames requiring low frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/2&quot;</td>
<td>0.119</td>
<td>6</td>
<td>1-3/4 x 10-24 OH</td>
</tr>
<tr>
<td>4&quot;</td>
<td>0.129</td>
<td>7</td>
<td>2 x 1/4-20 OH</td>
</tr>
<tr>
<td>4-1/2</td>
<td>0.134</td>
<td>7</td>
<td>2 x 1/4-20 OH</td>
</tr>
</tbody>
</table>

#### BB1163
**Ball Bearing - Heavy Weight**
- Steel with steel pin (ANSI A8411)

#### BB2113
**Ball Bearing - Heavy Weight**
- Brass with stainless steel pin (ANSI A2411) or stainless steel with stainless steel pin (ANSI A5411)
- Four ball bearings
- Thru-bolts and grommets for wood door applications
- Non-rising removable pin with button tip and plug
- Reversible
- Beveled surface leaf
- For use on heavy weight hollow metal or wood composite doors with hollow metal frames requiring high frequency service

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Door Leaf Width &quot;A&quot;</th>
<th>Jamb Leaf Width &quot;B&quot;</th>
<th>Jamb Leaf Offset &quot;C&quot;</th>
<th>Application &quot;D&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>2-9/16</td>
<td>2-1-16</td>
<td>12.5</td>
<td>1-1/2</td>
</tr>
<tr>
<td>5</td>
<td>2-7/8</td>
<td>2-1-16</td>
<td>9/16</td>
<td>1-1/2</td>
</tr>
<tr>
<td>6+</td>
<td>3-1/4</td>
<td>2-1/2</td>
<td>5/8</td>
<td>1-1/2 or 1-7/8</td>
</tr>
</tbody>
</table>

* For 1-3/8” door

----

#### Hinge Size Gauge of Metal Hole Count Machine Screw Size

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>0.180</td>
<td>7</td>
<td>2 x 1/4-20 OH</td>
</tr>
<tr>
<td>5</td>
<td>0.190</td>
<td>8</td>
<td>2 x 1/4-20 OH</td>
</tr>
<tr>
<td>6+</td>
<td>0.203*</td>
<td>10</td>
<td>2 x 1/4-20 OH</td>
</tr>
</tbody>
</table>

* Door thickness must be specified.
* 0.203 for brass and steel. 0.190 for stainless steel.
HALF SURFACE

FIVE KNUCKLE HINGES

BB1173
Ball Bearing - Standard Weight
Steel with steel pin (ANSI A8412)

BB2112
Ball Bearing - Standard Weight
• Brass with stainless steel pin (ANSI A241) or stainless steel with stainless steel pin (ANSI A5412)
• Two ball bearings
• Thru-bolts and grommets for wood door applications
• Non-rising removable pin with button tip and plug
• Reversible
• Beveled surface leaf
• For use on regular weight hollow metal or wood composite doors with hollow metal frames requiring medium frequency service
• 4" is for 1-3/8" door. 4" for 1-3/4" door is available. Consult Hager Tech department.

SPRING HINGES

1253
Single Acting
• Steel (ANSI K81081F)
• Thru-bolts and grommets for wood door applications
• For maximum versatility use all spring hinges or a combination of spring and ball bearing hinges (do not use plain bearing hinges)
• Full spring tension may not be required on all hinges
• Strong wind conditions, drafts, carpeting drag, twisted/misaligned frames, or weatherstripping on doors may require additional spring hinges
• For automatic closing of door

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Door Leaf</th>
<th>Jamb Leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot;</td>
<td>102 mm</td>
<td>7</td>
<td>2 x 1/4-20 OH</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114 mm</td>
<td>7</td>
<td>2 x 1/4-20 OH</td>
<td>1/2 x 12-24 FH</td>
</tr>
<tr>
<td>5</td>
<td>127 mm</td>
<td>8</td>
<td>2 x 1/4-20 OH</td>
<td>1/2 x 12-20 FH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Door Leaf Width &quot;A&quot;</th>
<th>Jamb Leaf Width &quot;B&quot;</th>
<th>Door Leaf Offset &quot;C&quot;</th>
<th>Application &quot;D&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot;</td>
<td>102 inches</td>
<td>59 inches</td>
<td>1-13/16 inches</td>
<td>13 inches</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114 inches</td>
<td>65 inches</td>
<td>2 inches</td>
<td>1-1/2 inches</td>
</tr>
<tr>
<td>5</td>
<td>127 inches</td>
<td>73 inches</td>
<td>2 inches</td>
<td>1-1/2 inches</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Recommended Max Door Weight</th>
<th>Spring Hinge</th>
<th>Ball Bearing Hinge</th>
<th>Spring Hinge Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>114 lbs</td>
<td>32 kg</td>
<td>1</td>
<td>Center</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114 lbs</td>
<td>52 kg</td>
<td>2</td>
<td>Top or Bottom</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114 lbs</td>
<td>68 kg</td>
<td>3</td>
<td>All</td>
</tr>
</tbody>
</table>
ALUMINUM ENTRANCE - SLIP IN HINGES

FIVE KNUCKLE

The following hinges are for use on aluminum doors with aluminum frames. They are applied by inserting the hinge leaves through a slot in the door or frame. These hinges:

- Have a non-rising removable pin with button tip and plug
- Are handed
- Use ball bearings when door closers are installed on doors

BB1277
Ball Bearing - Standard Weight
Both Leaves Tapped
Steel with steel pin
[ANSI A8142, 5/16" (8 mm) Swag]

BB1278
Ball Bearing - Standard Weight
One Leaf Tapped
Steel with steel pin
[ANSI A8152, 3/16" (5 mm) Swag]

BB1577
Ball Bearing - Standard Weight
Both Leaves Tapped
Brass with stainless steel pin
[ANSI A2142, 5/16" (8 mm) Swag] or stainless steel with stainless steel pin
[ANSI A5142, 5/16" (8 mm) Swag]

BB1578
Ball Bearing - Standard Weight
One Leaf Tapped
Brass with stainless steel pin
[ANSI A2152, 3/16" (5 mm) Swag] or stainless steel with stainless steel pin
[ANSI A5152, 3/16" (5 mm) Swag]

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4</td>
<td>114 x 102</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.134</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>

4-1/2 x 3-1/2 - see template T-209 on Hager website - www.hagerco.com.
**SWING CLEAR**

**THREE KNUCKLE HINGES**

**AB7001 | AB7002**  
Full Mortise - Concealed Anti-Friction Bearing - Standard Weight  
- Steel with steel pin (ANSI A8122)  
- Non-rising removable pin with flush pin and plug  
- Reversible  
- When opened 90º, door projects 3/32” (2 mm) past stop of jamb  
- For use in hospitals or other institutional type buildings  
- AB7001 is for square edge doors and AB7002 is for beveled edge doors  
- Assembled RH - Reversible to LH

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size Machine</th>
<th>Screw Size Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>0.139</td>
<td>1/2 x 12-24 FH</td>
<td>1-1/4 x 12 FH</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>0.139</td>
<td>1/2 x 12-24 FH</td>
<td>1-1/4 x 12 FH</td>
</tr>
</tbody>
</table>

**AB7501 | AB7502**  
Full Mortise - Concealed Anti-Friction Bearing - Heavy Weight  
- Steel with steel pin (ANSI A8121)  
- Non-rising removable pin with flush pin and plug  
- Reversible  
- When opened 90º, door projects 11/64” (4 mm) past stop of jamb  
- For use in hospitals or other institutional type buildings  
- AB7501 is for square edge doors and AB7502 is for beveled edge doors  
- Assembled RH - Reversible to LH

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size Machine</th>
<th>Screw Size Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>0.187</td>
<td>1/2 x 12-24 FH</td>
<td>1-1/4 x 12 FH</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>0.187</td>
<td>1/2 x 12-24 FH</td>
<td>1-1/4 x 12 FH</td>
</tr>
</tbody>
</table>
**FIVE KNUCKLE HINGES**

**1260 | 1261**
Full Mortise - Plain Bearing - Standard Weight
- Steel with steel pin (ANSI A8123)
- Non-rising removable pin with button tip and plug
- Reversible
- When opened 90°, door projects 9/64" (4 mm) past stop of jamb for 3-1/2" hinge and 3/16" (5 mm) past stop of jamb for 4" hinge
- For residential and commercial use
- 1260 is for square edge doors and 1261 is for beveled edge doors
- Assembled RH - reversible to LH

**BB1262 | BB1263**
Full Mortise - Ball Bearing - Heavy Weight
- Steel with steel pin (ANSI A8121)
- Four ball bearings
- Non-rising removable pin with button tip and plug
- Reversible
- When opened 90°, door projects 11/64" (4 mm) past stop of jamb
- For use in hospitals or other institutional type buildings
- BB1262 is for square edge doors and BB1263 is for beveled edge doors
- Assembled RH - reversible to LH

**BB1260 | BB1261**
Full Mortise - Ball Bearing - Standard Weight
- Steel with steel pin (ANSI A8122)
- Two ball bearings
- Non-rising removable pin with button tip and plug
- Reversible
- When opened 90°, door projects 3/32" (2 mm) past stop of jamb
- For use in hospitals or other institutional type buildings
- BB1260 is for square edge doors and BB1261 is for beveled edge doors
- Assembled RH - reversible to LH

**BB1360 | BB1361**
Full Mortise - Ball Bearing - Standard Weight
- Stainless steel with stainless steel pin (ANSI A5122)
- Two ball bearings
- Non-rising removable pin with button tip and plug
- Reversible
- When opened 90°, door projects 3/32" (2 mm) past stop of jamb
- For use in hospitals or other institutional type buildings
- BB1360 is for square edge doors and BB1361 is for beveled edge doors
- Assembled RH - reversible to LH
SWING CLEAR

FIVE KNUCKLE HINGES

**BB1362 | BB1363**
Full Mortise - Ball Bearing - Heavy Weight
- Stainless steel with stainless steel pin (ANSI A5121)
- Four ball bearings
- Non-rising removable pin with button tip and plug
- Reversible
- When opened 90°, door projects 11/64" (4 mm) past stop of jamb
- For use in hospitals or other institutional type buildings
- BB1362 is for square edge doors and BB1363 is for beveled edge doors
- Assembled RH - reversible to LH

**BB1266**
Full Surface - Ball Bearing - Heavy Weight
- Steel with stainless steel pin (ANSI A8321)
- Four ball bearings
- Non-rising removable pin with button tip and plug
- Reversible
- Beveled surface leaves
- When opened 90°, door projects 11/64" (4 mm) past stop of jamb
- For use in hospitals or other institutional type buildings
- Assembled RH - reversible to LH

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td>Door Leaf</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>0.180</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>0.190</td>
<td>8</td>
</tr>
</tbody>
</table>
THREE KNUCKLE HINGES

**AB7505**
Concealed Anti-Friction Bearing - Heavy Weight
Steel with steel pin (ANSI A8551)

**AB8505**
Concealed Anti-Friction Bearing - Heavy Weight
• Brass with stainless steel pin (ANSI A2551) or stainless steel with stainless steel pin (ANSI A5551)
• Non-removable pin standard with flush pin and plug
• Handed
• One anchor leaf (frame)
• Must be used with one pair of heavy weight, full mortise hinges (AB750 or AB850) - sold separately
• For use on heavy weight doors receiving high frequency use

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.190</td>
<td>1-1/4 x 12</td>
</tr>
</tbody>
</table>

**AB7507 | AB7509**
Concealed Anti-Friction Bearing - Heavy Weight
Steel with steel pin (ANSI A8551)

**AB8507 | AB8509**
Concealed Anti-Friction Bearing - Heavy Weight
• Brass with stainless steel pin (ANSI A2551) or stainless steel with stainless steel pin (ANSI A5551)
• Non-removable pin standard with flush pin and plug
• Handed
• Two anchor leaves
• Must be used with one pair of heavy weight, full mortise hinges (AB750 or AB850) - sold separately
• For use on heavy weight doors receiving high frequency use and when concealed door closer is used
• AB7507 is for square edge doors and AB7509 is for beveled edge doors
• AB8507 is for square edge doors and AB8509 is for beveled edge doors

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.190</td>
<td>1-1/4 x 12</td>
</tr>
</tbody>
</table>

**AB7506 | AB7508**
Concealed Anti-Friction Bearing - Heavy Weight
Steel with steel pin (ANSI A8551)

**AB8506 | AB8508**
Concealed Anti-Friction Bearing - Heavy Weight
• Brass with stainless steel pin (ANSI A2551) or stainless steel with stainless steel pin (ANSI A5551)
• Non-removable pin standard with flush pin and plug
• Handed
• Two anchor leaves
• Must be used with one pair of heavy weight, full mortise hinges (AB750 or AB850) - sold separately
• For use on heavy weight doors receiving high frequency use
• AB7506 is for square edge doors and AB7508 is for beveled edge doors
• AB8506 is for square edge doors and AB8508 is for beveled edge doors

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.190</td>
<td>1-1/4 x 12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.190</td>
<td>1-1/4 x 12</td>
</tr>
</tbody>
</table>
ANCHORS

FIVE KNuckle Hinges

BB1160
Ball Bearing - Heavy Weight
Steel with steel pin (ANSI A8551)

BB1190
Ball Bearing - Heavy Weight
• Brass with stainless steel pin (ANSI A2551) or stainless steel with stainless steel pin (ANSI A5551)
• Four ball bearings
• Non-removable pin standard with button tip and plug
• Handed
• One anchor leaf (frame)
• Must be used with one pair of heavy weight, full mortise hinges (BB1168 or BB1199) - sold separately
• For use on heavy weight doors receiving high frequency use

BB1165  |  BB117
Ball Bearing - Heavy Weight
Steel with steel pin (ANSI A8551)

BB1195  |  BB1197
Ball Bearing - Heavy Weight
• Brass with stainless steel pin (ANSI A2551) or stainless steel with stainless steel pin (ANSI A5551)
• Four ball bearings
• Non-removable pin standard with button tip and plug
• Handed
• Two anchor leaves
• Must be used with one pair of heavy weight, full mortise hinges (BB1168 or BB1199) - sold separately
• For use on heavy weight doors receiving high frequency use and when concealed door closer is used
• BB1165 is for square edge doors and BB117 is for beveled edge doors
• BB1195 is for square edge doors and BB1197 is for beveled edge doors

BB1162  |  BB1166
Ball Bearing - Heavy Weight
Steel with steel pin (ANSI A8551)

BB1192  |  BB1196
Ball Bearing - Heavy Weight
• Brass with stainless steel pin (ANSI A2551) or stainless steel with stainless steel pin (ANSI A5551)
• Four ball bearings
• Non-removable pin standard with button tip and plug
• Handed
• Two anchor leaves
• Must be used with one pair of heavy weight, full mortise hinges (BB1168 or BB1199) - sold separately
• For use on heavy weight doors receiving high frequency use
• BB1162 is for square edge doors and BB1166 is for beveled edge doors
• BB1192 is for square edge doors and BB1196 is for beveled edge doors

Hinge Size
<table>
<thead>
<tr>
<th>Inches</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.190</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>

Hinge Size
<table>
<thead>
<tr>
<th>Inches</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.190</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>

Hinge Size
<table>
<thead>
<tr>
<th>Inches</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 x 4-1/2</td>
<td>127 x 114</td>
<td>0.190</td>
<td>1/2 x 12-24</td>
</tr>
</tbody>
</table>
PIVOTS

REINFORCING

251
Full Surface
• For 3-1/2" (89 mm) wide hinge
• Handed

252
Full Surface
• For 4" (102 mm) wide hinge
• Non-handed

253
Full Surface
• For 4-1/2" (114 mm) wide hinge
• Non-handed

254
Full Surface
• For 5" (127 mm) wide hinge
• Non-handed

<table>
<thead>
<tr>
<th>Product</th>
<th>Butt Hinge Width</th>
<th>Projection*</th>
<th>Door Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches mm</td>
<td>Inches mm</td>
<td>Inches mm</td>
</tr>
<tr>
<td>251</td>
<td>3-1/2 89</td>
<td>5/8 16</td>
<td>1-3/8 35</td>
</tr>
<tr>
<td>252</td>
<td>4 102</td>
<td>1/2 12.5</td>
<td>1-3/4 45</td>
</tr>
<tr>
<td>253</td>
<td>4-1/2 114</td>
<td>3/4 19</td>
<td>1-3/4 45</td>
</tr>
<tr>
<td>254</td>
<td>5 127</td>
<td>1 25</td>
<td>1-3/4 45</td>
</tr>
</tbody>
</table>

*BProjection from centerline of pivot to face of door.

BALL AND THRUST BEARING - HEAVY WEIGHT

495
Top
Forged bronze (ANSI C07162)

496
Intermediate
• Forged bronze (ANSI C07321)
• Handed

497
Bottom
• Forged bronze (ANSI C07131)
• 3/4” (19 mm) offset
• Two knuckle
• For doors up to and including 3’0” x 8’0” (912 mm x 2438 mm) weighing maximum of 350 pounds, apply all three pivots 495, 496, 497
• For doors over 3’6” (1067 mm) up to 4’0” (1219 mm) in width, add one additional intermediate pivot, 496
• For each additional 12” (305 mm) in door height over 8’0” (2438 mm) add one intermediate pivot, 496
• Handed

<table>
<thead>
<tr>
<th>Product</th>
<th>Hole Count</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Machine</td>
<td>Wood</td>
</tr>
<tr>
<td>495</td>
<td>8</td>
<td>5/8 x 1/4-20 1-1/2 x 14</td>
</tr>
<tr>
<td>496</td>
<td>10</td>
<td>5/8 x 1/4-20 1-1/2 x 14</td>
</tr>
<tr>
<td>497</td>
<td>8</td>
<td>5/8 x 1/4-20 1-1/2 x 14</td>
</tr>
</tbody>
</table>

Gauge of Metal

<table>
<thead>
<tr>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine</td>
</tr>
<tr>
<td>Wood</td>
</tr>
</tbody>
</table>

0.187
3/4 x 1/4-20 1-1/4 x 14
PIVOTS

SINGLE ACTING - STANDARD WEIGHT

500
Rack and Pinion
- ANSI A2793
- Pivot opens door to 105° maximum
- Non-handed
- Concealed
- Adjustable alignment

Designed for:
- 1-3/4” (45 mm) thick door
- Maximum weight not over 80 pounds
- Not to exceed 3’ (914 mm) wide and 7” (2134 mm) high
- Cased opening frame required
- Consult Hager Tech Support for doors other than 1-3/4” (44 mm)

<table>
<thead>
<tr>
<th>Screw Size</th>
<th>Machine</th>
<th>Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine</td>
<td>Wood</td>
<td></td>
</tr>
<tr>
<td>Upon request</td>
<td>1-1/4 x 12 FH*</td>
<td></td>
</tr>
</tbody>
</table>

*S Plastic cinch anchors

SINGLE ACTING - EXTRA HEAVY WEIGHT

551
Extra Heavy Duty Rack and Pinion
- ANSI A2792
- Pivot opens door to 105° maximum
- Non-handed
- Concealed
- Adjustable alignment

Designed for:
- 1-3/4” (45 mm) thick door
- Maximum weight not over 180 pounds
- Not to exceed 4’ (1.2 m) wide and 8’ (2.4 m) high
- Cased opening frame required
- Consult Hager Tech Support for doors other than 1-3/4” (44 mm)

<table>
<thead>
<tr>
<th>Screw Size</th>
<th>Machine</th>
<th>Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine</td>
<td>Wood</td>
<td></td>
</tr>
<tr>
<td>Upon request</td>
<td>1-1/4 x 12 FH*</td>
<td></td>
</tr>
</tbody>
</table>

*S Plastic cinch anchors

SINGLE ACTING - HEAVY WEIGHT

550
Heavy Duty Rack and Pinion
- ANSI A2792
- Pivot opens door to 105° maximum
- Non-handed
- Concealed
- Adjustable alignment

Designed for:
- 1-3/4” (45 mm) thick door
- Maximum weight not over 150 pounds
- Not to exceed 3’ (914 mm) wide and 7” (2134 mm) high
- Cased opening frame required
- Consult Hager Tech Support for doors other than 1-3/4” (44 mm)

<table>
<thead>
<tr>
<th>Screw Size</th>
<th>Machine</th>
<th>Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine</td>
<td>Wood</td>
<td></td>
</tr>
<tr>
<td>Upon request</td>
<td>1-1/4 x 12 FH*</td>
<td></td>
</tr>
</tbody>
</table>

*S Plastic cinch anchors

HEAVY WEIGHT

615
For Frameless Openings
- ANSI A8782
- For use on doors up to 150 lbs and 1-3/8” - 1-3/4” (35 mm - 44 mm) thick
- Pivot opens door to 180° maximum
- Screw slots for horizontal or vertical adjustment

<table>
<thead>
<tr>
<th>Wood Screw Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12 x 1-1/4</td>
<td></td>
</tr>
</tbody>
</table>

*S Plastic cinch anchors
PIVOTS

CAMTROL DOUBLE ACTING - HOSPITAL SET - RESCUE HARDWARE

The following pivots are for use on:
• Wood or metal doors up to 135 lbs
• Doors not over 3’6” x 7’ (1067 mm x 2134 mm)
• Wood or metal frames
• Allows for square edge door on lock side, bull nose not required

Mortise Application in Wood Floors

510
Head and Floor Pivots
• ANSI A5702
• For use with square edge doors on hinge side

600
Head and Floor Pivots with Door Release (Set)
ANSI A5702

Mortise Application in Masonry Floors

511
Head and Floor Pivots
• ANSI A5702
• For use with square edge doors on hinge side

611
Head and Floor Pivots with Door Release (Set)
ANSI A5702

<table>
<thead>
<tr>
<th>Item No</th>
<th>Anchor Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>510 &amp; 600</td>
<td>3-7/8 x 1-7/8 x 7/8</td>
</tr>
<tr>
<td>511 &amp; 611</td>
<td>3-7/8 x 1-1/4 x 7/8</td>
</tr>
<tr>
<td>512 &amp; 612</td>
<td>3-7/8 x 1-1/4 x 7/8</td>
</tr>
</tbody>
</table>

Door Mount Brackets Screw Size

<table>
<thead>
<tr>
<th>Machine</th>
<th>Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 x 12-24 FH</td>
<td>1-1/4 x 12 FH</td>
</tr>
</tbody>
</table>

Head Cam Box Screw Size

<table>
<thead>
<tr>
<th>Machine</th>
<th>Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1/4 x 12-24 FH</td>
<td>1-1/2 x 12-24 FH</td>
</tr>
</tbody>
</table>

Floor Cam Box Screw Size

<table>
<thead>
<tr>
<th>Machine</th>
<th>Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1/2 x 12-24 FH</td>
<td>-</td>
</tr>
</tbody>
</table>

1-1/2 x 12 FH

<table>
<thead>
<tr>
<th>Mortise Depth</th>
<th>Face Plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
</tr>
<tr>
<td>1-13/16</td>
<td>46</td>
</tr>
</tbody>
</table>

| Screw Size |
| Machine | Wood |
| 1/2 x 12-24 FH | 1-1/4 x 12 FH |

CAMTROL DOUBLE ACTING - HOSPITAL SET - RESCUE HARDWARE

Surface Application in Masonry Floors

512
Head and Floor Pivots
• ANSI A5702
• For use with square edge doors on hinge side

612
Head and Floor Pivots with Door Release (Set)
ANSI A5702

610
Door Release
ANSI A1882

*Plastic cinch anchors
**PIVOTS**

**DOUBLE LIPPED STRIKE**

451  
Center Hung Doors  
• Brass  
• ANSI A1882

452  
Center Hung Doors  
• Brass  
• ANSI A1882

453  
1/8" (3.2 mm) Inset Hung Doors  
• Brass  
• ANSI A1882

454  
1/8" (3.2 mm) Inset Hung Doors  
• Brass  
• ANSI A1882

**COMBINATION RESCUE DOOR STOP AND TWO WAY STRIKE PLATE (EMERGENCY STRIKE)**

455  
Center Hung Doors  
• Brass  
• ANSI A1882

456  
Center Hung Doors  
• Brass  
• ANSI A1882

457  
1/8" (3.2 mm) Inset Hung Doors  
• Brass  
• ANSI A1882

458  
1/8" (3.2 mm) Inset Hung Doors  
• Brass  
• ANSI A1882

• Handed  
• To be used with Hager 510, 511, and 512 pivots  
• Door release allows doors to be opened in both directions without damage to frame  
• Standard latchbolt cutout is 1-1/4" x 11/16" (32 mm x 17 mm)  
• Standard strike plates are optimized for cylindrical locks/latches mounted on 1-3/4" thick doors  
• Mortise lock applications require special latch cutout location (consult specific manufactures for variations of cutout dimensions)  
• For use with Camtrol double acting pivot

**Product | Face Plate | Gauge of Metal | Hole Count | Screw Size**  
--- | --- | --- | --- | ---  
451 | 5-3/4” x 2-3/4 | 0.093 | 6 | 1/2 x 8-32 FH  
452 | 6-3/4” x 2-3/4 | 0.093 | 6 | 1/2 x 8-32 FH  
453 | 5-3/4” x 2-3/4 | 0.093 | 6 | 1/2 x 8-32 FH  
454 | 6-3/4” x 2-3/4 | 0.093 | 6 | 1/2 x 8-32 FH  
455 (center) | 5-3/4” x 2-3/4 | 0.093 | 6 | 1/2 x 8-32 FH  
456 (center) | 6-3/4” x 2-3/4 | 0.093 | 6 | 1/2 x 8-32 FH  
457 (inset) | 5-3/4” x 2-3/4 | 0.093 | 6 | 1/2 x 8-32 FH  
458 (inset) | 6-3/4” x 2-3/4 | 0.093 | 6 | 1/2 x 8-32 FH

**Catalog Number | Frame Width**  
--- | ---  
452 & 454 | 4-3/4”  
| 5-1/4”  
| 5-7/8”  
| 6-1/8”  
| 6-1/4”  
| 6-1/2”  
| 7-1/8”  
| 7-1/2”  
| 7-3/4”  
| 8  
| 8-1/4”  
| 8-3/4”

**Catalog Number | Frame Width**  
--- | ---  
456 & 458 | 4-3/4”  
| 5-1/4”  
| 5-7/8”  
| 6-1/8”  
| 6-1/4”  
| 6-1/2”  
| 7-1/8”  
| 7-1/2”  
| 7-3/4”  
| 8  
| 8-1/4”  
| 8-3/4”
DETENTION HARDWARE

THREE KNUCKLE HINGES

IHTHB953
Full Mortise - Concealed Bearings - Heavy Weight
- Stainless steel with stainless steel pin (ANSI A5111)
- Two concealed maintenance free bearings
- Investment cast
- Security torx screws
- Hospital tip and reverse security stud are standard
- Additional options include electric monitor (EMN), electric through wire (ETW), and electric through wire and monitor (ETM)
- For use on heavy weight doors ranging from 250-600 lbs

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Pin Diameter</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>114 x 114</td>
<td>0.370</td>
<td>9</td>
<td>0.187</td>
</tr>
</tbody>
</table>

IHTAB750
Institutional Prison Hinge
Steel with stainless steel pin (ANSI A8111)

IHTAB850
Institutional Prison Hinge
- Stainless steel with stainless steel pin (ANSI A5111)
- Concealed maintenance free bearings
- Welded hospital tips and plug
- Welded knuckles
- Additional options include security torx screws, electric monitor (EMN), electric through wire (ETW), electric through wire and monitor (ETM), reverse safety stud (RSS), and safety stud (SS)
- For use on heavy weight doors ranging from 200-300 lbs

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Pin Diameter</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 4</td>
<td>78 x 102</td>
<td>0.437</td>
<td>11</td>
<td>0.203</td>
</tr>
</tbody>
</table>

990
Full Surface Heavy Weight Prison Utility Hinge
- Steel with steel pin (ANSI A8383)
- Plain bearing
- Welded pin
- Prime painted
- Torx button head bolt
- Two hinges support the weight of 150 lbs
- For use on small doors, access doors, and observation shutters

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Pin Diameter</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 4</td>
<td>78 x 102</td>
<td>0.437</td>
<td>11</td>
<td>0.203</td>
</tr>
</tbody>
</table>

992
Full Surface Heavy Weight Prison Pass Through Hinge with Stop
- Steel with steel pin (ANSI A8383)
- Plain bearing
- Welded pin
- Prime painted
- Torx button head bolt
- Two hinges support the weight of 150 lbs
- For use on pass through in door

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Pin Diameter</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 4</td>
<td>78 x 102</td>
<td>0.437</td>
<td>11</td>
<td>0.203</td>
</tr>
</tbody>
</table>

Made in USA
100  
**Set Screw Set**  
- 1/8” x 10-32 set screws (quantity 300)  
- 3/16” x 10-32 set screws (quantity 300)  
- 3/32” hex key  
- Hand tap “T” wrench  
- 10-32 tap  
- #21 drill bit  
- This set converts removable pin hinges to non-removable pin (set screw in barrel) hinges as required

305  
**Hinge Reinforcement Plate**  
- Steel  
- For metal frames  
- Four (4) holes

263  
**Sleeve Bolt**  
- Aluminum  
- 9/16” (14 mm) head sex nut with 1/4” - 20 internal thread  
- Knurled shoulder prevents bolt from turning  
- Drill a 3/8” (9.5 mm) hole and insert the sex bolt  
- Available in US2C finish only (compatible with US26D, US28, or US32D)  
- For use in securing push bars, exposed door closers and other fixtures to doors 1-3/4” (45 mm) thick or greater

265  
**Molly Jack Nut (8S JN)**  
- Aluminum  
- For use with the Hager reinforcing pivot hinges (250 Series)  
- Easily installed by drilling a 7/16” (11.1 mm) pilot hole and following the instructions provided with each product  
- For use in properly anchoring various products to hollow metal frames 3/16” - 3/8” (4.8 mm - 9.5 mm) thick

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Width</th>
<th>Total Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>1.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Offset</th>
<th>Gauge of Metal</th>
<th>Tapped for Screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.074</td>
<td>0.154</td>
<td>12-24</td>
</tr>
</tbody>
</table>

417  
**Back Plate**  
- Steel  
- For wood doors  
- For full or half surface hinges

<table>
<thead>
<tr>
<th>Length</th>
<th>Width</th>
<th>Gauge of Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
</tr>
<tr>
<td>4-5/8</td>
<td>117</td>
<td>1-13/16</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>2-1/8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Holes</th>
<th>Machine Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1/4 x 20</td>
</tr>
<tr>
<td>4</td>
<td>1/4 x 20</td>
</tr>
</tbody>
</table>
## DECORATOR TIP KITS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1712</td>
<td>Ball Standard Weight</td>
</tr>
<tr>
<td>1713</td>
<td>Ball Heavy Weight</td>
</tr>
<tr>
<td>1716</td>
<td>Acorn Standard Weight</td>
</tr>
<tr>
<td>1717</td>
<td>Acorn Heavy Weight</td>
</tr>
<tr>
<td>1722</td>
<td>Steeple Standard Weight</td>
</tr>
<tr>
<td>1723</td>
<td>Steeple Heavy Weight</td>
</tr>
<tr>
<td>1728</td>
<td>Urn Standard Weight</td>
</tr>
<tr>
<td>1729</td>
<td>Urn Heavy Weight</td>
</tr>
</tbody>
</table>

- Standard weight hinge size - 3-1/2” (89 mm), 4” (102 mm), 4-1/2” (114 mm), 5” (127 mm), 6” (152 mm)
- Heavy weight hinge size - 4-1/2” (114 mm), 5” (127 mm), 6” (152 mm), 8” (203 mm)
- Solid brass with stainless steel pin
- Conversion tips and pins for architectural grade hinges
Serving the needs of the homeowner, contractor, pre-hung door supplier, and hardware supplier, Hager residential hinges offer several finishes and styles to enhance the design on any home.

Hager residential hinges are available in square and two sizes of radius corners to match home designs ranging from traditional to contemporary. Coordinating finishes is one of many all-important detail aspects of the design process and we offer finishes ranging from stainless steel, chrome, nickel, antique brass, flat black and bright brass, which is making a comeback in the interior design industry.

Several of our most popular hinges are offered in bulk packs for large projects and unassembled to be used in large door assembly processes.

Table of Contents

General Information ............................................................ 2
Full Mortise - Five Knuckle .................................................. 3-6
Full Mortise - Six Knuckle .................................................... 6
Full Mortise - Spring ............................................................ 7
Accessories ......................................................................... 8
Conestoga Barn Door Hardware Series .............................. 9-13
Hager residential hinges are provided without lubrication. We recommend lubricating the hinges after installation. Remove the pin, apply white lithium grease to the pin, then re-insert. All residential hinges conform to the “Light Weight” requirements of ANSI A156.1.

Finishes (not all hinges are available in all finishes)

<table>
<thead>
<tr>
<th>US &amp; Hager</th>
<th>Description</th>
<th>Steel</th>
<th>Brass</th>
<th>Stainless Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1D</td>
<td>Flat Black</td>
<td>631</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2D</td>
<td>Brass Tone Dichromate</td>
<td>604</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2CD</td>
<td>Brushed Zinc Plate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>H2H x BP</td>
<td>Mechanical Galvanized</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3</td>
<td>Bright Brass</td>
<td>632</td>
<td>605</td>
<td>N/A</td>
</tr>
<tr>
<td>3LB</td>
<td>Light Brass</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4</td>
<td>Satin Brass</td>
<td>633</td>
<td>606</td>
<td>N/A</td>
</tr>
<tr>
<td>10A/US11</td>
<td>Antique Bronze, Lacquered</td>
<td>641/643</td>
<td>614</td>
<td>N/A</td>
</tr>
<tr>
<td>10R</td>
<td>Matte Lacquered Antique Bronze</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>15</td>
<td>Satin Nickel</td>
<td>646</td>
<td>619</td>
<td>N/A</td>
</tr>
<tr>
<td>26</td>
<td>Bright Chromium Plated</td>
<td>651</td>
<td>625</td>
<td>N/A</td>
</tr>
<tr>
<td>26D</td>
<td>Satin Chromium Plated</td>
<td>652</td>
<td>626</td>
<td>N/A</td>
</tr>
<tr>
<td>32</td>
<td>Stainless Steel Metal, Bright</td>
<td>N/A</td>
<td>N/A</td>
<td>629</td>
</tr>
<tr>
<td>32D</td>
<td>Stainless Steel Metal, Satin</td>
<td>N/A</td>
<td>N/A</td>
<td>630</td>
</tr>
<tr>
<td>32D x CLR</td>
<td>Stainless Steel Metal, Satin, clear</td>
<td>N/A</td>
<td>N/A</td>
<td>630</td>
</tr>
<tr>
<td>P</td>
<td>Prime Coat - Beige</td>
<td>600</td>
<td>600</td>
<td>N/A</td>
</tr>
<tr>
<td>ABA/US5</td>
<td>Antique Brass</td>
<td>638</td>
<td>609</td>
<td>N/A</td>
</tr>
<tr>
<td>AN/US15A</td>
<td>Antique Nickel</td>
<td>647</td>
<td>620</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Packing

Box pack - 2 hinges per box
Bulk pack - 100 hinges per box

Hager Residential Hole Patterns

3-1/2" x 3-1/2" Refer to template #T398

4" x 4" Refer to template #T399
### FULL MORTISE - FIVE KNUCKLE

#### 1541
- **Plain Bearing**
- Brass with brass pin (ANSI A2134) or stainless steel with stainless steel pin (ANSI A5134)
- Reversible
- Square corners
- Removable pin

#### BB1541
- **Ball Bearing**
- Stainless steel with stainless steel pin (ANSI A5114)
- Reversible
- Square corners
- Removable pin

#### RC1541
- **Plain Bearing**
- Brass with brass pin (ANSI A2134) or stainless steel with stainless steel pin (ANSI A5134)
- Reversible
- Round corners - 1/4” (6 mm) radius
- Removable pin

#### RCBB1541
- **Ball Bearing**
- Stainless steel with stainless steel pin (ANSI A5114)
- Reversible
- Round corners - 5/8” (16 mm) radius
- Removable pin

#### 1542
- **Plain Bearing**
- Brass with brass pin (ANSI A2134) or stainless steel with stainless steel pin (ANSI A5134)
- Reversible
- Round corners - 1/4” (6 mm) radius
- Removable pin

#### BB1543
- **Ball Bearing**
- Brass with brass pin (ANSI A2114) or stainless steel with stainless steel pin (ANSI A5114)
- Assembled right hand
- Square by 5/8” (16 mm) radius
- Removable pin

#### RC1542
- **Plain Bearing**
- Brass with brass pin (ANSI A2134) or stainless steel with stainless steel pin (ANSI A5134)
- Reversible
- Round corners - 5/8” (16 mm) radius
- Removable pin

#### RCBB1542
- **Ball Bearing**
- Stainless steel with stainless steel pin (ANSI A5114)
- Reversible
- Round corners - 5/8” (16 mm) radius
- Removable pin

### Hinge Size Gauge of Metal

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Pin Diameter</th>
<th>Screw Size (Wood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/2 x 3-1/2</td>
<td>89 x 89</td>
<td>0.085</td>
<td>6</td>
<td>0.234</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>0.085</td>
<td>8</td>
<td>0.234</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Pin Diameter</th>
<th>Screw Size (Wood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>0.085</td>
<td>8</td>
<td>0.234</td>
</tr>
</tbody>
</table>
1741
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Reversible
- Square corners
- Removable pin

BB1741
Ball Bearing
- Steel with steel pin (ANSI A8114)
- Reversible
- Square corners
- Removable pin

RC1741 | 7741
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Reversible
- 7741 is RC1741 bulk unassembled
- Round corners - 1/4” (6 mm) radius
- Removable pin

RCBB1741
Ball Bearing
- Steel with steel pin (ANSI A8114)
- Reversible
- Round corners - 1/4” (6 mm) radius
- Removable pin

RC1748
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Reversible
- Round corners - 1/4” (6 mm) radius
- Removable pin
- Template hole pattern
- AMS and 1/2 wood screws

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Pin Diameter</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 x 3*</td>
<td>76 x 76*</td>
<td>6*</td>
<td>0.234*</td>
<td>3/4 x 9 FH*</td>
</tr>
<tr>
<td>3-1/2 x 3-1/2</td>
<td>89 x 89</td>
<td>6</td>
<td>0.234</td>
<td>3/4 x 9 FH</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>8</td>
<td>0.234</td>
<td>3/4 x 9 FH</td>
</tr>
</tbody>
</table>

*3 x 3 not available for BB1741 or RCBB1741.
FULL MORTISE - FIVE KNUCKLE

1816
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Assembled right hand
- Square by 5/8” (16 mm) radius
- Removable pin
- Bulk assembled

BB1816
Ball Bearing
- Steel with steel pin (ANSI A8114)
- Assembled right hand
- Square by 5/8” (16 mm) radius
- Removable pin

1817
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Assembled left hand
- Square by 5/8” (16 mm) radius
- Removable pin
- Bulk assembled

BB1817
Ball Bearing
- Steel with steel pin (ANSI A8114)
- Assembled left hand
- Square by 5/8” (16 mm) radius
- Removable pin

1818
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Assembled right hand
- Square by 5/8” (16 mm) radius
- Security stud
- Removable pin
- Bulk assembled

1819
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Assembled left hand
- Square by 5/8” (16 mm) radius
- Security stud
- Removable pin
- Bulk assembled

8746
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Square by 5/8” (16 mm) radius
- Safety stud
- Bulk unassembled

8744
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Square by 5/8” (16 mm) radius
- Bulk unassembled

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Pin Diameter</th>
<th>Screw Size (Wood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>8</td>
<td>0.234</td>
<td>3/4 x 9 FH</td>
</tr>
</tbody>
</table>

Hinge Size Gauge of Metal Hole Count Pin Diameter Screw Size (Wood)

<table>
<thead>
<tr>
<th>Inches</th>
<th>mm</th>
<th>Count</th>
<th>Diameter</th>
<th>(Wood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>102</td>
<td>102</td>
<td>0.085</td>
<td>8</td>
</tr>
</tbody>
</table>
**RC1843 | RC1841 | 8741**
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Reversible
- Round corners - 5/8” (16 mm) radius
- RC1841 is RC1842 bulk assembled
- 8741 is RC1842 bulk unassembled
- RC1842 - Box pack (2 per box)
- Removable pin

**RCBB1842**
Ball Bearing
- Steel with steel pin (ANSI A8114)
- Reversible
- Round corners - 5/8” (16 mm) radius
- Removable pin

**RC1846**
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Reversible
- Round corners - 5/8” (16 mm) radius
- Riveted security pin
- Also available bulk assembled
- Not recommended for exterior use

**RC1847**
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Reversible
- Square by 5/8” (16 mm) radius
- Riveted security pin
- Also available bulk assembled

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Pin Diameter</th>
<th>Screw Size (Wood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/2 x 3-1/2</td>
<td>89 x 89</td>
<td>6</td>
<td>0.234</td>
<td>3/4 x 9 FH</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>8</td>
<td>0.234</td>
<td>3/4 x 9 FH</td>
</tr>
</tbody>
</table>

**RC1847**
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Reversible
- Square by 5/8” (16 mm) radius
- Riveted security pin
- Also available bulk assembled

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Pin Diameter</th>
<th>Screw Size (Wood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/2 x 3-1/2</td>
<td>89 x 89</td>
<td>6</td>
<td>0.234</td>
<td>3/4 x 9 FH</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>8</td>
<td>0.234</td>
<td>3/4 x 9 FH</td>
</tr>
</tbody>
</table>

**RC1641 | 8641**
Plain Bearing
- Steel with steel pin (ANSI A8134)
- Reversible
- Round corners - 5/8” (16 mm) radius
- Removable pin
- RC1641 is assembled, 8641 is bulk unassembled

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Hole Count</th>
<th>Pin Diameter</th>
<th>Screw Size (Wood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/2 x 3-1/2</td>
<td>89 x 89</td>
<td>6</td>
<td>0.234</td>
<td>3/4 x 9 FH</td>
</tr>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>8</td>
<td>0.234</td>
<td>3/4 x 9 FH</td>
</tr>
</tbody>
</table>
FULL MORTISE - SPRING

Spring hinges are for automatic closing of doors. They are light weight for residential use. 1734 and 1744 are also for metal frames.

**Hinge Recommendation**

<table>
<thead>
<tr>
<th>Recommended Max Door Weight (lbs)</th>
<th>Spring Hinge</th>
<th>Butt Hinge</th>
<th>Spring Hinge Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>1</td>
<td>2</td>
<td>Center</td>
</tr>
<tr>
<td>70</td>
<td>2</td>
<td>1</td>
<td>Top/Btm or Ctr/Btm</td>
</tr>
<tr>
<td>90</td>
<td>3</td>
<td>-</td>
<td>All</td>
</tr>
</tbody>
</table>

**RC1734**
- Stainless steel (ANSI K51071F)
- Round corners - 1/4” (6 mm) radius
- Template hole pattern

**RC1744**
- Steel (ANSI K81071F)
- Round corners - 1/4” (6 mm) radius
- Template hole pattern

**Recommended Max Door Weight (lbs)**

<table>
<thead>
<tr>
<th>Inches</th>
<th>mm</th>
<th>Hole Count</th>
<th>Screw Size (Wood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>102 x 102</td>
<td>8</td>
<td>1-1/4” x 12 FPHW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12-12 x 1/2 FPHM</td>
</tr>
</tbody>
</table>

**Additional Notes for Spring Hinges**

For maximum versatility use all spring hinges or a combination of spring hinges and residential ball bearing hinges. Do not use plain bearing hinges.
- Full spring tension may not be required on all hinges.
- Strong wind conditions, drafts, carpeting drag, twisted/misaligned frames, or weatherstripping on doors may require additional spring hinges.
- Not intended for exterior outswing doors.
- For fire-rated openings use all 3 spring hinges.
- For doors over 7 feet, please call Hager Companies.
1700  
**Pins for Residential Hinges**
Sizes:  • 3-1/2” (89 mm)  
• 4” (102 mm)  
Finishes:  • 3-1/2” - 2D, US15, US26D  
• 4” - 2D, US4, US15, US26D  
Notes:  Sold in full box quantity of 100

1710  
**Residential Ball Tip Kit**
Materials:  Brass tips and stainless steel pin  
Notes:  • Includes 2 ball tips and 1 pin  
• For use with 3-1/2” (89 mm)  
  or 4” (102 mm) hinges

1720  
**Residential Steeple Tip Kit**
Materials:  Brass tips and stainless steel pin  
Notes:  • Includes 2 steeple tips and 1 pin  
• For use with 3-1/2” (89 mm)  
  or 4” (102 mm) hinges
9400 SERIES BARN DOOR HARDWARE - CONESTOGA SERIES

FEATURES

- Durable powder-coated black rail and Conestoga Style, Barn Door Hangers
- Conforms to ANSI BHMA A156.14-2007
- Grade 1 for sliding doors by exceeding 100,000 cycles in operation

SPECIFICATIONS

- Door weight up to 250 lbs.
- Wood doors up to 1-3/4” thick

<table>
<thead>
<tr>
<th>Stock Number</th>
<th>Hager Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conestoga Barn Door Rail Only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>186242</td>
<td>9450-48</td>
<td>48” Black Powder Coated, Flat Rail</td>
</tr>
<tr>
<td>186243</td>
<td>9450-72</td>
<td>72” Black Powder Coated, Flat Rail</td>
</tr>
<tr>
<td>186251</td>
<td>9450-96</td>
<td>96” Black Powder Coated, Flat Rail</td>
</tr>
<tr>
<td>Conestoga Barn Door Hanger Kits Less Rail, All Kits Include two carriers, stops, floor guide and rail mounting brackets and fasteners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>188467</td>
<td>9452</td>
<td>3” Black Powder Coated Hook Carrier Kit Less Rail</td>
</tr>
<tr>
<td>188468</td>
<td>9453</td>
<td>5” Black Powder Coated Hook Carrier Kit Less Rail</td>
</tr>
<tr>
<td>188469</td>
<td>9454</td>
<td>3” Black Powder Coated Strap Carrier Kit Less Rail</td>
</tr>
<tr>
<td>188470</td>
<td>9455</td>
<td>3” Black Powder Coated Top Mount Carrier Kit Less Rail</td>
</tr>
<tr>
<td>Optional Components</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Privacy Latch and Pull</td>
<td></td>
<td></td>
</tr>
<tr>
<td>186296</td>
<td>1-269-8693</td>
<td>Sliding Door Privacy Latch &amp; Strike Plate</td>
</tr>
<tr>
<td>186299</td>
<td>1-269-8694</td>
<td>4” x 1-3/4” x 7/16” Flush Pull</td>
</tr>
<tr>
<td>Accessories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>186289</td>
<td>1-269-8689</td>
<td>Bracket Kit: Includes 1 Wall Mount Bracket with Fastener</td>
</tr>
<tr>
<td>186290</td>
<td>1-269-8690</td>
<td>Stop Kit: Includes 2 End Stops with Fasteners</td>
</tr>
<tr>
<td>186292</td>
<td>1-269-8691</td>
<td>Splice Kit: Includes Splice Components and Fasteners for Joint Rails</td>
</tr>
</tbody>
</table>
9400 SERIES BARN DOOR HARDWARE - CONESTOGA SERIES - HOW TO ORDER

IMPORTANT:

1. Track is ordered separately from hardware kit.
2. Track and Carrier Hardware are shipped in separate cartons.

Single Door Solution:

1) **9450 Track**: Specify length (48”, 72” or 96”).

Example:
- 9450 - 48
- 9450 - 72
- 9450 - 96

2) **Carrier Hardware Kit**: Specify style – Includes all mounting hardware

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3” Hook Carrier</td>
<td>5” Hook Carrier</td>
<td>3” Strap</td>
<td>3” Top Mount</td>
</tr>
</tbody>
</table>

Bi-Part Door Solution:

If using two doors that are 3’ wide, order a 6’ track per door, for a total of 12’. This allows the doors to clear the door opening when in the open position. Order one carrier hardware kit per door and one Splice Kit.

To Order:

1) **9450 Track**: Specify quantity and length.

2) **Carrier Hardware Kit**: Specify quantity and carrier style. Example: Order 2 of part number 9453, 5” hook carrier style – Includes all mounting hardware.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3” Hook Carrier</td>
<td>5” Hook Carrier</td>
<td>3” Strap</td>
<td>3” Top Mount</td>
</tr>
</tbody>
</table>

3) **Splice Kit**: Order 1 of part number 1-269-8691 Flat Rail Splice Kit.
9450
Durable Black Powder-Coated Rail

FEATURES
Materials: Durable powder-coated black aluminum
Available in: 48”, 72” and 96” lengths

9452
3” Hook Carrier (Rail Not Included)

FEATURES
Materials: Durable powder-coated black aluminum
System Includes: • Two carriers
• Two stops
• Floor guide
• Rail mounting brackets and fasteners
Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
• Door weight up to 250 lbs.
• Wood doors up to 1-3/4” thick

9453
5” Hook Carrier (Rail Not Included)

FEATURES
Materials: Durable powder-coated black aluminum
System Includes: • Two carriers
• Two stops
• Floor guide
• Rail mounting brackets and fasteners
Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
• Door weight up to 250 lbs.
• Wood doors up to 1-3/4” thick
9400 SERIES BARN DOOR HARDWARE - CONESTOGA SERIES

9454
3” Strap Carrier (Rail Not Included)

FEATURES
Materials: Durable powder-coated black aluminum
System Includes: • Two carriers
• Two stops
• Floor guide
• Rail mounting brackets and fasteners
Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
• Door weight up to 250 lbs.
• Wood doors up to 1-3/4” thick

9455
3” Top Mount Carrier (Rail Not Included)

FEATURES
Materials: Durable powder-coated black aluminum
System Includes: • Two carriers
• Two stops
• Floor guide
• Rail mounting brackets and fasteners
Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
• Door weight up to 250 lbs.
• Wood doors up to 1-3/4” thick
9400 SERIES BARN DOOR HARDWARE - CONESTOGA SERIES - OPTIONAL COMPONENTS

1-269-8689
Bracket Kit

1-269-8690
Stop Kit

1-269-8691
Splice Kit

1-269-8693
Privacy Latch

1-269-8694
Flush Pull

9458 Series
Barn Door Privacy Lock

FEATURES

• Non-handed.
• 2-1/4” or 3-1/2” backset options (see specifications for corresponding wall thickness).
• Drive in bolt casing diameter: 1” (25mm).
• Lock bolt: 1/2” (13mm) diameter, stainless Steel material.
• Lock bolt has 1” projection allowing up to 1/2” door to wall gap. Extra spacer ring accommodates up to 3/4” gap between barn door and wall.
• 1-1/4” diameter spring-loaded dust proof strike provides ample space to receive 1/2” bolt, allows easy locking from privacy side. Strike mounted in barn door for standard door.
• 1/4” diameter emergency release feature allows bolt to be unlocked from outside under emergency situation. Simple design, minimum aesthetic impact on door surface.
• ADA Compliant thumb turn for commercial applications.

Standards:

9458 Series
Available Options

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>94582D-32D</td>
<td>Round ADA TT Stainless 2-1/4” Backset</td>
</tr>
<tr>
<td>94582D-10B</td>
<td>Round ADA TT Oil Rubbed Bronze 2-1/4” Backset</td>
</tr>
<tr>
<td>945835-32D</td>
<td>Round ADA TT Black 2-1/4” Backset</td>
</tr>
<tr>
<td>945835-10B</td>
<td>Round ADA TT Stainless Steel 3-1/2” Backset</td>
</tr>
<tr>
<td>945835-BLK</td>
<td>Round ADA TT Black 3-1/2” Backset</td>
</tr>
</tbody>
</table>

DOOR SPECIFICATIONS

• For 1-3/8” (35mm) to 1-3/4”(40mm) thick doors standard.
9400 SERIES BARN DOOR HARDWARE - eCONESTOGA SERIES

**Durable Black Powder-Coated Rail**

**FEATURES**
- **Materials:** Durable powder-coated black aluminum
- **Available in:**
  - 72” and 96” track lengths
  - 1-269-8648 - 72”
  - 1-269-8647 - 96”

**9456 Top Mount Track Kit**

**FEATURES**
- **Materials:**
  - Durable powder-coated black aluminum
  - Black steel rail (72” or 96”)
- **System Includes:**
  - Two carriers
  - Two stops
  - Floor guide
  - Rail mounting brackets and fasteners
- **Standards:**
  - Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

**DOOR SPECIFICATIONS**
- Door weight up to 250 lbs.
- Wood doors up to 1-3/4” thick

**3” Hook Track Kit**

**FEATURES**
- **Materials:**
  - Durable powder-coated black aluminum
  - Black steel rail (72” or 96”)
- **System Includes:**
  - Two carriers
  - Two stops
  - Floor guide
  - Rail mounting brackets and fasteners
- **Standards:**
  - Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

**DOOR SPECIFICATIONS**
- Door weight up to 250 lbs.
- Wood doors up to 1-3/4” thick

**OPTIONAL: 1-269-8646 Flat Rail Soft Close Mechanism**

**Details:**
- Gently guides door to open or closed position
- Door weight up to 176 lbs.
The Original
Hager Companies has been manufacturing the original Continuous Geared Aluminum Hinges for over 25 years. The unique design of Roton® consists of three important parts: an internal rolling contact gear profile, a high-strength cover channel and solid bearings made of celanex. Working together, these parts evenly distribute door weight and maintain door alignment for superior performance.

Lifetime Warranty
Hager Companies offers a lifetime warranty. We believe in our product line and warrant our Roton® aluminum continuous geared hinges are free of any defects and take pride in our workmanship. As long as the hinges are installed according to our instructions, the hinges will not fail under normal usage.

Fire-Rated Bearings
To make it easy for our customers to purchase our Roton® Continuous Geared Aluminum Hinge, we provide fire-rated bearings for all fire-rated hinges. The UL stamp denotes the hinge is fire-rated. Best of all we do not charge for this.

Friction Free
Roton® Continuous Geared Aluminum Hinges are lubricated to eliminate the need for any assistance in maintaining a quiet performance.

LEED/Green Requirements
Environmentally-friendly building means thinking about every detail. Roton® hinges meet LEED requirements as they are made of recycled material.

Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Information</td>
<td>2</td>
</tr>
<tr>
<td>General Information</td>
<td>6</td>
</tr>
<tr>
<td>Door and Frame Dimensioning</td>
<td>8</td>
</tr>
<tr>
<td>Electric Hinge Modifications</td>
<td>11</td>
</tr>
<tr>
<td>500 Series</td>
<td>16</td>
</tr>
<tr>
<td>750 Series</td>
<td>19</td>
</tr>
<tr>
<td>780 Series</td>
<td>21</td>
</tr>
<tr>
<td>1200 Series</td>
<td>45</td>
</tr>
</tbody>
</table>
**Door and Frame Preparation**

All Roton® Continuous Geared Hinges are surface applied. Cutout design and spacing coordination is thereby eliminated in both new construction and restoration work. Reinforcement plates are not required in doors or frames except where the gauge is too thin for the fasteners in relation to the door weight or where abusive operation is anticipated. Blank frames may be ordered with strike prep only or with a strike prep furnished on both sides to eliminate handing with any Roton® model that will cover the frame rabbet. Doors should always be ordered without cutouts except for use in labeled openings in which the tested door assembly may have manufacturing restrictions. Continuous frame mortar guards are desirable for masonry walls to avoid screw fastener interference with the mortar. An effective mortar guard made from an ordinary 1” (25 mm) x 2” (51 mm) stud, fastened to the back side of the frame can also be used. Check with both the frame supplier and the contractor for the best method. The main cause of door and frame breakdown is "kickback shock" transferred to conventional butt hinges or pivots. Installing Roton® hinges bond the door frame into a single, integrated unit, dissipating impact loads harmlessly.

**Door Closers**

Conventional surface or concealed sliding closers may be used with Roton®. (Note: Pivot type floor closers with a fixed, conflicting pivot point may not be used.) Closers will last considerably longer, adjust to operating requirements more readily and show consistent settings due to the reduced operating forces of Roton® hinging.

**Standard Finishes**

Roton® hinges are available in either satin etched, clear anodized aluminum (similar to US28), or dark bronze exterior anodized coating.

**Special Anodizing**

Roton® hinges are available in various colors, including black, and gold, as well as other anodized finishes with fasteners to match. Final assembly must be completed by Hager because of special non-removable metal coatings applied to all hinges during assembly. Users are cautioned against attempting to refinish any Roton® product. All hinges ordered in special colors should be ordered at the same time to guarantee finish uniformity. Supply color chip for best match.

**Painted Hinges**

Hager can supply unfinished materials to selected finishers for special projects which require unusual colors or coatings, but require final assembly be completed by Hager. Because of special non-removable metal coatings applied to all hinges during assembly, users are cautioned against attempting to refinish any Roton® product. Lead time of up to 10-12 weeks may be required.

**Standard Lengths**

Roton® hinge standard lengths are for 6’8” doors - 79”, for 7’ doors – 83”, for 7’2” doors – 85”, for 8’ doors – 95” and for 10’ doors – 119”, for convenience in application to nominal doors. This provides for threshold clearance, head clearance and door height allowances for carpeting. Other lengths may be ordered as non-standard items.

Roton® hinges are always installed flush with the top edge of the door. Recommended 1/8” (3 mm) for head clearance. Where multiple net heights are likely to appear on the same job, group the sizes to 1/2” (13 mm) increments to be consistent in appearance. Generally, up to 1/2” (13 mm) of door heel exposure is acceptable, but all Roton® hinges should be within 1”.

**Extra Long Hinges**

Hager Companies manufactures hinges over 119” (3023 mm) long as two separate lengths with a staggered joint for onsite connection. Hager will select hinge segment lengths from standard sizes for best economics in relation to quantity required. Handing specifications are required to position the cuts inconspicuously and to finish symmetrical pairs in double door applications (25 mm) of the net door height.

**Non-Standard Lengths**

All non-standard length Roton® hinges are trimmed from the bottom only and conform to published templates. If the desired length does not go through any screw holes, the hinge is manufactured as requested. If the desired length would cut through screw holes, the customer would have two options: Hager will suggest the closest length that does not go through a screw hole. If that length is not acceptable and the project requires the exact length specified, the item becomes an industrial part and the interfering screw holes would be eliminated. If the desired length would cut through bearings slots, Hager will cut through the bearing slots. This would not affect the integrity of the hinge and the cover channel would cover the cut slots leaving an aesthetically pleasing product.
**Field Modifications**
While Roton® hinges can be cut in the field, any product modifications may void all warranties. Should in the field modifications be required, cut only from the bottom of the hinge. Do not cut through bearings or screw holes. When cutting electric hinges it is extremely important to clamp both hinge leaves securely to prevent hinge “chatter” which can damage the hinge’s internal wiring. Consult Hager Technical Service before proceeding.

**Template Hinges**
Hager Companies has developed templated hole patterns for Roton® hinge models in standard lengths. Drawings are available by contacting Hager Companies Customer Service or accessing the Hager website at www.hagerco.com. Due to normal variances inherent in the manufacturing process, Roton® custom length hinges are deemed by Hager to be non-templated.

**Special Hinges**
Any hinge may be ordered with special hole locations for unusual frame or door conditions. Please provide specifications for each leaf when placing an order.

**Process for Choosing the Correct Roton® Model**

<table>
<thead>
<tr>
<th>Determine</th>
<th>Select</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door and frame application (flush door and frame, inset door, door thickness, door height, etc.)</td>
<td>Roton® model</td>
</tr>
<tr>
<td>Frequency of door cycling and weight of door</td>
<td>Light, standard, heavy or extra heavy duty, lead lined</td>
</tr>
<tr>
<td>Door and frame material</td>
<td>Fasteners</td>
</tr>
<tr>
<td>Door opening finish</td>
<td>Roton® finish</td>
</tr>
<tr>
<td>Fire rating requirements, if needed</td>
<td>With stud or without stud</td>
</tr>
</tbody>
</table>

**Concealed**

**Full Surface**

**Half Surface**

**Fire Ratings - Underwriters Laboratory Fire Rating File #A14627**
780 Series Roton® continuous geared hinges with stainless steel studs are approved for use on 4’x10’ metal or wood swing type doors. 780 Series Roton® continuous geared hinges without stainless steel studs are approved for use on 4’x8’ single swing metal doors and 4’x10’ single swing wood doors used without stainless steel studs limited to 20 minute fire rating without hose stream.

- Hollow metal, tin-clad, sheet-metal and steel covered composite type rated up to and including 3-hours
- Wood composite doors rated up to and including 1-1/2 hours
- Wood core doors rated up to 20 minutes without hose stream, non-studded
- 780 Series Roton® continuous geared hinges meet requirements for positive pressure UL10C, UL10B and UBC7-2 Part 1

**BHMA Certified**
BHMA Certification Program was developed as a means for manufacturers of builders hardware to indicate compliance with American National Standards sponsored by BHMA. Participating manufacturers certify compliance with the standards based on a continuing program of passing the prescribed tests.
PRODUCT INFORMATION

**NOTES:**

1. All Roton® hinges will be marked with UL stamp if they are fire-rated.

2. Several hinge models cannot be fire-rated. Check each profile.

---

<table>
<thead>
<tr>
<th>UL10C Fire-Rated Roton®</th>
<th>Fully Concealed</th>
<th>Full Surface</th>
<th>Half Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 Minute Fire-Rated Wood Core Door x Fire-Rated Hollow Metal Frame</td>
<td>UL — FF STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Minute Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame</td>
<td>UL — FF STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 Minute Fire-Rated Wood Composite Door x Fire-Rated Hollow Metal Frame</td>
<td>UL — FF STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 Minute Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame</td>
<td>UL — FF STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 Minute Fire-Rated Wood Composite Door x Fire-Rated Hollow Metal Frame</td>
<td>UL — FF STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 Minute Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame</td>
<td>UL — FF STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 Minute Fire-Rated Wood Door x Hollow Metal Frame</td>
<td>UL — FF STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 Minute Fire-Rated Metal Door x Hollow Metal Frame</td>
<td>UL — FF STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90 Minute Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame</td>
<td>UL — FF STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90 Minute Fire-Rated Wood Composite Door x Fire-Rated Hollow Metal Frame</td>
<td>UL — STUD REQUIRED * Must Specify</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-hour Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame</td>
<td>UL — STUD REQUIRED * Must Specify</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fully Concealed with Stud**

These models are concealed between the frame and the hinge edge of the door. Models available include:

**Half Surface with Stud**

These models have the frame leaf concealed between the frame and the edge of the door. The door leaf is mounted to the door with thru-bolts or screws. Models available include:
780-045HD, 780-046HD, 780-053, 780-053HD, 780-054HD, and 780-211HD.

**Full Surface with Stud**

These models have the frame leaf mounted to the face of the frame and the face of the door. The door leaf is mounted to the face of the door with thru-bolts. Models available include:
780-057HD, 780-157, 780-157HD, 780-210, 780-210HD, and 780-257HD.

**Checking the Load**

To assist in the selection of an appropriate Roton® hinge series, divide the door weight including the weight of the hardware by the number of bearings in the Roton® hinge under consideration, then use the following guideline, with a maximum 4’0” wide door:

- **750 Series:** 5-1/8” Centers (Typical 7’ door: 16 bearings)
- **780 Series:** 5-1/8” Centers (Typical 7’ door: 16 bearings)
- **780 HD & LL:** 2-9/16” Centers (Typical 7’ door: 32 bearings)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low frequency interior doors</td>
<td>20 lbs. per bearing</td>
</tr>
<tr>
<td>Low frequency, very heavy doors (lead lined x-ray doors, ballistics doors, high security doors) with double rows of fasteners</td>
<td>30 lbs. per bearing</td>
</tr>
<tr>
<td>Medium frequency interior doors</td>
<td>15 lbs. per bearing</td>
</tr>
<tr>
<td>Medium frequency exterior doors</td>
<td>10 lbs. per bearing</td>
</tr>
<tr>
<td>High frequency exterior doors</td>
<td>7.5 lbs. per bearing</td>
</tr>
<tr>
<td>Very high frequency doors</td>
<td>5 lbs. per bearing</td>
</tr>
</tbody>
</table>
**PRODUCT INFORMATION**

**Painted Cover Channels**
Painted Roton® cover channels in bone white are offered as a standard stock color option. This is only available on the standard Roton cover channel.

**Polished Cover Channels**
Any Roton® hinge may be ordered with a polished clear cover channel (similar to US26) to complement clear anodized hinge leaves or a polished gold cover channel (similar to US3) to complement satin gold anodized hinge leaves.

### Hospital Tip and TIPIT® Compatibility

<table>
<thead>
<tr>
<th>Part #</th>
<th>Molded Hospital Tip</th>
<th>TIPIT®</th>
</tr>
</thead>
<tbody>
<tr>
<td>750-134</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>750-138</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>780-045</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>780-046</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>780-053</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>780-054</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>780-057</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-110</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-111</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-112</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-113</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-114</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>780-124</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-155</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-157</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-208</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>780-210</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-211</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-224</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-226</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-259</td>
<td></td>
<td>•</td>
</tr>
</tbody>
</table>

### Roton® Cover Channel Compatibility

<table>
<thead>
<tr>
<th>Hinge Model</th>
<th>Flat FBCC</th>
<th>Round RBCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>750-134</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>750-138</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-041</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-045</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-046</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-053</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-054</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-057</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-110</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-111</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-112</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-113</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-114</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-124</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-155</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-157</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-208</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-210</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-211</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-213</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-224</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-226</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-235</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-257</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-259</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-300</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>1200-600</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>1200-650</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

* Round Back (RBCC) is not compatible with Molded Hospital Tip option.
Bearing At Top
This application allows for the bearing to be set at the very top of the cover channel. The cover channel is flush with the top of the geared hinge, preventing any obstructions or debris to be inserted in the top channel.

780 Series Concealed Molded Hospital Tip
780 Series Concealed and several Full Surface models including the 780-057, 780-157 & 780-210 can be prepared with a smooth tapered top bearing. This option is ideal for use in hospitals and correctional facilities to help provide a clean and safe environment. For Roton® Ligature-Resistant Opening Solutions see our TIPIT® section below.

TIPIT®
Designed to work with in new and retrofit applications, the TIPIT® was designed with safety in mind. When openings are fitted with the patented TIPIT® in conjunction with our Roton® Continuous Geared Hinge, this combination provides a safe environment while meeting institutional requirements for preventing objects from being hung from the top of the hinge. Available in two models, Concealed and Full Surfaces and two finishes, Gray and Black.

Tamper Resistant Hinge
This application is intended for use in hospital psychiatric areas and places of high security. The hinge is prepared with a hospital tip (concealed models only) and every other bearing is supplied with a set screw to lock against the inside of the cover channel for additional security.

Dutch Door Hinges
Hager Companies will prepare any of its hinge models for a dutch door application. The frame leaf is furnished as a continuous extrusion and the door leaf is cut to fit the dutch door heights specified. Handing, overall net door height, amount of clearance between the top and bottom doors, their individual heights and door and frame materials should be clearly specified.

Special Holes
Any hinge may be ordered with special hole locations for unusual frame or door conditions. Please provide specifications for each leaf.

Bearing Replacement Kits
Available in standard or heavy duty and in clear anodized or dark bronze anodized finish for 780 and 1200 Series Roton®.

Marking Jigs
Marking jigs are available to locate the centers of the top end frame screws. These jigs must be ordered at the same time as the hinges to ensure fabrication accuracy.

Center Punches
Self-centering punches are available for #12 countersunk screws that are supplied. To make sure screw heads seat properly, accurate center punching is required.

Shim Stock
For clearance between the door and frame that may be excessive, a continuous shim is helpful (applied behind the frame leaf only). Anodized aluminum extrusions are supplied with no holes.

Item Marking
Marking and special packaging for job-site identification.

Replacement Moldings

780-210M
Replacement door leaf molding for 780-210, 780-210HD, 780-211, 780-211HD, 780-213HD, 780-045HD, and 780-046HD. Furnished with Allen head set screw and wrench. Shipped in standard lengths for trimming in the field.

780-247M
Replacement frame leaf molding for 780-157, 780-157HD, and 780-257HD. Shipped in standard lengths for trimming in the field.

780-052M
Fasteners
Hager Companies uses custom made, carefully engineered, and thoroughly tested fasteners exclusively. Each fastener is designed for ease of use as well as durability. Appropriate fasteners are furnished with each hinge, together with installation instructions for typical metal or wood doors and frames. The standard screw pack includes self-drilling screws. If wood screws are required, please specify on order and wood screws will be substituted.

Fasteners for Use with Hinges in the 500 Series
8 - 18 X 3/4” Truss Phillips Head Screw

Fasteners for Use with Hinges in the 750 and 780 Series Metal Doors or Frames (Undercut Head Phillips Countersunk Screws):
Two types of screws are available for metal doors and frames: the Dril-Kwik® screw (with drill point tip) and the thread forming screw (no tapping necessary). The #12-24 x 11/16” self-drilling screw has a machine thread in the screw shank. The #12-24 x 13/32” thread-forming screw has a machine thread in the screw shank.

The standard screw pack contains #12-24 Dril-Kwik® self-drilling machine thread. This screw has a hardened steel drill point built into the end of the screw, allowing it to be installed without a pre-drilled hole if the metal thickness is no more than 1/8” (3.2 mm). It forms its own threads as the screw is drilled into the door or frame. It is longer than most screws of the type because of the built-in drill point.

When installing the self-drilling screw, make certain that the installer is familiar with the proper use and torque settings of a screw gun. Proper center-punching is extremely important with self-drilling screws. If center-punching is omitted or incorrectly done, the screw will "walk" in the same way as a drill bit, resulting in cocked screw heads and improperly closing hinge leaves.

The optional self-threading screw is typically used on grout filled frames to prevent bowing of the frame. This screw has a short tapered section at the tip. A drilled pilot hole (range: 0.173” to 0.185”) is required prior to tapping.

Either of these screws may be used for the attachment of Roton® hinges to metal doors or frames, generally without reinforcement except in thin aluminum or with doors of very heavy weight or anticipated abuse. Both types require center-punching to ensure that the screw sits properly in the hinge leaf. Self-centering countersinking center-punches are available.

In all cases, care should be taken to ensure that no drill chips build up behind the hinge. It is best to premark the holes and drill for self-threading screws with the hinge removed, or hold the hinge very tightly against the door or frame when using the self-drilling screws.

Hinges normally requiring sex bolts will be furnished with suitable mounting holes. Blank leaves, special countersinking, or door fastening with pan-head screws are available upon request.

If special fasteners are required, customers must supply them except upon prior agreement. Please consult the factory for alternate fastener recommendations.

Fasteners for Use with Hinges in the 1200 Series
1/4” - 20 x 1” Undercut Flat Phillips Head Screw

Sex Bolts (Thru-Bolts)
On all applicable surface-mounted hinges, sex bolt sets are furnished in the hardware package together with a transfer punch for accurate marking of the 3/8” (10 mm) drilled holes required. The 1/4”-20 bolt has a 3/8” (10 mm) shoulder under a 9/16” (14 mm) pan head so that it can be reversed for exterior in-swing doors or for additional security.

Roton® sex bolts are intentionally designed to be shorter than the door thickness for proper clamping action with doors of slightly varying thickness and gauge in the 1” (25 mm) - 2-1/2” (63.5 mm) range. Unless otherwise requested, bolts suitable for the 1-3/8” (35 mm) - 1-3/4” (45 mm) range will be shipped. Shorter or longer bolts may be requested. Bolts that are outside the door thickness range of 1” (25 mm) - 2-1/2” (63.5 mm) must be provided by the installer.
Half Surface Models

Designed primarily for work involving new doors and frames, one leaf concealed and one leaf surface mounted. They can also be used on retrofit work where a new door can be ordered to fit an existing frame if the existing door is made of wood and can be reduced in size to accommodate the 1/8" (3.2 mm) leaf thickness, or the frame is to be replaced and can be furnished with an oversized header.

Clearance required as follows:

Single Doors (Square and Beveled Edge)
A. Leaf thickness 1/8" (3.2 mm)
B. Additional allowance for frame irregularities 1/32" (0.8 mm)
C. Lockside clearance for single door 1/8" (3.2 mm)
Total 9/32" (7.2 mm)

Pairs of Doors (Square and Beveled Edge)
A. Leaf thickness 1/8" (3.2 mm)
B. Additional allowance for frame irregularities 1/32" (0.8 mm)
C. Edge to edge clearance (recommended)* 3/16" (4.8 mm)
D. Second allowance for frame irregularities 1/32" (0.8 mm)
E. Second leaf thickness 1/8" (3.2 mm)
Total 1/4" (6.4 mm)

*For fire-rated doors, please refer to door manufacturer’s requirement for edge to edge clearance to maintain compliance with NFPA requirements.

Full Surface Models
780-057HD, 780-157, 780-157HD, 780-210, 780-210HD, and 780-257HD

The above models are designed for retrofit applications and require no special dimensioning. Full surface models are designed to be mounted to the exposed surface of the door and frame. No additional clearance is required except for door and frame painting.

Clearance required as follows:

Single Doors (Square and Beveled Edge)
A. Additional allowance for frame irregularities 1/32" (0.8 mm)
B. Lockside clearance for single door 1/8" (3.2 mm)
Total 5/32" (4.0 mm)

Pairs of Doors (Square and Beveled Edge)
A. Additional allowance for frame irregularities 1/32" (0.8 mm)
B. Edge to edge clearance (recommended)* 3/16" (4.8 mm)
C. Second allowance for frame irregularities 1/32" (0.8 mm)
Total 1/4" (6.4 mm)
Concealed Models

Designed primarily for work involving new doors and frames, these models have parallel, fully concealed leaves. They can also be used on retrofit work where a new door can be ordered to fit an existing frame if the existing door is made of wood and can be reduced in size to accommodate the 5/16” (7.9 mm) hinge thickness, or the frame is to be replaced and can be furnished with an oversized header.

Clearance required as follows:

**Single Doors (Square Edged)**
A. Hinge thickness
   5/16” (7.9 mm)
B. Additional allowance for frame irregularities
   1/32” (0.8 mm)
C. Lockside clearance for single door
   1/8” (3.2 mm)
Total
   15/32” (11.9 mm)

**Single Doors (Beveled Edged)**
A. Hinge thickness
   5/16” (7.9 mm)
B. Additional allowance for frame irregularities
   1/32” (0.8 mm)
C. Lockside clearance for single door
   1/8” (3.2 mm)
D. Allowance for beveled edge
   1/32” (0.8 mm)
Total
   1/2” (12.7 mm)

**Pairs of Doors (Square Edged)**
A. Hinge thickness
   5/16” (7.9 mm)
B. Additional allowance for frame irregularities
   1/32” (0.8 mm)
C. Edge to edge clearance (recommended)*
   3/16” (4.8 mm)
D. Second allowance for frame irregularities
   1/32” (0.8 mm)
E. Second hinge thickness
   5/16” (7.9 mm)
Total
   7/8” (22.2 mm)

**Pairs of Doors (Beveled Edged)**
A. Hinge thickness
   5/16” (7.9 mm)
B. Allowance for beveled edge
   1/32” (0.8 mm)
C. Additional allowance for frame irregularities
   1/32” (0.8 mm)
D. Edge to edge clearance (recommended)*
   3/16” (4.8 mm)
E. Second allowance for frame irregularities
   1/32” (0.8 mm)
F. Second allowance for beveled edge
   1/32” (0.8 mm)
G. Second hinge thickness
   5/16” (7.9 mm)
Total
   15/16” (23.8 mm)

**Concealed Model Exceptions - 780-113HD**

**Single Doors (Square Edged)**
A. Hinge thickness
   13/16” (20.6 mm)
B. Additional allowance for frame irregularities
   1/32” (0.8 mm)
C. Lockside clearance for single door
   1/8” (3.2 mm)
Total
   31/32” (24.6 mm)

**Single Doors (Beveled Edged)**
A. Hinge thickness
   13/16” (20.6 mm)
B. Additional allowance for frame irregularities
   1/32” (0.8 mm)
C. Lockside clearance for single door
   1/8” (3.2 mm)
D. Allowance for beveled edge
   1/32” (0.8 mm)
Total
   1” (25.4 mm)

**Pairs of Doors (Square Edged)**
A. Hinge thickness
   13/16” (20.6 mm)
B. Additional allowance for frame irregularities
   1/32” (0.8 mm)
C. Edge to edge clearance (recommended)*
   3/16” (4.8 mm)
D. Second allowance for frame irregularities
   1/32” (0.8 mm)
E. Second hinge thickness
   13/16” (20.6 mm)
Total
   1-7/8” (47.6 mm)

**Pairs of Doors (Beveled Edged)**
A. Hinge thickness
   13/16” (20.6 mm)
B. Allowance for beveled edge
   1/32” (0.8 mm)
C. Additional allowance for frame irregularities
   1/32” (0.8 mm)
D. Edge to edge clearance (recommended)*
   3/16” (4.8 mm)
E. Second allowance for frame irregularities
   1/32” (0.8 mm)
F. Second allowance for beveled edge
   1/32” (0.8 mm)
G. Second hinge thickness
   13/16” (20.6 mm)
Total
   1-15/16” (49.2 mm)

*For fire-rated doors, please refer to door manufacturer’s requirement for edge to edge clearance to maintain compliance with NFPA requirements.
Door and Frame Dimensioning

Concealed Model Exceptions - 780-114HD

**Single Doors (Square Edged)**
- A. Hinge thickness: 15/16" (23.8 mm)
- B. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- C. Lockside clearance for single door: 1/8" (3.2 mm)
- Total: 1-3/32" (27.8 mm)

**Pair of Doors (Square Edged)**
- A. Hinge thickness: 15/16" (23.8 mm)
- B. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- C. Edge to edge clearance (recommended)*: 3/16" (4.8 mm)
- D. Second allowance for frame irregularities: 1/32" (0.8 mm)
- E. Second hinge thickness: 15/16" (23.8 mm)
- Total: 2-1/8" (54.0 mm)

**1200-600XHD, 1200-650XHD**

**Single Doors (Square Edged)**
- A. Hinge thickness: 15/32" (11.9 mm)
- B. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- C. Lockside clearance for single door: 1/8" (3.2 mm)
- Total: 5/8" (15.9 mm)

**Single Doors (Beveled Edged)**
- A. Hinge thickness: 15/32" (11.9 mm)
- B. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- C. Lockside clearance for single door: 1/8" (3.2 mm)
- D. Allowance for beveled edge: 1/32" (0.8 mm)
- Total: 11/16" (17.5 mm)

**Pair of Doors (Square Edged)**
- A. Hinge thickness: 15/32" (11.9 mm)
- B. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- C. Edge to edge clearance (recommended)*: 3/16" (4.8 mm)
- D. Second allowance for frame irregularities: 1/32" (0.8 mm)
- E. Second hinge thickness: 15/32" (11.9 mm)
- Total: 1-1/4" (31.8 mm)

**Pair of Doors (Beveled Edged)**
- A. Hinge thickness: 15/32" (11.9 mm)
- B. Allowance for beveled edge: 1/32" (0.8 mm)
- C. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- D. Edge to edge clearance (recommended)*: 3/16" (4.8 mm)
- E. Second allowance for frame irregularities: 1/32" (0.8 mm)
- F. Second allowance for beveled edge: 1/32" (0.8 mm)
- G. Second hinge thickness: 15/32" (11.9 mm)
- Total: 1-3/16" (30.2 mm)

Pair of Doors (Beveled Edged)
- A. Hinge thickness: 15/32" (11.9 mm)
- B. Allowance for beveled edge: 1/32" (0.8 mm)
- C. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- D. Edge to edge clearance (recommended)*: 3/16" (4.8 mm)
- E. Second allowance for frame irregularities: 1/32" (0.8 mm)
- F. Second allowance for beveled edge: 1/32" (0.8 mm)
- G. Second hinge thickness: 15/32" (11.9 mm)
- Total: 1-5/16" (33.3 mm)

**780-208HD**

**Single Doors (Square Edged)**
- A. Hinge thickness: 1/2" (12.7 mm)
- B. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- C. Lockside clearance for single door: 1/8" (3.2 mm)
- Total: 21/32" (16.7 mm)

**Single Doors (Beveled Edged)**
- A. Hinge thickness: 1/2" (12.7 mm)
- B. Allowance for beveled edge: 1/32" (0.8 mm)
- C. Lockside clearance for single door: 1/8" (3.2 mm)
- D. Allowance for beveled edge: 1/32" (0.8 mm)
- Total: 11/16" (17.5 mm)

**Pair of Doors (Square Edged)**
- A. Hinge thickness: 1/2" (12.7 mm)
- B. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- C. Edge to edge clearance (recommended)*: 3/16" (4.8 mm)
- D. Second allowance for frame irregularities: 1/32" (0.8 mm)
- E. Second hinge thickness: 1/2" (12.7 mm)
- Total: 1-1/4" (31.8 mm)

**Pair of Doors (Beveled Edged)**
- A. Hinge thickness: 1/2" (12.7 mm)
- B. Allowance for beveled edge: 1/32" (0.8 mm)
- C. Additional allowance for frame irregularities: 1/32" (0.8 mm)
- D. Edge to edge clearance (recommended)*: 3/16" (4.8 mm)
- E. Second allowance for frame irregularities: 1/32" (0.8 mm)
- F. Second allowance for beveled edge: 1/32" (0.8 mm)
- G. Second hinge thickness: 1/2" (12.7 mm)
- Total: 1-5/16" (33.3 mm)

Minimum Clearances

- 780-208HD = 1/2" (12.7 mm)
- 780-113HD = 13/16" (20.6 mm)
- 780-114HD = 15/16" (23.8 mm)
- 1200-600XHD/1200-650XHD = 15/32" (12 mm)

*For fire-rated doors, please refer to door manufacturer’s requirement for edge to edge clearance to maintain compliance with NFPA requirements.
Concealed Electric Through-Wire and Monitoring:
- To order, use symbol "ETM" plus the number of wires required as a suffix, ie: 780-224LL 85” Bronze ETM - 4
- This combines the continuous electric conductors and the miniature switch to provide both power transfer and monitoring
- Four, six, eight or ten continuous electric conductors
- Miniature switch is incorporated into the frame leaf
- Specify handing and the dimension from the top edge of the door to the centerline of each electric modification location
- Templates regarding location of monitoring switch, available upon request

Exposed Electric Switches
- To order, use symbol "E1S” as a suffix, ie: 780-112HD 85” Clear E1S
- Miniature push button switch is incorporated in the hinge frame leaf to monitor position of the door
- Three 12” wire leads
- Each monitoring hinge only needs one E1S switch
- Specify handing and the dimension from the top edge the door to the centerline of the electric switch location
- Templates regarding location of contact switch available upon request

Concealed Electric Monitoring
- To order, use symbol "EMN", as a suffix, ie: 780-224HD 119” Bronze EMN
- Miniature switch is incorporated into the frame leaf
- Three 12” wire leads
- Specify handing and the dimension from the top edge of the door to the centerline of electric monitoring location
- Templates regarding location of monitoring switch available upon request

Von Duprin EPT 2 or EPT 10 Electric Power Transfer Preparation
Concealed Leaf
Half Surface
- Hinge leaf cutout to accommodate power transfer device
- Specify handing and the dimension from the top edge of the door to the centerline of the power transfer location

Note: Special Electric Modifications and EPT locations may require additional charges if screw holes have to be moved. Contact Hager Companies Customer Service for charges.
Concealed Electric Through-Wire
- To order, use symbol “ETW” plus the number of wire leads, 12” per side required as a suffix, ie: 780-112HD 85” Clear ETW - 4
- Transfers power discreetly from building to door hardware
- 4, 8, 10 or 12 wire continuous electric conductors
- Specify handing and the dimension from the top edge of the door to the centerline of electric through-wire location
- Templates regarding location of through-wires available upon request

Removable Electric Through-Wire
- To order, use symbol “RETW”, ie: 780-112HD 85” Clear RETW
- Transfers power discreetly from building to door hardware
- 4” removable 10 or 12 wire ETW module can easily be removed for adjustment or service
- Specify handing and the dimension from the top edge of the door to the centerline of electric monitoring location
- Templates regarding location of module available upon request

Mortar Box - 430
- Serves as a mortar shield
- Overall dimensions: 9” (229 mm) length with tabs, 7” (178 mm) inside, 1-3/4” x 1-3/4” (45 mm x 45 mm) inside dimension
- Galvanized steel 0.040” (1 mm)
- Top and bottom knockouts for standard conduit fittings

Exposed Electric Contacts
- To order, use symbol “E” plus the number of contacts required as a suffix, ie: 780-112HD 85” Clear E4
- Transfers power to door in closed position
- Must have at least two contacts to transfer power
- Specify handing and the dimension from the top edge of the door to the centerline of the electric contact location
- Templates regarding location of contacts available upon request
Quick Connect
Available for ETM, ETW, and RETW options. Top and bottom knockouts for standard conduit fittings.

Concealed Electric Monitoring (EMN)
• Miniature switch is incorporated into the frame leaf.
• Specify handing and the dimension from the top edge of the door to the centerline of the electric monitoring location.
• Special Electric Modifications and EPT locations may require additional charges if screw holes have to be moved.
• Templates regarding location of monitoring switch available upon request.

Concealed Electric Through-Wire and Monitoring (ETM)
• Electric Preparation
  ETM-4
  ETM-8
  ETM-10

• All ETM have 28-gauge continuous conductors.
• This combines the continuous electric conductors and the miniature switch to provide both power transfer and monitoring.
• Miniature switch is incorporated into the frame leaf.
• Specify handing and the dimension from the top edge of the door to the centerline of each electric modification location.
• Templates regarding location of monitoring switch available upon request.

Concealed Electric Through-Wire (ETW)
• Electric Preparation
  ETW-4
  ETW-8
  ETW-10
  ETW-12

• All ETW have 28-gauge continuous conductors.
• 12” per side required as a suffix.
• Cut out for prep - 1/2” drilled hole.
• Transfers power discreetly from building to door hardware.
• Specify handing and the dimension from the top edge of the the door to the centerline of the electric through-wire location.
• Special electric modifications and EPT locations may require additional charges if screw holes have to moved. Contact Hager Customer Service for charges.
• Templates regarding location of through-wires available upon request.
For ease of ordering, Hager Companies has established standard locations for power transfer cutouts. All standard location dimensions are referenced from the top edge of the door to the centerline of the power transfer cutout. Please specify handing.

**NOTE:** These locations are for concealed hinges only.

<table>
<thead>
<tr>
<th>Opening</th>
<th>Door Height</th>
<th>Actual Hinge Length</th>
<th>EMN</th>
<th>ETM</th>
<th>ETW</th>
<th>EPT</th>
<th>E1S</th>
<th>E</th>
<th>RETW</th>
</tr>
</thead>
<tbody>
<tr>
<td>83 SD</td>
<td>84&quot;</td>
<td>83-1/8&quot;</td>
<td>83&quot;</td>
<td>45-5/16&quot;</td>
<td>44-3/4&quot;</td>
<td>45-5/16&quot;</td>
<td>36-3/8&quot;</td>
<td>46-1/2&quot;</td>
<td>46-1/2&quot;</td>
</tr>
<tr>
<td>83 HD</td>
<td>84&quot;</td>
<td>83-1/8&quot;</td>
<td>83&quot;</td>
<td>45-5/16&quot;</td>
<td>45-3/8&quot;</td>
<td>45-5/16&quot;</td>
<td>36-3/8&quot;</td>
<td>46-1/2&quot;</td>
<td>46-1/2&quot;</td>
</tr>
<tr>
<td>85 SD</td>
<td>86&quot;</td>
<td>85-1/8&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>95 SD</td>
<td>96&quot;</td>
<td>95-1/8&quot;</td>
<td>95&quot;</td>
<td>56-3/8&quot;</td>
<td>55-13/16&quot;</td>
<td>56-3/8&quot;</td>
<td>47-1/2&quot;</td>
<td>59-3/4&quot;</td>
<td>59-3/4&quot;</td>
</tr>
<tr>
<td>95 HD</td>
<td>96&quot;</td>
<td>95-1/8&quot;</td>
<td>95&quot;</td>
<td>56-3/8&quot;</td>
<td>56-1/2&quot;</td>
<td>56-3/8&quot;</td>
<td>47-1/2&quot;</td>
<td>59-3/4&quot;</td>
<td>59-3/4&quot;</td>
</tr>
<tr>
<td>119 SD</td>
<td>120&quot;</td>
<td>119-1/8&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SD = Standard Duty   HD = Heavy Duty
## ELECTRIC HINGE MODIFICATIONS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>EPT</th>
<th>E</th>
<th>E1S</th>
<th>ETW</th>
<th>EMN</th>
<th>ETM</th>
<th>RETW</th>
</tr>
</thead>
<tbody>
<tr>
<td>780-045HD</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>780-046HD</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>780-053</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>780-053HD</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>780-054HD</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>780-057</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-110HD</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>780-111</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>780-111HD</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>780-111LL</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-112</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-112HD</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>780-112LL</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-124HD</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-124LL</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-157</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-224</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-224HD</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-224LL</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-226HD</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>780-226LL</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>1200-600</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1200-650</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
500 SERIES LIGHT DUTY - 500-048 - LIGHT DUTY, CONCEALED LEAF HINGE

SPECIFICATIONS

| Material: | Aluminum 6063-T6 - 1/16” (1.5 mm) leaf thickness |
| Clearence: | 5/16” (8 mm) |
| Fasteners: | #8-18 x 3/4” truss head Phillips tapping AB zinc plated steel. Painted to match. For sheet metal or wood applications. |
| Length Options: | Standard and custom lengths available |

FEATURES

- Universal hinge used for a wide variety of applications including marine applications, wood cabinet construction, medical equipment, portable exhibits and displays, electronic cabinets, switchboxes, etc.
- Bearings spaced to distribute door weight evenly up to 50 lbs.
- Can be used for vertical or horizontal applications
- Alignment ribs for easy installation and proper hinge location

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>24</td>
<td>610</td>
</tr>
<tr>
<td>36</td>
<td>914</td>
</tr>
<tr>
<td>48</td>
<td>1219</td>
</tr>
<tr>
<td>72</td>
<td>1829</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

120º Opening
SPECIFICATIONS
Material: Aluminum 6063-T6 - 1/16" (1.5 mm) leaf thickness
Clearance: 7/32" (5.6 mm) minimum
Fasteners: #8-18 x 3/4" truss head Phillips tapping AB zinc plated steel. Painted to match. For sheet metal or wood applications. Shorter screws required for openings past 90° when applied as shown in “A” (not provided).
Length Options: Standard and custom lengths available

FEATURES
• Universal hinge used for a wide variety of applications including marine applications, wood cabinet construction, medical equipment, portable exhibits and displays, electronic cabinets, switchboxes, etc.
• Bearings spaced to distribute door weight evenly up to 50 lbs.
• Can be used for vertical or horizontal applications
• Alignment ribs for easy installation and proper hinge location

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>24</td>
<td>610</td>
</tr>
<tr>
<td>36</td>
<td>914</td>
</tr>
<tr>
<td>48</td>
<td>1219</td>
</tr>
<tr>
<td>72</td>
<td>1829</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

120º Opening

(Left hand shown)
SPECIFICATIONS

Material: Aluminum 6063-T6 - 1/16” (1.5 mm) nominal leaf thickness
Clearance: 1/32” (1 mm) minimum
Fasteners: #8-18 x 3/4” truss head Phillips tapping AB zinc plated steel. Painted to match. For sheet metal or wood applications. Shorter screws required for 90° and 180° openings when applied. Shorter screws required for openings past 90° when applied.
Length Options: Standard and custom lengths available

FEATURES

• Universal hinge used for a wide variety of applications including marine applications, wood cabinet construction, medical equipment, portable exhibits and displays, electronic cabinets, switchboxes, etc.
• Allows either inset or outset applications for recessed or surface mounting
• Bearings spaced to distribute door weight evenly up to 50 lbs.
• Can be used for vertical or horizontal applications
• Alignment ribs for easy installation and proper hinge location

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>24</td>
<td>610</td>
</tr>
<tr>
<td>36</td>
<td>914</td>
</tr>
<tr>
<td>48</td>
<td>1219</td>
</tr>
<tr>
<td>72</td>
<td>1829</td>
</tr>
</tbody>
</table>

0° Opening

90° Opening

120° Opening
750 SERIES CONCEALED LEAF - 750-134 - STANDARD DUTY

SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/16” (8 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® and wood screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required

FEATURES
- For medium frequency, 1-3/4” (44 mm) thick solid core wood interior doors up to 100 pounds
- Door edge protection lip
- Offset joint to clear casing
- Frame leaf alignment rib for proper hinge location

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

### FEATURES

- For medium frequency, 1-3/4” (44 mm) thick solid core wood interior doors up to 100 pounds
- Door edge protection lip
- Offset joint to clear casing
- Frame leaf alignment rib for proper hinge location

0º Opening

90º Opening

180º Opening
SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/16” (8 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® and wood screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required

FEATURES

- For medium frequency, 1-3/8” (35 mm) thick solid core wood interior doors up to 100 pounds
- Door edge protection lip
- Offset joint to clear casing
- Frame leaf alignment rib for proper hinge location

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
**SPECIFICATIONS**

- **Material:** Aluminum 6063-T6
- **Clearance:** 5/16” (8 mm) hinge side plus standard lockside clearance
- **Fasteners:** Drl-Kwik® screws
- **LL Fasteners:** 1/2 Drl-Kwik® screws, 1/2 wood screws
- **Length Options:** Standard and custom sizes available
- **Door/Frame Reinforcement:** None required to 200 lbs., heavier weight use 16-gauge channel
- **Optional Fire Rating:** Up to 3-hour metal and 90 minute wood composite (with studs)
- **Notes:** See additional fire rating details on page 3

**FEATURES**

- Heavy duty for high frequency doors - for wood or metal doors 1-3/4” (44 mm) thick
- Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (specify "LL")
- Door edge protection lip
- Swing-clear action and ADA compliant for classroom or patient room doors
- Not recommended for doors with a beveled edge on the hinge side

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Per Door</td>
</tr>
<tr>
<td></td>
<td>HD</td>
</tr>
<tr>
<td>79</td>
<td>15</td>
</tr>
<tr>
<td>83</td>
<td>19</td>
</tr>
<tr>
<td>85</td>
<td>19</td>
</tr>
<tr>
<td>95</td>
<td>20</td>
</tr>
<tr>
<td>119</td>
<td>23</td>
</tr>
</tbody>
</table>

**0° Opening**

**90° Opening**

**180° Opening**
SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/16” (8 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel
Notes: See additional fire rating details on page 3

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors. For doors 1” (25 mm) to 1-3/8” (35 mm) thick.
- Frame and door leaf alignment ribs for proper hinge and door location

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0° Opening

90° Opening

180° Opening
SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/16” (8 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws
LL Fasteners: 1/2 Dril-Kwik® screws, 1/2 wood screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use
Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)
Notes: See additional fire rating details on page 3

FEATURES

- Standard duty for medium frequency doors. Heavy duty for high frequency doors or heavy, medium frequency doors.
- Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify “LL”)
- Frame and door leaf alignment ribs for proper hinge and door location
- 1/8” (3 mm) inset

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># For Door</td>
</tr>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/16” (8 mm) hinge side plus standard lockside clearance
Fasteners: Dri-Kwik® screws
LL Fasteners: 1/2 Dri-Kwik® screws, 1/2 wood screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel
Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)
Notes: See additional fire rating details on page 3

FEATURES

• Standard duty for medium frequency doors. Heavy duty for high frequency doors or heavy, medium frequency doors.
• Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify “LL”)
• Frame and door leaf alignment ribs for proper hinge and door location

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td></td>
<td># For Door</td>
</tr>
<tr>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
780 SERIES CONCEALED LEAF - 780-113HD - HEAVY DUTY

SPECIFICATIONS

Material:  Aluminum 6063-T6
Clearance:  13/16" (21 mm) hinge side plus standard lockside clearance
Fasteners:  Dril-Kwik® screws
Length Options:  Standard and custom lengths available
Door/Frame Reinforcement:  None required to 200 lbs., heavier weight use 16-gauge channel
Notes:  See additional fire rating details on page 3

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors
- "Safety Hinge" for early education centers, nursing homes, etc. (when used without frame stop)
- Door leaf alignment rib for proper door location
- 1/16" (1.5 mm) inset

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
780 SERIES CONCEALED LEAF - 780-114HD - HEAVY DUTY

SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 15/16" (24 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors
- For deep inset or flush-with-frame (when using rabbeted frames) applications, center hung doors, heavy cabinets
- For square edged doors on hinge side

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening

Material: Aluminum 6063-T6
Clearance: 15/16" (24 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors
- For deep inset or flush-with-frame (when using rabbeted frames) applications, center hung doors, heavy cabinets
- For square edged doors on hinge side

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening

Material: Aluminum 6063-T6
Clearance: 15/16" (24 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors
- For deep inset or flush-with-frame (when using rabbeted frames) applications, center hung doors, heavy cabinets
- For square edged doors on hinge side

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening

Material: Aluminum 6063-T6
Clearance: 15/16" (24 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors
- For deep inset or flush-with-frame (when using rabbeted frames) applications, center hung doors, heavy cabinets
- For square edged doors on hinge side

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening

Material: Aluminum 6063-T6
Clearance: 15/16" (24 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors
- For deep inset or flush-with-frame (when using rabbeted frames) applications, center hung doors, heavy cabinets
- For square edged doors on hinge side

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>Aluminum 6063-T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearance:</td>
<td>5/16&quot; (8 mm) hinge side plus standard lockside clearance</td>
</tr>
<tr>
<td>Fasteners:</td>
<td>Dril-Kwik® screws</td>
</tr>
<tr>
<td>LL Fasteners:</td>
<td>1/2 Dril-Kwik® screws, 1/2 wood screws</td>
</tr>
<tr>
<td>Length Options:</td>
<td>Standard and custom lengths available</td>
</tr>
<tr>
<td>Door/Frame</td>
<td>None required to 200 lbs., heavier weight use 16-gauge channel</td>
</tr>
<tr>
<td>Reinforcement:</td>
<td>Up to 3-hour metal and 90 minute wood composite (with studs)</td>
</tr>
<tr>
<td>Optional Fire Rating:</td>
<td>See additional fire rating details on page 3</td>
</tr>
</tbody>
</table>

**FEATURES**

- Heavy duty for high frequency doors or heavy, medium frequency doors
- Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify "LL")
- Frame alignment rib for proper hinge and door location
- Door edge protection tip

---

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Per Door</td>
</tr>
<tr>
<td></td>
<td>HD</td>
</tr>
<tr>
<td>79</td>
<td>15</td>
</tr>
<tr>
<td>83</td>
<td>19</td>
</tr>
<tr>
<td>85</td>
<td>19</td>
</tr>
<tr>
<td>95</td>
<td>20</td>
</tr>
<tr>
<td>119</td>
<td>23</td>
</tr>
</tbody>
</table>

---

**0º Opening**

---

**90º Opening**

---

**180º Opening**
780 SERIES CONCEALED LEAF - 780-208HD - HEAVY DUTY

SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 1/2” (13 mm) hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

FEATURES

• Standard duty for medium frequency doors. Heavy duty for high frequency doors or heavy, medium frequency doors.
• For millwork, toilet stall doors, windows, and rabbeted bi-fold doors
• Frame and door leaf alignment ribs for proper hinge and door location

<table>
<thead>
<tr>
<th>Length Options</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
### SPECIFICATIONS

**Material:** Aluminum 6063-T6

**Clearance:** 5/16” (8 mm) hinge side plus standard lockside clearance

**Fasteners:** Dril-Kwik® screws

**LL Fasteners:** 1/2 Dril-Kwik® screws, 1/2 wood screws

**Length Options:** Standard and custom lengths available

**Door/Frame Reinforcement:** None required to 200 lbs., heavier weight use 16-gauge channel

**Optional Fire Rating:** Up to 3-hour metal and 90 minute wood composite (with studs)

**Notes:** See additional fire rating details on page 3

### FEATURES

- Standard duty for medium frequency doors. Heavy duty for high frequency doors or heavy, medium frequency doors. All for doors 1-3/4” (44 mm) thick.
- Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify “LL”)
- Door edge protection lip
- Frame leaf alignment rib for proper hinge and door location
- 3/32” (2 mm) inset hinge and door location

### Length Fastener Count

<table>
<thead>
<tr>
<th>Inches</th>
<th>Millimeters</th>
<th># For Door</th>
<th># For Jamb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD</td>
<td>HD</td>
<td>LL</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
<td>23</td>
<td>23</td>
</tr>
</tbody>
</table>
780 SERIES CONCEALED LEAF - 780-226HD* | 780-226LL - HEAVY DUTY OR LEAD LINED

SPECIFICATIONS

Material: Aluminum 6063-T6

Clearance: 5/16” (8 mm) hinge side plus standard lockside clearance

Fasteners: Dril-Kwik® screws

LL Fasteners: 1/2 Dril-Kwik® screws, 1/2 wood screws

Length Options: Standard and custom lengths available

Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)

Notes: See additional fire rating details on page 3

FEATURES

• Heavy duty for high frequency doors or heavy, medium frequency doors. All for doors 2” (51 mm) thick or greater.

• Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify “LL”)

• Frame and door leaf alignment ribs for proper hinge and door location

<table>
<thead>
<tr>
<th>Length Options</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches/Millimeters</td>
<td># Per Door</td>
</tr>
<tr>
<td>HD</td>
<td>LL</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0° Opening

90° Opening

180° Opening
780 SERIES CONCEALED LEAF - 780-235HD* - HEAVY DUTY

SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/16” (8 mm) hinge side plus allow an additional 1/32” to the standard lockside clearance
Fasteners: Dril-Kwik® screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel
Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)
Notes: See additional fire rating details on page 3

FEATURES

• Heavy duty for high frequency doors or heavy, medium frequency doors
• Wide Throw for applications that require extra clearance for door or frame
• Frame and door leaf alignment ribs for proper hinge and door location
• For square edged doors on hinge side

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening

2016
www.hagerco.com
SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 1/32” (1 mm) minimum recommended between doors
Fasteners: Dril-Kwik® screws and sex bolts
Length Options: Standard and custom lengths available
Door Reinforcement: None required
Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)
Notes: See additional fire rating details on page 3

FEATURES

• Heavy duty for high frequency doors or heavy, medium frequency doors
• Bi-fold applications
• Security moldings

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

Material: 1/32” (1 mm) minimum recommended between doors

Clearance: 1/32” (1 mm) minimum recommended between doors

Length Options: Standard and custom lengths available

Door Reinforcement: None required

Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)

Notes: See additional fire rating details on page 3

SPECIFICATIONS

FEATURES

• Heavy duty for high frequency doors or heavy, medium frequency doors
• Bi-fold applications
• Security moldings

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>
SPECIFICATIONS

Material: Aluminum 6063-T6

Clearance: 1/32” (1 mm) minimum recommended for hinge side plus standard lockside clearance

Fasteners: Dril-Kwik® screws and sex bolts

Length Options: Standard and custom lengths available

Door Reinforcement: None required

Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)

Notes: See additional fire rating details on page 3

FEATURES

- Standard duty for medium frequency doors.
- Heavy duty for high frequency doors or heavy, medium frequency doors.
- For surface applications where frame face dimension is limited
- Security moldings
- 1/16” (1.5 mm) inset

### Length Fastener Count

<table>
<thead>
<tr>
<th>Inches</th>
<th>Millimeters</th>
<th># Sex Bolts</th>
<th># Pan Head</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SD  HD</td>
<td>SD  HD</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
<td>8  8</td>
<td>34 34</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
<td>8  8</td>
<td>38 38</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
<td>8  8</td>
<td>38 38</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
<td>10 10</td>
<td>38 38</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
<td>12 12</td>
<td>46 46</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening

(Please refer to images for detailed dimensions and illustrations.)
SPECIFICATIONS

Material: Aluminum 6063-T6

Clearance: 1/32” (1 mm) minimum recommended for hinge side plus standard lockside clearance. 1-5/8” (41 mm) minimum frame face required plus 3/16” (5 mm) rotational clearance

Fasteners: Dri-Kwik® screws and sex bolts

Length Options: Standard and custom lengths available

Door Reinforcement: None required

Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)

Notes: See additional fire rating details on page 3

FEATURES

• Standard duty for medium frequency doors.
  Heavy duty for high frequency doors or heavy, medium frequency doors.
• Can be used with any door and frame material
• Security molding
• 1/32” (1 mm) inset

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Sex Bolts</td>
</tr>
<tr>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
**780 SERIES FULL SURFACE - 780-257HD - HEAVY DUTY**

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Material:</th>
<th>Aluminum 6063-T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearance:</td>
<td>1/32” (1 mm) minimum recommended between mullion and door plus standard lockside clearance - 1-1/2” (38 mm) to 2-1/4” (57 mm) mullion width</td>
</tr>
<tr>
<td>Fasteners:</td>
<td>Dril-Kwik® screws and sex bolts</td>
</tr>
<tr>
<td>Length Options:</td>
<td>Standard and custom lengths available</td>
</tr>
<tr>
<td>Door Reinforcement:</td>
<td>None required</td>
</tr>
<tr>
<td>Frame Reinforcement:</td>
<td>None required to 200 lbs., heavier weight use 16-gauge channel</td>
</tr>
<tr>
<td>Fire Rating:</td>
<td>Up to 3-hour metal and 90 minute wood composite (with studs)</td>
</tr>
<tr>
<td>Notes:</td>
<td>See additional fire rating details on page 3</td>
</tr>
</tbody>
</table>

**FEATURES**

- Heavy duty for high frequency doors or heavy, medium frequency doors
- Double hinge for hanging two entrance doors from a fixed mullion
- Security moldings
- 1/16” (1.5 mm) inset

**LENGTH HD FASTENER COUNT**

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

**0º Opening**

**90º Opening**
780 SERIES HALF SURFACE - 780-045HD - HEAVY DUTY

SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/32" (4 mm) minimum recommended hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws and sex bolts
Length Options: Standard and custom lengths available
Door Reinforcement: None required
Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel
Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)
Notes: See additional fire rating details on page 3

FEATURES

• Heavy duty for high frequency doors or heavy, medium frequency doors
• Frame leaf alignment rib for proper hinge location
• Security molding
• 9/32" (7 mm) inset

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening

Material: Aluminum 6063-T6
Clearance: 5/32" (4 mm) minimum recommended hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws and sex bolts
Length Options: Standard and custom lengths available
Door Reinforcement: None required
Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel
Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)
Notes: See additional fire rating details on page 3
SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/32” (4 mm) minimum recommended hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws and sex bolts
Length Options: Standard and custom lengths available
Door Reinforcement: None required
Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel
Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)
Notes: See additional fire rating details on page 3

FEATURES

• Heavy duty for high frequency doors or heavy, medium frequency doors
• Complete frame rabbet coverage for 1-3/4” (45 mm) frames, with 1-3/8” (35 mm) doors
• Frame leaf alignment rib for proper hinge location
• Security molding
• 9/32” (7 mm) inset

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters # Sex Bolts # Pan Head # For Jamb</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
780 SERIES HALF SURFACE - 780-053 | 780-053HD - STANDARD DUTY OR HEAVY DUTY

SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/32" (4 mm) minimum recommended hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws and sex bolts
Length Options: Standard and custom lengths available
Door Reinforcement: None required
Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel
Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite; (with studs)
Notes: See additional fire rating details on page 3

FEATURES

- Standard duty for medium frequency doors. Heavy duty for high frequency doors or heavy, medium frequency doors
- Frame leaf alignment rib for proper hinge location
- Security molding
- 1/8" (3 mm) inset

<table>
<thead>
<tr>
<th>Length</th>
<th>Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Sex Bolts # Pan Head # For Jamb</td>
</tr>
<tr>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>79</td>
<td>8</td>
</tr>
<tr>
<td>83</td>
<td>8</td>
</tr>
<tr>
<td>85</td>
<td>8</td>
</tr>
<tr>
<td>95</td>
<td>10</td>
</tr>
<tr>
<td>119</td>
<td>12</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
SPECIFICATIONS

Material: Aluminum 6063-T6

Clearance: 5/32” (4 mm) minimum recommended hinge side plus standard lockside clearance

Fasteners: Dril-Kwik® screws and sex bolts

Length Options: Standard and custom lengths available

Door Reinforcement: None required

Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

Optional Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)

Notes: See additional fire rating details on page 3

FEATURES

• Heavy duty for high frequency doors or heavy, medium frequency doors
• Frame leaf alignment rib for proper hinge location
• Security molding
• 1/8” (3 mm) inset

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
SPECIFICATIONS

Material: Aluminum 6063-T6

Clearance: 5/32" (4 mm) minimum recommended hinge side plus standard lockside clearance

Fasteners: Drl-Kwik® screws and sex bolts

Length Options: Standard and custom lengths available

Door Reinforcement: None required

Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors
- For center hung and double egress conversions
- Security molding

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening
SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/32” (4 mm) minimum recommended hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws and sex bolts
Length Options: Standard and custom lengths available
Door Reinforcement: None required
Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel
Fire Rating: Up to 3-hour metal and 90 minute wood composite (with studs)

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors
- Frame leaf wrap-around reinforcement for damaged frames
- Security molding
- 1/16” (1.5 mm) inset

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening

(Left hand shown)
780 SERIES HALF SURFACE - 780-213HD - HEAVY DUTY

SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 5/32" (4 mm) minimum recommended hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws and sex bolts
Length Options: Standard and custom lengths available
Door Reinforcement: None required
Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

FEATURES

- Heavy duty for high frequency doors or heavy, medium frequency doors
- For center hung door where large edge radii or finger guards require a long reach
- Security molding

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0° Opening

90° Opening

180° Opening
SPECIFICATIONS
Material: Aluminum 6063-T6
Clearance: 5/32” (4 mm) minimum recommended hinge side plus standard lockside clearance
Fasteners: Dril-Kwik® screws and sex bolts
Length Options: Standard and custom lengths available
Door Reinforcement: None required
Frame Reinforcement: None required to 200 lbs., heavier weight use 16-gauge channel

FEATURES
• Heavy duty for high frequency doors or heavy, medium frequency doors
• Frame leaf alignment rib for proper hinge location
• For custom applications with thinner doors
• Security molding
• 1/8” (3 mm) inset

<table>
<thead>
<tr>
<th>Length Options</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Material:</th>
<th>Aluminum 6063-T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearance:</td>
<td>1/32&quot; (1 mm) minimum recommended between door and frame</td>
</tr>
<tr>
<td>Fasteners:</td>
<td>Dril-Kwik® screws</td>
</tr>
<tr>
<td>Length Options:</td>
<td>Standard and custom lengths available</td>
</tr>
<tr>
<td>Door/Frame Reinforcement:</td>
<td>None required to 200 lbs., heavier weight use 16-gauge channel</td>
</tr>
</tbody>
</table>

## FEATURES

- Heavy duty for high frequency, center hung doors
- Or heavy, medium frequency, center hung doors
- For center hung door application
- 3/4" (19 mm) minimum inset

## Length HD Fastener Count

<table>
<thead>
<tr>
<th>Length</th>
<th>HD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Millimeters</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

### 0° Opening

- 7/32" [6]
- 9/16" [14]
- 7/8" [22]
- 25/32" [20]
- 1-15/32" [37]
- 1-3/4" [44]
- 1/32" [1] min. clearance

### 90° Opening

- 1-25/32" [45]
- 1-3/4" [44]
- 2-13/32" [64]
- 3-17/32" [90]

### 180° Opening

- 1/32" [1]
- 2-1/2" [64]
**SPECIFICATIONS**

Material: Aluminum 6063-T6

Clearance: 15/32” (12 mm) hinge side plus standard lockside clearance

Fasteners: 1/4”-20 Drill-Kwik® screws or optional 1/4-14 x 1-1/2” wood screws

Length Options: Standard and custom lengths available

Door/Frame Reinforcement: For doors up to 200 lbs. Use 1/8” reinforcement for doors greater than 200 lbs.

**FEATURES**

- Strong enough to swing doors heavier than 600 lbs., wider than 4 feet, and taller than 10 feet. Extra heavy duty for heavy, high frequency doors or extremely heavy, low frequency doors; for doors 1-3/4” (45 mm) to 2-3/8” (60 mm) thick.
- Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify "LL")
- Frame and door leaf alignment ribs for proper hinges and door location

<table>
<thead>
<tr>
<th>Length</th>
<th>XHD Fastener Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td>79</td>
<td>2007</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
</tr>
</tbody>
</table>

0° Opening

90° Opening

180° Opening

2016
www.hagerco.com
1200 SERIES EXTRA HEAVY DUTY - 1200-650XHD - CONCEALED LEAF HINGE

SPECIFICATIONS

Material: Aluminum 6063-T6
Clearance: 15/32” (12 mm) hinge side plus standard lockside clearance
Fasteners: 1/4”-20 Dril-Kwik® screws or optional 1/4-14 x 1-1/2” wood screws
Length Options: Standard and custom lengths available
Door/Frame Reinforcement: For doors up to 200 lbs. Use 1/8” reinforcement for doors greater than 200 lbs.

FEATURES

- Strong enough to swing doors heavier than 600 lbs., wider than 4 feet, and taller than 10 feet. Extra heavy duty for heavy, high frequency doors or extremely heavy, low frequency doors; for doors thicker than 2-3/8” (60 mm).
- Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify “LL”)
- Frame and door leaf alignment ribs for proper hinges and door location

Length XHD Fastener Count

<table>
<thead>
<tr>
<th>Inches</th>
<th>Millimeters</th>
<th># Per Door</th>
<th># Per Jamb</th>
</tr>
</thead>
<tbody>
<tr>
<td>79</td>
<td>2007</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>83</td>
<td>2108</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>85</td>
<td>2159</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>95</td>
<td>2413</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>119</td>
<td>3023</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
**Why Continuous?** Hager Companies heavy duty stainless steel continuous hinges are designed and engineered to evenly distribute door weight along the full length of the door, which eliminates localized stresses on the frame and reduces hinge failure. Hinges also help eliminate stress on closers, automatic operators, and panic and locking hardware by helping doors to stay properly aligned and offer proven reliability that can stand up to the daily rigors of high-traffic, high-impact areas.

**Table of Contents**

Benefits and Features ........................................................  2  
Product Information ............................................................... 3  
Fasteners ...........................................................................5  
General Information ............................................................. 6  
Electric Modifications ......................................................... 8  
Concealed Leaf .................................................................10  
Half Surface .................................................................15  
Half Mortise .............................................................16  
Full Surface .............................................................18
**BENEFITS AND FEATURES**

**Heavy Duty, High-Quality Construction**
Hager Companies stainless steel continuous hinges are 14-gauge type 304 stainless steel with lubricated nylon 6/6 bearings between each knuckle and stainless steel pin. They are corrosion resistant for swimming pool buildings, sewage and water treatment plants, and salt spray environments. These hinges are ideal for hospitals and other institutions where doors and frames are subjected to severe abuse.

**Superior Performance**
Hager Companies stainless steel continuous hinges allow doors to stay properly aligned, eliminating stress on closers, automatic operators, panic, and locking hardware.

**Ease of Installation**
Each hinge has symmetrical, non-handed hole patterns on standard sizes.

**Ideal for Retrofit**
Hager Companies 790 Series stainless steel continuous hinges use the exiting frame and cover the old butt hinge cut out locations.

**Energy Savings**
These stainless steel continuous hinges provide a permanent weather barrier and reduce air infiltration by creating a seal from top to bottom of the door at the hinge stile.

**Fire-Rated**
Hager Companies 790 Series stainless steel continuous hinges are stamped with an Underwriters Laboratories Inc. fire label. Refer to the individual catalog pages for UL listing information.

**Security**
Hager Companies 790 Series stainless steel continuous hinges eliminate the gap between the door and frame, so doors cannot be pried open.

**Privacy**
Hager Companies 790 Series stainless steel continuous hinges eliminate the gap or sightline at the hinge edge, offering privacy on hospital or toilet partition applications.

**Certification**
Hager Companies 790 Series stainless steel continuous hinges are approved for ANSI A156.26 Grade 1 for 150-pound doors.

**Added Features**
Moldings are supplied to cover exposed fastener heads on half-surface and full-surface models and are screwed in place. Models with hinge guards are supplied with adjustable screws allowing up to 1/4” (9 mm) width adjustment for doors to be squared accurately and easily in new installations and retrofits.

**Wide Throw**
The width of the hinge leaf can be extended in order to clear the trim or wall conditions.
DOOR AND FRAME PREPARATION

All 790 Series stainless steel continuous hinges are surface applied without cutouts. Cutout design and spacing coordination is thereby eliminated in both new construction and restoration work.

For models other than double edge guard models, reinforcement plates are not required in doors and frames except where the gauge is too thin or the material is too weak for the fasteners in relation to the door weight, or where abusive operation is anticipated. Consult Hager Companies Technical Service for more information.

Blank frames may be ordered with strike prep only or with a strike prep furnished on both sides with any model that will cover the frame rabbet. Doors should always be ordered without cutouts except for use in labeled openings in which the tested door assembly may have manufacturing restrictions. Continuous frame mortar guards are strongly recommended for masonry walls to avoid screw fastener interference with the mortar.

Standard Finish

All 790 Series stainless steel continuous hinges are brushed to a satin finish (US32D).

Special Finishes

Available in powder coat and offered in our stock colors listed in the price book.

Recommended Lengths

All 790 Series stainless steel continuous hinges are always installed flush with the top edge of the door. Recommended head clearance is 1/8” (3 mm). Order each hinge equal to the net door height. In the field, trimming should be done from the bottom of the hinge only.

Custom Length Hinges

Hager Companies manufactures hinges over 119” (2023 mm) as two separate lengths. Hager will select hinge segment lengths from standard sizes for best economics in relation to length required. A special length should be specified from the net door height. To order, list the required hinge length dimension along with the “actual length” or “net door height.”

Custom Designs

For special designs and special applications, contact Hager Customer Service for more information. While such orders become subject to the change and cancellation policy, hole positioning will be optimized to ensure that the appearance and operation of the products are maintained.

Custom Hole Pattern

Any hole pattern or shape other than Hager’s standard hole pattern are available on all models. Contact Hager Customer Service for more information.

No-Hole (Blank) Hinges

Holes omitted for special applications (i.e. welded hinge) is available on all models. Contact Hager Customer Service for more information.
**PRODUCT INFORMATION**

**Door Edge Guards**
Various models are supplied with a 14-gauge stainless steel channel that wraps the door edge and protects the door edges from damage by carts, beds, and equipment. Other models offer protection to the jamb with a wrap-around guard. Refer to individual catalog pages for additional information. Edge guards for the latch side edge of the door are available through our Trim & Auxiliary product line.

**Dutch Door Hinges**
The frame leaf is furnished as a continuous leaf and the door leaf is cut to fit the dutch door heights specified. Upper and lower door leaves are prepped for extra screws. Handing, overall net door height, amount of clearance between the top and bottom doors, their individual heights and door and frame materials should be clearly specified.

**Non-Rising Pin**
The pin is held securely in place and will not rise or fall from the knuckles during use. The top and bottom plugs are permanently secured to the hinge.

**Raised Barrel**
For applications where the door is set back in the frame, the knuckle is offset to allow the hinge to clear the frame.

**Replacement Moldings**
Brushed aluminum replacement moldings with molding clips and fasteners are available in stock lengths for trimming in the field. This option is available for 790-903, 790-904, 790-906, 790-909.

**Sheared Leaf**
For narrow door thicknesses, leaf width can be trimmed. This option is available for 790-900, 790-903, 790-905, 790-909, 790-911, 790-915, 790-926.

**Dust Free Bearings**
Provide a clean and quiet operation as they prevent metal on metal wearing.

**Tamper Resistant Hospital Tip**
Concealed models, specifically 790-905 and 790-915, can be prepared with a tapered, 45° angled tip at the top of the hinge. These modified hinges are ideal for use in hospitals and correctional facilities to help provide a clean and safe environment.
Hager Companies 790 Series stainless steel continuous hinges are provided exclusively with carefully engineered and thoroughly tested fasteners. Each fastener is designed for ease of use as well as durability. Appropriate fasteners are furnished with each hinge, together with installation instructions for typical metal and wood doors hung on metal frames. The standard screw pack includes Dril-Kwik® self-drilling screws for metal doors and frames as well as wood screws for wood doors.

Special adjustment studs and screws are standard on all models with the double door edge protection lip. The special adjustment studs and screws allow correction of door fit problems up to 3/8" (9 mm). Sex bolts are optional and must be requested at time of order. If special fasteners are required, customers must supply them except upon prior agreement. Please consult Hager Technical Service for alternate fastener recommendations.

**Optional Sex Bolts**
On all applicable full-surface and half-surface mounted hinge models, sex bolts can be ordered. Sex bolts are intentionally designed shorter than the door thickness to ensure proper clamping action of 1-3/4" (44 mm) doors of slightly varying thickness.

**Security Fasteners**
These fasteners improve building security and reduce hinge tampering. Security Torx are available in place of standard fasteners upon request.

**Security Studs**
These stainless steel security studs are mounted through the frame leaf into the door frame. Security studs are available in place of standard fasteners upon request.

**Fastener Installation**
Fasteners for both metal and wood applications are supplied standard with each hinge. The Dril-Kwik® self-drilling screw is used in metal door and frame applications and has an undercut head and a machine thread on the screw shank. The type AB wood screw is supplied for wood door and frame applications.

The Dril-Kwik® self-drilling screw's drill point allows it to be placed without pre-drilled holes when installed in a hollow metal frame less than 1/8" (3 mm) thick. It forms its own threads as it is drilled into the frame.

Mortar Guards, made of either styrofoam or wood, are recommended for new construction, eliminating the use of masonry bits. For existing grout-filled frames, pre-drilling is required before installation of the Dril-Kwik® self-drilling screws. Here, the screw acts as a machine screw since drilling has already taken place. Center-punching is recommended on both hollow metal and grout-filled frames to ensure that the screw seats properly in the hinge leaf. Stainless steel frames require pre-drilling.

In all cases, care should be taken to ensure that no drill chips build up behind the hinge. It is best to pre-mark the holes and pre-drill with the hinge removed or clamp the hinge very tightly against the door or frame when using the self-drilling screws.

When installing the self-drilling type screw, make certain that the installer is familiar with the proper use and torque settings of a screw gun. Proper center-punching is extremely important with self-drilling screws. If center-punching is omitted or incorrectly done, the screw will "walk" in the same way as a drill bit, resulting in cocked screw heads and improperly closing hinges.
Models 790-900, 790-911, 790-915

Designed primarily for work involving new doors and frames. Clearance required as follows:

**Single Doors (Square and Beveled Edged)**
- A. Hinge thickness 7/32” 5.6 mm
- B. Additional allowance for frame irregularities 1/32” 0.8 mm
- C. Lockside clearance for single door 1/8” 3.2 mm
- Total 3/8” 9.5 mm

**Pairs of Doors (Square and Beveled Edged)**
- A. Hinge thickness 7/32” 5.6 mm
- B. Additional allowance for frame irregularities 1/32” 0.8 mm
- C. Clearance between doors (recommended)* 3/16” 4.8 mm
- D. Second hinge thickness 7/32” 5.6 mm
- E. Second allowance for frame irregularities 1/32” 0.8 mm
- Total 11/16” 17.5 mm

**Notes:**
- Some minimal clearance may be required for paint and/or weatherstripping.
- For doors that are pre-beveled 1/8” (3.2 mm)-in-2” (51 mm) on the hinge edge, add 1/32” (0.8 mm) per door to the TOTAL clearance shown (Model 790-900 only). For Models 790-911 and 790-915, the hinge edge of the door should not be beveled.

---

Models 790-905, 790-926

Designed primarily for work involving new doors and frames. Clearance required as follows:

**Single Doors (Square and Beveled Edged)**
- A. Hinge thickness 9/32” 7.1 mm
- B. Additional allowance for frame irregularities 1/32” 0.8 mm
- C. Lockside clearance for single door 1/8” 3.2 mm
- Total 7/16” 11.1 mm

**Pairs of Doors (Square and Beveled Edged)**
- A. Hinge thickness 9/32” 7.1 mm
- B. Additional allowance for frame irregularities 1/32” 0.8 mm
- C. Clearance between doors (recommended)* 3/16” 4.8 mm
- D. Second hinge thickness 9/32” 7.1 mm
- E. Second allowance for frame irregularities 1/32” 0.8 mm
- Total 13/16” 20.6 mm

**Notes:**
- Some minimal clearance may be required for paint and/or weatherstripping.
- Not recommended for use on doors/panels that have a beveled edge on the hinge side.
- *For fire rated doors, please refer to door manufacturer’s requirement for edge to edge clearance to maintain compliance with NFPA requirements.
Models 790-903, 790-904, 790-906, 790-909

Designed primarily for work involving new doors and frames. Clearance required as follows:

**Single Doors (Square and Beveled Edged)**

A. Hinge thickness 1/8" 3.2 mm  
B. Additional allowance for frame irregularities 1/32" 0.8 mm  
C. Lockside clearance for single door 1/8" 3.2 mm  
Total 9/32" 7.2 mm

**Pairs of Doors (Square and Beveled Edged)**

A. Hinge thickness 1/8" 3.2 mm  
B. Additional allowance for frame irregularities 1/32" 0.8 mm  
C. Clearance between doors (recommended)* 3/16" 4.8 mm  
D. Second hinge thickness 1/8" 3.2 mm  
E. Second allowance for frame irregularities 1/32" 0.8 mm  
Total 1/2" 12.7 mm

**Notes for 790-904 only:**  
- Some minimal clearance may be required for paint and/or weatherstripping.  
- For doors that are pre-beveled 1/8" (3.2 mm)-in-2" (51 mm) on the hinge edge, add 1/32" (0.8 mm) per door to the TOTAL clearance shown.

**Notes for 790-906 only:**  
- The hinge edge of the door should not be beveled.  
*For fire-rated doors, please refer to door manufacturer’s requirement for edge to edge clearance to maintain compliance with NFPA requirements.*
Concealed Electric Through-Wire:

- Transfers power discreetly from building to door hardware
- Four, eight, or ten 24-gauge wires with 12" wire leads
- To order, use symbol “ETW” plus the number of wires required, as a suffix. Example: 790-900 HD 85" US32D ETW - 4
- Specify handing and dimension from top of hinge to centerline of electric through-wire location. Please note the clearance from top of hinge to underside of header, typically 1/16" to 1/8" (1.6 mm to 3.2 mm).
- Modification available on 790-900 and 790-915

<table>
<thead>
<tr>
<th></th>
<th>79&quot;</th>
<th>83&quot;</th>
<th>85&quot;</th>
<th>95&quot;</th>
<th>119&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening</td>
<td>80&quot;</td>
<td>84&quot;</td>
<td>86&quot;</td>
<td>96&quot;</td>
<td>120&quot;</td>
</tr>
<tr>
<td>Door Height</td>
<td>79-1/8&quot;</td>
<td>83-1/8&quot;</td>
<td>85-1/8&quot;</td>
<td>95-1/8&quot;</td>
<td>119-1/8&quot;</td>
</tr>
<tr>
<td>Hinge Length</td>
<td>79-3/16&quot;</td>
<td>83-1/8&quot;</td>
<td>85-1/8&quot;</td>
<td>95&quot;</td>
<td>118-3/4&quot;</td>
</tr>
<tr>
<td>ETW</td>
<td>41-1/2&quot;</td>
<td>43-1/2&quot;</td>
<td>45-1/2&quot;</td>
<td>55-3/8&quot;</td>
<td>79-1/8&quot;</td>
</tr>
<tr>
<td>EPT</td>
<td>24-1/2&quot;</td>
<td>28-7/16&quot;</td>
<td>30-7/16&quot;</td>
<td>40-1/2&quot;</td>
<td>64-7/16&quot;</td>
</tr>
<tr>
<td>E1S</td>
<td>41-1/2&quot;</td>
<td>43-1/2&quot;</td>
<td>45-1/2&quot;</td>
<td>55-3/8&quot;</td>
<td>79-1/8&quot;</td>
</tr>
</tbody>
</table>

1/8" Clearance (Hager Recommended)

A = Opening
B = Door length
C = Actual hinge length
F = C.L. of ETW (electric through wire)
G = C.L. of EPT (electric power transfer)
H = C.L. pf E1S (exposed switch)
**ELECTRIC MODIFICATIONS**

**Von Duprin EPT2 or EPT10 Electric Power Transfer Preparation**
- Hinge leaf cutout to accommodate power transfer device.
- Specify handing and dimension from top of hinge to centerline of power transfer cutout location. Please note the clearance from top of hinge to underside of header, typically 1/16” to 1/8” (1.6 mm to 3.2 mm).
- Modification available on models 790-900, 790-903, 790-904, and 790-915.

**Exposed Electric Switches:**
- Miniature push button switch is incorporated in the hinge frame leaf to monitor position of the door.
- Includes three 12” wire leads.
- To order, use symbol “E1S” as a suffix.
  Example: 790-900 85” US32D E1S
- Each monitoring hinge only needs one E1S switch.
- Specify handing and dimension from top of hinge to centerline of electric through-wire location. Please note the clearance from top of hinge to underside of header, typically 1/16” to 1/8” (1.6 mm to 3.2 mm).
- Templates regarding location of contact switch available upon request.
- Modification available on models 790-900 and 790-915.

**Quick Connect:**
Available for electric through wire option.

**Mortar Box - 430**
- Serves as a mortar shield.
- Overall dimensions are 9” (229 mm) length with tabs, 7” (178 mm) (inside), 1-3/4” x 1-3/4” (45 mm x 45 mm) inside dimension.
- Galvanized steel 0.040” (1 mm).
- Top and bottom knockouts for standard conduit fittings.
**CONCEALED LEAF - 790-900 - DOOR OF ANY MATERIAL**

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material:</td>
<td>14-gauge 304 stainless steel</td>
</tr>
<tr>
<td>Finish:</td>
<td>US32D Satin</td>
</tr>
<tr>
<td>Clearance:</td>
<td>7/32” (5.6 mm) hinge side plus standard lockside clearance</td>
</tr>
</tbody>
</table>
| Fasteners: | • #10-24 x 5/8” S/S Dri-Kwik® (metal frame/door)  
• #10-16 x 1-1/4” S/S Type AB (wood door) |
| Length Options: | Standard and custom lengths available |
| Door/Frame Reinforcements: | • Wood – None required up to 200 lbs.  
• Metal – Recommended 16-gauge channel for heavier weight  
For metal doors, a 1/8” (3.2 mm) thick reinforcement plate is recommended along the hinge edge for proper thread engagement of the adjustment studs |
| Fire Rating: | Up to 3 hour metal and 90 minute wood composite |

**FEATURES**

- For doors 1-3/4” (44 mm) thick and up to 300 pounds
- 1/4” (6.3 mm) diameter stainless steel pin
- Dual 6/6 nylon bearings between each knuckle
- May be used with beveled or square edge doors
- 1/8” (3.2 mm) inset

<table>
<thead>
<tr>
<th>Measurement</th>
<th>79”</th>
<th>83”</th>
<th>85”</th>
<th>95”</th>
<th>119”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Jamb Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>0º Opening</th>
<th>90º Opening</th>
<th>180º Opening</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="#" alt="Diagram" /></td>
<td><img src="#" alt="Diagram" /></td>
<td><img src="#" alt="Diagram" /></td>
</tr>
</tbody>
</table>
CONCEALED LEAF - 790-905 - DOOR OF ANY MATERIAL

SPECIFICATIONS

Material: 14-gauge 304 stainless steel
Finish: US32D Satin
Clearance: 9/32” (7.1 mm) minimum hinge side plus standard lockside clearance
Fasteners: • #10-24 x 5/8” S/S Dril-Kwik® (metal frame)
• #1/4-32 x 3/4” S/S machine screw (used with adjustment stud)
• #7/16-20 x 1-3/8” S/S adjustment stud (metal/wood door)
Length Options: Standard and custom lengths available
Door/Frame Reinforcements: • Wood – None required up to 200 lbs.
• Metal – Recommended 16-gauge channel for heavier weight
  • For metal doors, a 1/8” (3.2 mm) thick reinforcement plate is recommended along the hinge edge for proper thread engagement of the adjustment studs
Fire Rating: Up to 3 hour metal and 90 minute wood composite

FEATURES

• For doors 1-3/4” (44 mm) thick and up to 300 pounds
• 1/4” (6.3 mm) diameter stainless steel pin
• Dual 6/6 nylon bearings between each knuckle
• Door edge protection lip (both faces of door)
• Not recommended for doors with a beveled edge on the hinge side
• 1/16” (1.6 mm) inset

<table>
<thead>
<tr>
<th>Length (inches)</th>
<th>79”</th>
<th>83”</th>
<th>85”</th>
<th>95”</th>
<th>119”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>2007</td>
<td>2108</td>
<td>2159</td>
<td>2413</td>
<td>3023</td>
</tr>
<tr>
<td>Door Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Jamb Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
</tbody>
</table>
CONCEALED LEAF - 790-911 - SWING CLEAR - DOOR OF ANY MATERIAL

SPECIFICATIONS

Material: 14-gauge 304 stainless steel
Finish: US32D Satin
Clearance: 7/32" (5.6 mm) hinge side plus standard lockside clearance
Fasteners:
- #10-24 x 5/8" S/S Drill-Kwik® (metal frame/door)
- #10-16 x 1-1/4" S/S Type AB (wood door)

Length Options: Standard and custom lengths available

Door/Frame Reinforcements:
- Wood - None required up to 200 lbs.
- Metal - Recommended 16-gauge channel for heavier weight
- For metal doors, a 1/8" (3.2 mm) thick reinforcement plate is recommended along the hinge edge for proper thread engagement of the adjustment studs

Fire Rating: Up to 3 hour metal and 90 minute wood composite

FEATURES

- For doors 1-3/4" (44 mm) thick and up to 300 pounds
- 1/4" (6.3 mm) diameter stainless steel pin
- Dual 6/6 nylon bearings between each knuckle
- Wrap-around frame leaf design for easy installation and protection
- Door edge protection lip (stop side only)
- Useful for ADA upgrade work
- Not for use on doors with a beveled edge on the hinge side

<table>
<thead>
<tr>
<th>Length (inches)</th>
<th>79&quot;</th>
<th>83&quot;</th>
<th>85&quot;</th>
<th>95&quot;</th>
<th>119&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>2007</td>
<td>2108</td>
<td>2159</td>
<td>2413</td>
<td>3023</td>
</tr>
<tr>
<td>Door Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Jamb Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
</tbody>
</table>

0° Opening

90° Opening

180° Opening
CONCEALED LEAF - 790-915 - DOOR OF ANY MATERIAL

SPECIFICATIONS

Material: 14-gauge 304 stainless steel
Finish: US32D Satin
Clearance: 7/32" (5.6 mm) plus standard lockside clearance
Fasteners:
• #10-24 x 5/8" S/S Drl-Kwik® (metal frame/door)
• #7/16-20 x 1-1/4" S/S Type AB (wood door)
Length Options: Standard and custom lengths available
Door/Frame Reinforcements:
• Wood – None required up to 200 lbs.
• Metal – Recommended 16-gauge channel for heavier weight
• For metal doors, a 1/8" (3.2 mm) thick reinforcement plate is recommended along the hinge edge for proper thread engagement of the adjustment studs
Fire Rating: Up to 3 hour metal and 90 minute wood composite

FEATURES

• For doors 1-3/4" (44 mm) thick and up to 300 pounds
• 1/4" (6.3 mm) diameter stainless steel pin
• Dual 6/6 nylon bearings between each knuckle
• Door edge protection lip (stop side only)
• Not recommended for doors with a beveled edge on the hinge side
• 1/16" (1.6 mm) inset
• Door edge protection lip (stop side only)

<table>
<thead>
<tr>
<th>Length (inches)</th>
<th>79&quot;</th>
<th>83&quot;</th>
<th>85&quot;</th>
<th>95&quot;</th>
<th>119&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>2007</td>
<td>2108</td>
<td>2159</td>
<td>2413</td>
<td>3023</td>
</tr>
<tr>
<td>Door Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Jamb Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
CONCEALED LEAF - 790-926 - SWING CLEAR - DOOR OF ANY MATERIAL

SPECIFICATIONS

Material: 14-gauge 304 stainless steel
Finish: US32D Satin
Clearance: 9/32" (7.1 mm) minimum hinge side plus standard lockside clearance
Fasteners:
- #10-24 x 5/8" S/S Dri-Kwik® (metal frame)
- #10-32 x 3/4" S/S machine (used with adjustment stud)
- #7/16-20 x 1-3/8" S/S adjustment stud (metal/wood door)
Length Options: Standard and custom lengths available
Door/Frame Reinforcements:
- Wood - None required up to 200 lbs.
- Metal - Recommended 16-gauge channel for heavier weight
  For metal doors, a 1/8" (3.2 mm) thick reinforcement plate is recommended along the hinge edge for proper thread engagement of the adjustment studs
Fire Rating: Up to 3 hour metal and 90 minute wood composite

FEATURES

- For doors 1-3/4" (44 mm) thick and up to 300 pounds
- 1/4" (6.3 mm) diameter stainless steel pin
- Dual 6/6 nylon bearings between each knuckle
- Wrap-around frame leaf design for easy installation and protection
- Door edge protection lip (stop side only)
- Useful for ADA upgrade work
- Not recommended for doors with a beveled edge on hinge side

<table>
<thead>
<tr>
<th>Length (inches)</th>
<th>79&quot;</th>
<th>83&quot;</th>
<th>85&quot;</th>
<th>95&quot;</th>
<th>119&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>2007</td>
<td>2108</td>
<td>2159</td>
<td>2413</td>
<td>3023</td>
</tr>
<tr>
<td>Door Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Jamb Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
</tbody>
</table>

0° Opening

90° Opening

180° Opening
HALF SURFACE - 790-903 - DOOR OF ANY MATERIAL

SPECIFICATIONS

Material: 14-gauge 304 stainless steel
Finish: US32D Satin
Clearance: 1/8" (3.2 mm) minimum hinge side plus standard lockside clearance
Fasteners:
- #10-24 x 5/8" S/S Drl-Kwik® (metal frame)
- #1/4-20 x 3/4" 2C Drl-Kwik® (metal door)
- #1/4-14 x 1" 2C Type AB (wood door)
Length Options: Standard and custom lengths available
Door/Frame Reinforcements:
- Wood - None required up to 200 lbs.
- Metal - Recommended 16-gauge channel for heavier weight
- For metal doors, a 1/8" (3.2 mm) thick reinforcement plate is recommended along the hinge edge for proper thread engagement of the adjustment studs
Fire Rating: Up to 3 hour metal and 90 minute wood composite

FEATURES

- For doors 1-3/4" (44 mm) thick and up to 300 pounds
- 1/4" (6.3 mm) diameter stainless steel pin
- Dual 6/6 nylon bearings between each knuckle
- Security molding
- 1/8" (3.2 mm) inset

<table>
<thead>
<tr>
<th>Length (inches)</th>
<th>79&quot;</th>
<th>83&quot;</th>
<th>85&quot;</th>
<th>95&quot;</th>
<th>119&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>2007</td>
<td>2108</td>
<td>2159</td>
<td>2413</td>
<td>3023</td>
</tr>
<tr>
<td>Door Screws</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>Jamb Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
</tbody>
</table>
HALF MORTISE - 790-904 - DOOR OF ANY MATERIAL

SPECIFICATIONS

Material: 14-gauge 304 stainless steel

Finish: US32D Satin

Clearance: 1/8” (3.2 mm) hinge side plus standard lockside clearance

Fasteners:
- #10-24 x 5/8” S/S Drl-Kwik® (metal door)
- #1/4-20 x 3/4” 2C Drl-Kwik® (metal frame)
- #10-16 x 1-1/4” S/S Type AB (wood door)

Length Options: Standard and custom lengths available

Door/Frame Reinforcements:
- Wood - None required up to 200 lbs.
- Metal - Recommended 16-gauge channel for heavier weight
- For metal doors, a 1/8” (3.2 mm) thick reinforcement plate is recommended along the hinge edge for proper thread engagement of the adjustment studs

Fire Rating: Up to 3 hour metal and 90 minute wood composite

FEATURES

- For doors 1-3/4” (44 mm) thick and up to 300 pounds
- 1/4” (6.3 mm) diameter stainless steel pin
- Dual 6/6 nylon bearings between each knuckle
- Not recommended for doors with a beveled edge on the hinge side
- 1/8” (3.2 mm) inset

<table>
<thead>
<tr>
<th>Length (inches)</th>
<th>79”</th>
<th>83”</th>
<th>85”</th>
<th>95”</th>
<th>119”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>2007</td>
<td>2108</td>
<td>2159</td>
<td>2413</td>
<td>3023</td>
</tr>
<tr>
<td>Door Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Jamb Screws</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>15</td>
<td>18</td>
</tr>
</tbody>
</table>
HALF MORTISE - 790-906 - DOOR OF ANY MATERIAL

SPECIFICATIONS

Material: 14-gauge 304 stainless steel
Finish: US32D Satin
Clearance: 1/8” (3.2 mm) minimum hinge side plus standard lockside clearance
Fasteners:
- #10-24 x 5/8” S Dril-Kwik® (metal door)
- #1/4-20 x 3/4” 2C Dril-Kwik® (metal door)
- #1/4-14 x 1” 2C Type AB (wood frame)
Length Options: Standard and custom lengths available
Door/Frame Reinforcements:
- Wood – None required up to 200 lbs.
- Metal – Recommended 16-gauge channel for heavier weight
- For metal doors, a 1/8” (3.2 mm) thick reinforcement plate is recommended along the hinge edge for proper thread engagement of the adjustment studs
Fire Rating: Up to 3 hour metal and 90 minute wood composite

FEATURES

- For doors 1-3/4” (44 mm) thick and up to 300 pounds
- 1/4” (6.3 mm) diameter stainless steel pin
- Dual 6/6 nylon bearings between each knuckle
- Security molding
- Door edge protection lip (stop side only)
- Not recommended for doors with a beveled edge on the hinge side

<table>
<thead>
<tr>
<th>Length (inches)</th>
<th>79”</th>
<th>83”</th>
<th>85”</th>
<th>95”</th>
<th>119”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>2007</td>
<td>2108</td>
<td>2159</td>
<td>2413</td>
<td>3023</td>
</tr>
<tr>
<td>Door Screws</td>
<td>19</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Jamb Screws</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>15</td>
<td>18</td>
</tr>
</tbody>
</table>

0º Opening

90º Opening

180º Opening
FULL SURFACE - 790-909 - SWING CLEAR - DOOR OF ANY MATERIAL

SPECIFICATIONS

Material: 14-gauge 304 stainless steel
Finish: US32D Satin
Clearance: 1/8" (0.8 mm) minimum recommended hinge side plus standard lockside clearance
Fasteners:
- #10-24 x 5/8" S/S Dril-Kwik® (metal frame)
- #1/4-20 x 3/4" 2C Dril-Kwik® (metal door)
- #1/4-14 x 1" 2C Type AB (wood door)
Length Options: Standard and custom lengths available
Door/Frame Reinforcements:
- Wood - None required up to 200 lbs.
- Metal - Recommended 16-gauge channel for heavier weight
- For metal doors, a 1/8" (3.2 mm) thick reinforcement plate is recommended along the hinge edge for proper thread engagement of the adjustment studs
Fire Rating: Up to 3 hour metal and 90 minute wood composite

FEATURES

- For doors 1-3/4" (44 mm) thick and up to 300 pounds
- 1/4" (6.3 mm) diameter stainless steel pin
- Dual 6/6 nylon bearings between each knuckle
- Useful for ADA upgrade work
- Security molding
- For beveled or square edge doors
- 1/8" (3.2 mm) inset

<table>
<thead>
<tr>
<th>0º Opening</th>
<th>90º Opening</th>
<th>180º Opening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (inches)</td>
<td>79&quot;</td>
<td>83&quot;</td>
</tr>
<tr>
<td>Length (mm)</td>
<td>2007</td>
<td>2108</td>
</tr>
<tr>
<td>Door Screws</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td>Jamb Screws</td>
<td>13</td>
<td>14</td>
</tr>
</tbody>
</table>
Every Hager exit device is designed and engineered to assure you and your customers years and years of superior performance in a variety of commercial applications. Hager exit devices use fewer moving parts, are constructed with high quality materials and are backed by industry leading warranties.

All Hager exit devices meet or exceed accepted U.S. domestic and international standards. All are UL listed for panic or fire-rated hardware and comply with ANSI A117.1 for accessible buildings and facilities. Many models are also certified for Hurricane Resistant applications.

Hager exit devices were designed with ease of installation in mind. All are non-handed and packaged for convenience and versatility with thru-bolts, slotted strikes, and both wood and machine screws in every box. Minimal door prep is needed with Hager exit device escutcheon trim with the locking mechanism built inside.

**Table of Contents**

4500 Series Heavy Duty Commercial ...................... 3
Compliance and Certifications ................................ 4
General Information ............................................. 5
Device Profiles .................................................... 6
How to Order ....................................................... 7
Devices ................................................................... 8
Dummy Pushpad .................................................... 18
Alarm Kit ............................................................ 19
Electric Modifications .......................................... 20
Escutcheon Trim for Rim and Vertical Rod Devices .... 21
Escutcheon Trim for Mortise Device ....................... 24
Pull Plate Trim ..................................................... 26
 Strikes ................................................................. 27
Accessories .......................................................... 28

4600 Series Narrow Heavy Duty Commercial .......... 31
Compliance and Certifications ............................... 32
General Information ............................................. 33
Device Profile ..................................................... 34
How to Order ....................................................... 35
Rim Device .......................................................... 36
Alarm Kit ............................................................ 38
Electric Modifications .......................................... 39
Escutcheon Trim .................................................. 40
 Strikes ................................................................. 42
Accessories .......................................................... 42

4700 Series Standard Duty ..................................... 43
Compliance and Certifications ............................... 44
General Information ............................................. 45
Device Profile ..................................................... 46
How to Order ....................................................... 47
Devices ............................................................... 48
Escutcheon Trim .................................................. 50
Key-In-Lever Trim ............................................... 52
Pull Plate Trim ..................................................... 54
Raised Lip Trim .................................................... 55
 Strikes ................................................................. 55
Accessories .......................................................... 56

4900 Series Mullions ............................................. 59
How to Order ....................................................... 60
Keyed Removable Mullion ..................................... 61
Non-Keyed Removable Mullion ............................. 62
 Strikes ................................................................. 63
Stabilizer Kit ....................................................... 63
Accessories .......................................................... 63
Hager 4500 Series Exit Devices are ideal for use in heavy duty commercial applications including office buildings, medical facilities, schools, and hospitality structures. The Hager 4500 Series is designed and engineered to provide a lifetime of superior performance on doors in heavy duty commercial applications. Properly applied and maintained Hager 4500 Series Exit Devices and Trim are backed by a lifetime warranty, providing peace of mind from distributor to building owner. Go to www.hagerco.com for specific warranty conditions.

Hager 4500 Series Exit Devices are BHMA certified Grade 1 and meet Life Safety codes and Fire Safety requirements. The 4500 Series Rim and Surface Vertical Rod devices meet ANSI requirements to be listed as Severe Windstorm Components and are approved for High Velocity Hurricane Zone areas.

Extruded aluminum construction, stainless steel push bar cover, die cast caps and covers, and dead locking stainless steel Pullman type latchbolts provide premium security and performance at value pricing.
### 4500 SERIES DEVICES

<table>
<thead>
<tr>
<th>Feature</th>
<th>RIM</th>
<th>SVR</th>
<th>LBR</th>
<th>CVR</th>
<th>CLB</th>
<th>MOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHMA Certified ANSI/BHMA A156.3-2014 Grade 1</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>UL305 Listed for Panic Hardware</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>UL10C Positive Pressure Rated</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>UL10B Neutral Pressure Rated</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Complies with ANSI A117.1 for Accessible Buildings and Facilities</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>ANSI A 250.13 Severe Windstorm Resistant Component</td>
<td>YES</td>
<td>YES</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Miami Dade NOA #17-1219.14</td>
<td>YES</td>
<td>YES</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

### 4500 SERIES FIRE-RATED DEVICES

<table>
<thead>
<tr>
<th>Feature</th>
<th>RIM F</th>
<th>SVR F</th>
<th>LBR F</th>
<th>CVR F</th>
<th>CLB F</th>
<th>MOR F</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL/cUL Listed for &quot;A&quot; Label Door Up to and Including...</td>
<td>3 HR</td>
<td>3 HR</td>
<td>---</td>
<td>3 HR</td>
<td>---</td>
<td>3 HR</td>
</tr>
<tr>
<td>Rim with Fire-rated Removable Mullion 4900UF UL/cUL Listed and Warnock Hersey Listed for &quot;A&quot; Label Door Up to and Including...</td>
<td>3 HR</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>VR X VR SAME DIRECTION*</td>
<td>3 HR</td>
<td>90 MIN</td>
<td>90 MIN</td>
<td>90 MIN</td>
<td>90 MIN</td>
<td>---</td>
</tr>
<tr>
<td>UL/cUL Listed for &quot;A&quot; Label Door Up to and Including...</td>
<td>3 HR</td>
<td>3 HR</td>
<td>3 HR</td>
<td>3 HR</td>
<td>3 HR</td>
<td>---</td>
</tr>
<tr>
<td>VR X VR Double Egress</td>
<td>3 HR</td>
<td>3 HR</td>
<td>3 HR</td>
<td>3 HR</td>
<td>3 HR</td>
<td>---</td>
</tr>
</tbody>
</table>

*Currently, no door manufacturer offers a listing over 90 minutes with doors swinging same direction. Consult wood door manufacturers for current UL listings.
Installation Made Easy
For the convenience of our customers, Hager Companies introduced several key features to the exit device market:

• Thru-bolts are included with every model. Wood and machine screws are also provided standard in every package.
• Slotted strikes speed up installation, allowing the installer to make easy adjustments to align the latch to the strike.
• Non-handed device offers added versatility and means less inventory.
• Escutcheon trim is surface mounted with the locking mechanism built inside, reducing door preparation and installation time by requiring fewer holes in the door.

Shim Kits
Shim kits are available for devices on doors with glass bead kits or other interfacing moldings. Each kit contains two 1/8” (3.2 mm) shims and the appropriate longer fasteners.

Doggging
Cylinder dogging or less dogging are available to replace the standard hex key dogging on panic exit devices. For cylinder dogging, specify CD on order or purchase 4926 for retrofit applications. Unit requires 1-1/8” mortise cylinder (part number 3902) with standard cam. For less dogging, specify LD on order.

Sizing
The exit device is cut for 36” (914 mm) and 48” (1219 mm) wide doors. For other door widths, cut exit device to appropriate length. Recommended overall length of exit device is equal to the door width minus four inches. The surface vertical rod devices are supplied for an 84” (2134 mm) opening standard, but can be ordered for a 96” (2438 mm) opening. Extension rods are available to accommodate openings taller than 96” (2438 mm) and up to 120” (3048 mm).

<table>
<thead>
<tr>
<th>Trim Functions</th>
<th>Part Number</th>
<th>Function Description</th>
<th>ANSI Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank Escutcheon</td>
<td>458E, 45MB</td>
<td>Always operable (Passage)</td>
<td>14</td>
</tr>
<tr>
<td>Cylinder Escutcheon</td>
<td>45CE, 45MC</td>
<td>Key locks or unlocks lever</td>
<td>08</td>
</tr>
<tr>
<td>Dummy</td>
<td>45DT, 45MD</td>
<td>Pull when device is dogged down</td>
<td>02</td>
</tr>
<tr>
<td></td>
<td>45PD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Night Latch</td>
<td>45NL, 45MN</td>
<td>Key retracts latchbolt</td>
<td>03</td>
</tr>
<tr>
<td></td>
<td>45PN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cylinder Thumbpiece</td>
<td>45PT</td>
<td>Key locks or unlocks thumbpiece</td>
<td>05</td>
</tr>
<tr>
<td>Electrified Trim</td>
<td>45ET EL</td>
<td>Fail safe</td>
<td>E05</td>
</tr>
<tr>
<td></td>
<td>45ET EU</td>
<td>Fail secure</td>
<td>E06</td>
</tr>
</tbody>
</table>

Applications

Single Door (Rim Device)

Double Door with Mullion (Rim x Rim)

Double Door (SVR x SVR)

Double Door (SVR x Rim)
### 4500 SERIES - DEVICE PROFILES

#### Dimensions

- **A**
  - 3 5/8" (92)
  - 2 5/32" (62)
  - 2 7/16" (62)
  - 2 9/32" (58)

- **B**
  - 2 27/32" (72)
  - 8 1/32" (204)
  - 2 1/8" (54)

#### 4500 SERIES

<table>
<thead>
<tr>
<th>4500 SERIES</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>4500 PANIC - 36&quot;</td>
<td>18 5/32&quot; (461mm)</td>
<td>33 5/32&quot; (842mm)</td>
</tr>
<tr>
<td>4500 FIRE - 36&quot;</td>
<td>24&quot; (611mm)</td>
<td>44&quot; (1121mm)</td>
</tr>
<tr>
<td>4500 PANIC - 48&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4500 FIRE - 48&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 3" (76 mm) in undogged position
- 2 5/8" (67 mm) in dogged position
**4500 SERIES - HOW TO ORDER**

### 4500 SERIES EXIT DEVICE

<table>
<thead>
<tr>
<th>4501</th>
<th>RIM</th>
<th>F</th>
<th>US3</th>
<th>ALK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td><strong>Rating</strong></td>
<td><strong>Door Size</strong></td>
<td><strong>Door Thickness</strong></td>
<td><strong>Electric Modifications</strong></td>
</tr>
<tr>
<td>RIM - Rim Device</td>
<td>FR - Fire-Rated</td>
<td>36&quot;</td>
<td>1-5/8&quot;</td>
<td>AI - Authorized Ingress ***</td>
</tr>
<tr>
<td>SVR - Surface Vertical Rod</td>
<td>D - Non-Fire Rated</td>
<td>36&quot; x 84&quot;</td>
<td>1-3/4&quot;</td>
<td>ALK - Alarm Kit</td>
</tr>
<tr>
<td>LBR - Surface Vertical Rod</td>
<td>CD - Cylinder Dogging</td>
<td>36&quot; x 96&quot;</td>
<td>2&quot;</td>
<td>ALL - Alarm Kit w/ Tamper Switch and Latch Monitor</td>
</tr>
<tr>
<td>CVR - Concealed Vertical Rod</td>
<td>L - Less Dogging</td>
<td>48&quot; x 84&quot;</td>
<td>1-1/2&quot;</td>
<td>ALM - Alarm Kit w/ Latch Monitor</td>
</tr>
<tr>
<td>CLB - Concealed Vertical Rod</td>
<td>WR - Windstorm Rated</td>
<td>48&quot; x 96&quot;</td>
<td>3&quot;</td>
<td>ALT - Alarm Kit w/ Tamper Switch</td>
</tr>
<tr>
<td>DMY - Dummy Push Pad</td>
<td>W - Windstorm and Fire-Rated</td>
<td></td>
<td></td>
<td>ED - Electric Dogging</td>
</tr>
<tr>
<td>MRT - Mortise Device (MC, MB, MD)</td>
<td></td>
<td></td>
<td></td>
<td>EDRX - Electric Dogging w/ Request to Exit</td>
</tr>
<tr>
<td>MRTN - Mortise Night Latch Device (MN)</td>
<td></td>
<td></td>
<td></td>
<td>LM - Latchbolt Monitor ***</td>
</tr>
</tbody>
</table>

*Fire-rated LBR and CLB devices must be ordered in pairs of vertical rod devices or can be used in conjunction with an approved automatic or constant latching flush bolt. When ordering pairs, specify one device LBR and second device LBR with fire bolt, for example: 4501 LBR Fire 36" x 84" plus 4501 LBR Fire 36" x 84" EO with bolt -OR- 4501 LBR Fire 36" x 84" plus an approved automatic or constant latching flush bolt. 24" door size available (Extended lead-time). *** Not available on Mortise Exit Devices*

### 4500 SERIES TRIM

<table>
<thead>
<tr>
<th>45</th>
<th>CE</th>
<th>ARC</th>
<th>US3</th>
<th>EL24</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Group</strong></td>
<td><strong>Trim/Function</strong></td>
<td><strong>Lever Style</strong></td>
<td><strong>Finish</strong></td>
<td><strong>Options</strong></td>
</tr>
<tr>
<td>45 - 4500 Series, Grade 1</td>
<td>BE - Blank Escutcheon</td>
<td>ARC - Archer</td>
<td>US3</td>
<td>EL24 - Fail Safe, 24 Volt ***</td>
</tr>
<tr>
<td></td>
<td>CE - Cylinder Escutcheon</td>
<td>AUG - August</td>
<td>US4</td>
<td>EU12 - Fail Secure, 24 Volt ***</td>
</tr>
<tr>
<td></td>
<td>DT - Dummy Trim</td>
<td>WLM - William</td>
<td>US10</td>
<td>EU24 - Fail Secure, 24 Volt ***</td>
</tr>
<tr>
<td></td>
<td>ET - Electric Escutcheon Trim</td>
<td>WTN - Withnell</td>
<td>US10B</td>
<td>TW - Tactile Warning</td>
</tr>
<tr>
<td></td>
<td>NL - Night Latch (1-3/4&quot; to 2-1/2&quot; doors)</td>
<td>CHA - Charles</td>
<td>US26</td>
<td>(US26 and US32D only)</td>
</tr>
<tr>
<td></td>
<td>PD - Pull Plate Dummy Trim (Not available for CVR device)</td>
<td>JHN - Johnston**</td>
<td>US26D</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PN - Pull Plate Night Latch (Not available for CVR device)</td>
<td>JOS - Joshua</td>
<td>US32D</td>
<td>** Johnston and Warren lever designs are handed - specify LHR/RH or RHR/LH when ordering.</td>
</tr>
<tr>
<td></td>
<td>PT - Thumbpiece Entrance (Not available for CVR device)</td>
<td>LOU - Louis</td>
<td>(pull plate trim only)</td>
<td>*** Not available on Mortise Exit trim</td>
</tr>
<tr>
<td></td>
<td>MB - Mortise Blank Escutcheon (14)*</td>
<td>WRTN - Warren**</td>
<td>BLK***</td>
<td>**** Extended lead time for flat black finish.</td>
</tr>
<tr>
<td></td>
<td>MC - Mortise Cylinder Escutcheon (08) *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MD - Mortise Dummy Trim (02) *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MN - Mortise Night Latch (03) *</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Mortise cylinder 3902 is required for use with cylinder escutcheon trim and pull plate with thumbpiece trim and is sold separately.
2. Rim cylinder with long tailpiece 3901 is required for use with night latch trim and is sold separately.
3. For more cylinder information, please refer to Cylinder, Core & Keying in the Locks section of the catalog.
4. If using shim kit, specify total door thickness including shims.
5. For ET trim, must specify Fail Safe (EL) or Fail Secure (EU) and 12 or 24 volt.
4500 SERIES - GRADE 1 RIM DEVICE

WARRANTY
Lifetime warranty

FEATURES
Certification: BHMA Certified Grade 1 and meets life safety codes and fire-safety requirements. See charts on page 4 for details and options.
Covers: Stainless steel, zinc
Cover Tube: Aluminum
Dogging: • Hex key dogging standard on panic-rated devices
   • Less dogging available on panic-rated devices, specify LD
   • Cylinder dogging available on panic-rated devices, specify CD
     (3902 1-1/8" (29 mm) mortise cylinder sold separately)
End Caps: • Zinc
   • Flush end cap option available
Fasteners: • Wood and machine screws
   • Thru-bolts supplied standard
Latchbolt: 3/4” (19 mm) throw, pullman type with automatic dead-latching, stainless steel
 Strikes: • Stainless steel with stainless steel pin and roller - included standard with panic device
   • Solid stainless steel - included standard with fire-rated device
   • Surface applied to frame with slotted holes for easy adjustment
   • Double door strike for use with surface vertical rod and rim device available

SPECIFICATIONS
Door Thickness: 1-3/4” (44 mm) - Standard up to 3”, except with night latch (NL) which is 2-1/2”
Door Width: • 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door
   • 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door
Projection: • 3” (76 mm) in undogged position
   • 2-5/8” (67 mm) in dogged position
Stile Width: • 5-3/8” (137 mm) - minimum stile width required for single door and 5/8” (16 mm) stop
   • 4-7/8” (124 mm) - minimum stile width required for double door x surface vertical rod with double door strike
   • 5-3/4” (146 mm) - minimum stile width required for double doors with 2” (51 mm) mullion
   • All stile widths are measured from door edge.
Notes: Recommended for use on appropriately reinforced doors

TRIM
• 4500 Series excutcheon trim for rim device is surface mounted with a variety of lever options (pp. 22-23)
• Pull plate trim
• Vandal resistant
• Rim cylinder x optional pull

FINISHES
• Trim not available in US32D
• Anti-Microbial available with US26D, US32D
4500 SERIES - GRADE 1 RIM DEVICE - ELECTRIFIED

WARRANTY
- One-year on electrified components
- Lifetime on hardware components

FEATURES
Same as 4500 Series Rim Device

SPECIFICATIONS
Door Width:
- 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door for devices with any monitoring switches
- 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door for devices with any monitoring switches
- 36” field sizeable to 34” door minimum for devices with motorized electric latch retraction or delayed egress
- 36” door minimum for devices with solenoid electric latch retraction, electric dogging or alarm kit
- 48” field sizeable to 42” door minimum for devices with solenoid, electric dogging or alarm kit
- 48” field sizeable to 40” door minimum with motorized electric latch retraction or delayed egress

FUNCTIONS
- ED - Electric Dogging
- RX - Request to Exit (field installation kit 2-649-5001)
- RX2 - Dual Request to Exit
- EDRX - Electric Dogging with Request to Exit
- ALK - Alarm Kit (kit 4940, tamper switch 2-649-1090)
- AI - Authorized Ingress
- RXAI - Request to Exit with Authorized Ingress
- LM - Latchbolt Monitor (2-649-0168)
- RXLM - Request to Exit with Latchbolt Monitor
- MLR - Motor Driven Electric Latch Retraction (field installation kit 2-649-5007)
- MLRX - Motor Driven Electric Latch Retraction with Request to Exit
- DE - Delayed Egress (must order wall mount controller 2-679-0630 separately)
- OBDE - Onboard Delayed Egress (Requires 1-1/8” - 1 3/8” length, 3978 Cloverleaf or equivalent tailpiece required)

Electrical Specifications and Wire Requirements - See 4500 Series Electric Modifications page 20.
# 4500 SERIES - GRADE 1 SURFACE VERTICAL ROD DEVICE

## WARRANTY
- Lifetime warranty

## FEATURES
**Certification:**
BHMA Certified Grade 1 and meets life safety codes and fire-safety requirements. See charts on page 4 for details and options.

**Covers:**
Stainless steel, zinc

**Cover Tube:**
Aluminum

**Dogging:**
- Hex key dogging standard on panic-rated devices
- Less dogging available on panic-rated devices, specify LD
- Cylinder dogging is available on panic-rated devices, specify CD (3902 1-1/8” (29 mm) mortise cylinder sold separately)

**End Caps:**
- Zinc
- Flush end cap option available

**Fasteners:**
- Wood and machine screws
- Thru-bolts supplied standard

**Latchbolt:**
- Top - 1/2” (13 mm) throw, pullman type with automatic dead-latching, stainless steel
- Bottom - 1/2” (13 mm) throw, pullman type, held retracted during door swing, stainless steel

**Strikes:**
- Stainless steel with stainless steel pin and roller - included standard with panic device
- Solid stainless steel - included standard with fire-rated device
- Surface applied to frame with slotted holes for easy adjustment
- 10’ (3048 mm) fire-rated device requires strike and hook kit, 4912 for top strike
- Double door strike for use with surface vertical rod and rim device available

## SPECIFICATIONS
**Door Thickness:**
1-3/4” (44 mm) - Standard up to 3”, except with night latch (NL) function which is 2-1/2”

**Door Width:**
- 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door
- 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door

**Projection:**
- 3” (76 mm) in undogged position
- 2-5/8” (67 mm) in dogged position

**Vertical Rods:**
- Rods for 7’ (2134 mm) doors - 33-1/4” (845 mm) top rod length
- Rods for 8’ (2438 mm) doors - 45-1/4” (1149 mm) top rod length
- Extension rods kits available, 2’ (610 mm) or 3’ (914 mm) for doors over 7’

**Stile Width:**
- 5-3/8” (137 mm) - Minimum stile width required for single door and 5/8” (16 mm) stop
- 4-7/8” (124 mm) - Minimum stile width required for double doors
- 4-7/8” (124 mm) - Minimum stile width required for double door x Rim Device with double door strike
- All stile widths are measured from door edge

**Notes:**
- Center line prep is 40”. If door prep elevation is lower, a longer top rod will need to be ordered.
- Recommended for use on appropriately reinforced doors

## TRIM
- 4500 Series escutcheon trim for vertical rod device is surface mounted with variety of lever options (pp. 22-23)
- Pull plate trim (excluding 45PT)
- Vandal resistant
- Rim cylinder x optional pull

## FINISHES
- Trim is not available in US32D
- Anti-microbial available with US26D, US32D

Certification: BHMA Certified Grade 1 and meets life safety codes and fire-safety requirements. See charts on page 4 for details and options.

Covers: Stainless steel, zinc

Cover Tube: Aluminum

Dogging:
- Hex key dogging standard on panic-rated devices
- Less dogging available on panic-rated devices, specify LD
- Cylinder dogging is available on panic-rated devices, specify CD (3902 1-1/8” (29 mm) mortise cylinder sold separately)

End Caps:
- Zinc
- Flush end cap option available

Fasteners:
- Wood and machine screws
- Thru-bolts supplied standard

Latchbolt:
- Top - 1/2” (13 mm) throw, pullman type with automatic dead-latching, stainless steel
- Bottom - 1/2” (13 mm) throw, pullman type, held retracted during door swing, stainless steel

Strikes:
- Stainless steel with stainless steel pin and roller - included standard with panic device
- Solid stainless steel - included standard with fire-rated device
- Surface applied to frame with slotted holes for easy adjustment
- 10’ (3048 mm) fire-rated device requires strike and hook kit, 4912 for top strike
- Double door strike for use with surface vertical rod and rim device available

Door Thickness: 1-3/4” (44 mm) - Standard up to 3”, except with night latch (NL) function which is 2-1/2”

Door Width: 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door

Projection: 3” (76 mm) in undogged position

Vertical Rods: Rods for 7’ (2134 mm) doors - 33-1/4” (845 mm) top rod length

Stile Width: 5-3/8” (137 mm) - Minimum stile width required for single door and 5/8” (16 mm) stop

Notes: Center line prep is 40”. If door prep elevation is lower, a longer top rod will need to be ordered.

Recommended for use on appropriately reinforced doors

TRIM
- 4500 Series escutcheon trim for vertical rod device is surface mounted with variety of lever options (pp. 22-23)
- Pull plate trim (excluding 45PT)
- Vandal resistant
- Rim cylinder x optional pull

FINISHES
- Trim is not available in US32D
- Anti-microbial available with US26D, US32D

Certification: BHMA Certified Grade 1 and meets life safety codes and fire-safety requirements. See charts on page 4 for details and options.

Covers: Stainless steel, zinc

Cover Tube: Aluminum

Dogging:
- Hex key dogging standard on panic-rated devices
- Less dogging available on panic-rated devices, specify LD
- Cylinder dogging is available on panic-rated devices, specify CD (3902 1-1/8” (29 mm) mortise cylinder sold separately)

End Caps:
- Zinc
- Flush end cap option available

Fasteners:
- Wood and machine screws
- Thru-bolts supplied standard

Latchbolt:
- Top - 1/2” (13 mm) throw, pullman type with automatic dead-latching, stainless steel
- Bottom - 1/2” (13 mm) throw, pullman type, held retracted during door swing, stainless steel

Strikes:
- Stainless steel with stainless steel pin and roller - included standard with panic device
- Solid stainless steel - included standard with fire-rated device
- Surface applied to frame with slotted holes for easy adjustment
- 10’ (3048 mm) fire-rated device requires strike and hook kit, 4912 for top strike
- Double door strike for use with surface vertical rod and rim device available

Door Thickness: 1-3/4” (44 mm) - Standard up to 3”, except with night latch (NL) function which is 2-1/2”

Door Width: 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door

Projection: 3” (76 mm) in undogged position

Vertical Rods: Rods for 7’ (2134 mm) doors - 33-1/4” (845 mm) top rod length

Stile Width: 5-3/8” (137 mm) - Minimum stile width required for single door and 5/8” (16 mm) stop

Notes: Center line prep is 40”. If door prep elevation is lower, a longer top rod will need to be ordered.

Recommended for use on appropriately reinforced doors

TRIM
- 4500 Series escutcheon trim for vertical rod device is surface mounted with variety of lever options (pp. 22-23)
- Pull plate trim (excluding 45PT)
- Vandal resistant
- Rim cylinder x optional pull

FINISHES
- Trim is not available in US32D
- Anti-microbial available with US26D, US32D
4500 SERIES - GRADE 1 SURFACE VERTICAL ROD DEVICE - LESS BOTTOM ROD (LBR)

WARRANTY
Lifetime warranty

FEATURES
Certification: BHMA Certified Grade 1 and meets life safety codes and fire-safety requirements. See charts on page 4 for details and options.

Covers: Stainless steel, zinc

Cover Tube: Aluminum

Dogging:
- Hex key dogging standard on panic-rated devices
- Less dogging available on panic-rated devices, specify LD
- Cylinder dogging is available on panic-rated devices, specify CD (3902 1-1/8” (29 mm) mortise cylinder sold separately)

End Caps:
- Zinc
- Flush end cap option available

Fasteners:
- Wood and machine screws
- Thru-bolts supplied standard

Latchbolt: Top - 1/2” (13 mm) throw, pullman type with automatic dead-latching, stainless steel

 Strikes:
- Stainless steel with stainless steel pin and roller - included standard with panic device
- Solid stainless steel - included standard with fire-rated device
- Surface applied to frame with slotted holes for easy adjustment
- Double door strike for use with surface vertical rod and rim device available

SPECIFICATIONS
Door Thickness:
- 1-3/4” (44 mm) - Standard up to 3”, except with night latch (NL) function escutcheon trim which is 2-1/2”

Door Width:
- 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door
- 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door

Projection:
- 3” (76 mm) in undogged position
- 2-5/8” (67 mm) in dogged position

Vertical Rods:
- Rods for 7’ (2134 mm) doors - 33-1/4” (845 mm) top rod length
- Rods for 8’ (2438 mm) doors - 45-1/4” (1149 mm) top rod length
- Extension rod kits available, 2’ (610 mm) or 3’ (914 mm) for doors over 7’

Stile Width:
- 5-3/8” (137 mm) - Minimum stile width required for single door and 5/8” (16 mm) stop
- 4-7/8” (124 mm) - Minimum stile width required for double doors
- 4-7/8” (124 mm) - Minimum stile width required for double doors x rim device with double door strike
- All stile widths are measured from door edge

Notes:
- Hole plug for head cover included standard
- Recommended for use on appropriately reinforced doors
- A spring loaded fire bolt 2-649-0166 must be used on fire-rated LBR devices used on a pair of doors to ensure the device’s fire rating

TRIM
- 4500 Series escutcheon trim for vertical rod device is surface mounted with a variety of lever options (pp. 22-23)
- Pull plate trim (excluding 45PT)
- Vandal resistant
- Rim cylinder x optional pull

FINISHES
- Trim is not available in US32D
- Anti-Microbial available with US26D, US32D
### 4500 SERIES - GRADE 1 SURFACE VERTICAL ROD/LBR DEVICES - ELECTRIFIED

**WARRANTY**
- One-year on electrified components
- Lifetime on hardware components

**FEATURES**
- Same as 4500 Series SVR Device

**SPECIFICATIONS**

**Door Width:**
- 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door for devices with any monitoring switches
- 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door for devices with any monitoring switches
- 36” field sizeable to 34” door minimum for devices with motorized electric latch retraction or delayed egress
- 36” door minimum for devices with solenoid electric latch retraction, electric dogging or alarm kit
- 48” field sizeable to 42” door minimum for devices with solenoid, electric dogging or alarm kit
- 48” field sizeable to 40” door minimum with motorized electric latch retraction or delayed egress

**FUNCTIONS**
- ED - Electric Dogging
- RX - Request to Exit (field installation kit 2-649-5001)
- RX2 - Dual Request to Exit
- EDRX - Electric Dogging with Request to Exit
- ALK - Alarm Kit (kit 4940, tamper switch 2-649-1090)
- AI - Authorized Ingress
- RXAI - Request to Exit with Authorized Ingress
- LM - Latchbolt Monitor (2-649-0168)
- RXLM - Request to Exit with Latchbolt Monitor
- MLR - Motor Driven Electric Latch Retraction (field installation kit 2-649-5007)
- MLRX - Motor Driven Electric Latch Retraction with Request to Exit
- DE - Delayed Egress (must order wall mount controller 2-679-0630 separately)
- OBDE - Onboard Delayed Egress (Requires 1-1/8” - 1 3/8” length, 3978 Cloverleaf or equivalent tailpiece required)

*Electrical Specifications and Wire Requirements - See 4500 Series Electric Modifications page 20.*
4500 SERIES - GRADE 1 CONCEALED VERTICAL ROD

WARRANTY
Lifetime warranty

FEATURES
Certification: BHMA Certified Grade 1 and meets life safety codes and fire-safety requirements. See charts on page 4 for details and options.

Covers: Stainless steel, zinc

Cover Tube: Aluminum

Dogging:
- Hex key dogging standard on panic-rated devices
- Less dogging available on panic-rated devices, specify LD
- Cylinder dogging is available on panic-rated devices, specify CD (3902 1-1/8” (29 mm) mortise cylinder with standard cam sold separately)

End Caps:
- Zinc
- Flush end cap option available

Fasteners:
- Wood and machine screws
- Thru-bolts supplied standard

Latchbolt:
- Top - 1/2” (13 mm) throw, pullman type with automatic dead-latching, stainless steel
- Bottom - 1/2” (13 mm) throw, pullman type, held retracted during door swing, stainless steel

Strikes:
- Stainless steel with stainless steel pin and rollers - included standard with panic device
- Solid stainless steel - included standard with fire-rated device
- Top strike mortised into frame
- Double door strike for use with CVR and RIM device available

SPECIFICATIONS
Door Thickness: 1-3/4” (44 mm) - Standard

Door Width:
- 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door
- 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door

Projection:
- 3” (76 mm) in undogged position
- 2-5/8” (67 mm) in dogged position

Vertical Rods:
- Rods for 7’ (2134 mm) doors - 34-5/8” (879 mm) top rod length
- Rods for 8’ (2438 mm) and 10’ (3048 mm) doors - 46-5/8” (1184 mm) top rod length
- Extension rod kits available, 2’ (610 mm) or 3’ (914 mm) for doors over 7’

Stile Width:
- 4” (102 mm) minimum stile width required
- All stile widths are measured from door edge

Notes:
- NOT recommended for doors with inset greater than 1/8", for example: double egress frames, or jamb depths over 5-3/4” or greater - for additional information, contact Hager Companies
- Center line prep is 40” (1016 mm) - if door prep elevation is lower, a longer top rod will need to be ordered
- Recommended for use on appropriately reinforced doors

TRIM
- 4500 Series escutcheon trim for vertical rod device is surface mounted with a variety of lever options (pp. 22-23)
- Pull plate trim (excluding 45PT)
- Vandal resistant
- Rim cylinder x optional pull

FINISHES
- Trim is not available in US32D
- Anti-Microbial available with US26D, US32D
4500 SERIES - GRADE 1 CONCEALED VERTICAL ROD - LESS BOTTOM ROD (CLB)

**WARRANTY**
- Lifetime warranty

**FEATURES**
- **Certification:** BHMA Certified Grade 1 and meets life safety codes and fire-safety requirements. See charts on page 4 for details and options.
- **Covers:** Stainless steel, zinc
- **Cover Tube:** Aluminum
- **Dogging:**
  - Hex key dogging standard on panic-rated devices
  - Less dogging available on panic-rated devices, specify LD
  - Cylinder dogging is available on panic-rated devices, specify CD (3902 1-1/8” (29 mm) mortise cylinder with standard cam sold separately)
- **End Caps:**
  - Zinc
  - Flush end cap option available
- **Fasteners:**
  - Wood and machine screws
  - Thru-bolts supplied standard
- **Latchbolt:**
  - Top - 1/2” (13 mm) throw, pullman type with automatic dead-latching, stainless steel
- ** Strikes:**
  - Stainless steel with stainless steel pin and roller - included standard with panic device
  - Solid stainless steel - included standard with fire-rated device
  - Top strike mortised into frame
  - Double door strike for use with CVR and RIM device available

**SPECIFICATIONS**
- **Door Thickness:**
  - 1-3/4” (44 mm) - Standard
- **Door Width:**
  - 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door
  - 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door
- **Projection:**
  - 3” (76 mm) in undogged position
  - 2-5/8” (67 mm) in dogged position
- **Vertical Rods:**
  - Rods for 7’ (2134 mm) doors - 34-5/8” (879 mm) top rod length
  - Rods for 8’ (2438 mm) and 10’ (3048 mm) doors - 46-5/8” (1184 mm) top rod length
  - Extension rod kits available, 2’ (610 mm) or 3’ (914 mm) for doors over 7’
- **Stile Width:**
  - 4” (102 mm) minimum stile width required
  - All stile widths are measured from door edge
- **Notes:**
  - NOT recommended for doors with inset greater than 1/8”, for example: double egress frames, or jamb depths over 5-3/4” or greater
  - A spring loaded fire bolt 2-649-0166 must be used on fire-rated LBR devices used on a pair of doors to ensure the device’s fire rating
  - Center line prep is 40” (1016 mm) - if door prep elevation is lower, a longer top rod will need to be ordered
  - Recommended for use on appropriately reinforced doors

**TRIM**
- 4500 Series escutcheon trim for vertical rod device is surface mounted with a variety of lever options (pp. 22-23)
- Pull plate trim (excluding 45PT)
- Vandal resistant
- Rim cylinder x optional pull

**FINISHES**
- Trim is not available in US32D
- Anti-Microbial available with US26D, US32D
4500 SERIES - GRADE 1 CONCEALED VERTICAL ROD/CLB DEVICES - ELECTRIFIED

WARRANTY
- One-year on electrified components
- Lifetime on hardware components

FEATURES
Same as 4500 Series CVR Device

SPECIFICATIONS
Door Width:
- 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door for devices with any monitoring switches
- 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door for devices with any monitoring switches
- 36” field sizeable to 34” door minimum for devices with motorized electric latch retraction or delayed egress
- 36” door minimum for devices with solenoid electric latch retraction, electric dogging or alarm kit
- 48” field sizeable to 42” door minimum for devices with solenoid electric latch retraction, electric dogging or alarm kit
- 48” field sizeable to 40” door minimum with motorized electric latch retraction or delayed egress

Notes:
- NOT recommended for doors with inset greater than 1/8”, for example: double egress frames, or jamb depths over 5-3/4” or greater
- A spring loaded fire bolt 2-649-0166 must be used on fire-rated LBR devices used on a pair of doors to ensure the device's fire rating

FUNCTIONS
- ED - Electric Dogging
- RX - Request to Exit (field installation kit 2-649-5001)
- RX2 - Dual Request to Exit
- EDRX - Electric Dogging with Request to Exit
- ALK - Alarm Kit (kit 4940, tamper switch 2-649-1090)
- AI - Authorized Ingress
- RXAI - Request to Exit with Authorized Ingress
- LM - Latchbolt Monitor (2-649-0168)
- RXLM - Request to Exit with Latchbolt Monitor
- MLR - Motor Driven Electric Latch Retraction (field installation kit 2-649-5007)
- MLRX - Motor Driven Electric Latch Retraction with Request to Exit
- DE - Delayed Egress (must order wall mount controller 2-679-0630 separately)
- OBDE - Onboard Delayed Egress (Requires 1-1/8” - 1 3/8” length, 3978 Cloverleaf or equivalent tailpiece required)

Electrical Specifications and Wire Requirements - See 4500 Series Electric Modifications page 20.
**4500 SERIES - GRADE 1 MORTISE DEVICE**

**WARRANTY**
- Lifetime warranty

**FEATURES**

- **Certification:** BHMA Certified Grade 1 and meets life safety codes and fire-safety requirements. See charts on page 4 for details and options.

- **Covers:** Stainless steel, zinc

- **Cover Tube:** Aluminum

- **Dogging:**
  - Hex key dogging standard on panic-rated devices
  - Less dogging available on panic-rated devices, specify LD
  - Cylinder dogging is available on panic-rated devices, specify CD
  - (3902 1-1/8" (29 mm) mortise cylinder with standard cam sold separately)

- **End Caps:**
  - Zinc
  - Flush end cap option available

- **Fasteners:**
  - Wood and machine screws
  - Thru-bolts supplied standard

- **Latchbolt:**
  - 3/4" (19 mm) throw with anti-friction tongue, all stainless steel with auxiliary deadlocking latch

- ** Strikes:**
  - 4-7/8" (124 mm) ASA strike-standard

**SPECIFICATIONS**

- **Door Thickness:** 1-3/4" (44 mm) - Standard

- **Door Width:**
  - 36" (914 mm) field sizeable to 30" (762 mm) panic-rated door and 28" (711 mm) fire-rated door
  - 48" (1219 mm) field sizeable to 36" (914 mm) panic- or fire-rated door

- **Projection:**
  - 3" (76 mm) in undogged position
  - 2-5/8" (67 mm) in dogged position

- **Stile Width:**
  - 4-1/2" (114 mm)
  - All stile widths are measured from door edge.

- **Notes:** Recommended for use on appropriately reinforced doors

**TRIM**

- 4500 Series escutcheon trim for mortise device is available with a variety of lever options (p. 25)
  - (3902, 1-5/8" cylinder with standard cam sold separately)
  - Mortise cylinder (1-3/8") with cylinder collar (11/16") x optional pull
  - Mortise trim (45MB, 45MC, 45MD, 45MN) does not match center line of other 4500 Series trim
  - (45BE, 45CE, 45DT, 45NL)

**FINISHES**

- Trim is not available in US32D
- Anti-Microbial available with US26D, US32D
4500 SERIES - GRADE 1 MORTISE DEVICE - ELECTRIFIED

WARRANTY
- One-year on electrified components
- Lifetime on hardware components

FEATURES
- Same as 4500 Series Mortise Device

SPECIFICATIONS
Door Width:
- 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door for devices with any monitoring switches
- 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door for devices with any monitoring switches
- 36” field sizeable to 34” door minimum for devices with motorized electric latch retraction or delayed egress
- 36” door minimum for devices with electric dogging or alarm kit
- 48” field sizeable to 42” door minimum for devices with electric dogging or alarm kit
- 48” field sizeable to 40” door minimum with motorized electric latch retraction or delayed egress

FUNCTIONS
- ED - Electric Dogging
- EU/EL - Electrified Mortise Exit Device - provides means of locking/unlocking outside lever trim control remotely
- RX - Request to Exit
- RX2 - Dual Request to Exit
- EDRX - Electric Dogging with Request to Exit
- ALK - Alarm Kit (kit 4940, Latchbolt Monitor 2-649-0168, Tamper Switch 2-649-1090)
- MLR - Motor Driven Electric Latch Retraction (field installation kit 2-649-5007)
- MLRX - Motor Driven Electric Latch Retraction with Request to Exit
- DE - Delayed Egress (must order wall mount controller 2-679-0630 separately)
- OBDE - Onboard Delayed Egress (Requires 1-1/8” - 1 3/8” length, 3978 Cloverleaf or equivalent tailpiece required)

Electrical Specifications and Wire Requirements - See 4500 Series Electric Modifications page 20.
4500 SERIES - DUMMY PUSH PAD

WARRANTY
- Lifetime warranty

FEATURES
- Application: For use with 4500 and 4600 Series Exit Devices
- Cover Tube: Aluminum
- End Caps: • Zinc
  • Flush end cap option available
- Fasteners: • Wood and machine screws
  • Thru-bolts supplied standard
- Available Electric Functions: • RX - Request to Exit
  • RX2 - Dual Request to Exit

SPECIFICATIONS
- Door Thickness: 1-3/4” (44 mm) - Standard
- Door Width: • 36” (914 mm) field sizeable to 27” (686 mm) door
  • 48” (1219 mm) field sizeable to 36” (914 mm) door
- Projection: 2-5/8” (67 mm)
- Stile Width: • 2-1/8” (54 mm) - minimum stile width
  • All stile widths are measured from door edge

FINISHES
  • Anti-Microbial available with US26D, US32D
4500 SERIES - 4940 ALARM KIT

WARRANTY
- One-year on electrified components
- Lifetime on hardware components

SPECIFICATIONS

Battery:
- Standard 9-Volt battery required
- Audible chirp and alternating LED color flash when battery is low

Alarm:
- 100 decibel horn sounds immediately upon pressing push pad

Cylinder:
- 1-1/8” or 1-1/4” Mortise cylinders acceptable
- Hager standard cam required
- Cylinder sold separately

Activation:
- Alarm is armed by turning key clockwise
- Alarm is disarmed by turning the key counter-clockwise
- Alarm is turned to service mode by turning the key counter-clockwise twice

Alarm Timing:
- Alarm will sound for either 1, 3, 5 minutes or continuously
- Times are selectable by on board switches

Warning Decal:
“Emergency Exit Only – Alarm Will Sound” on push pad of exit device

Indicator:
- LED Indicator
- Red LED will illuminate intermittently when armed
- Green LED will illuminate when unarmed
- Blue LED will illuminate in service mode
- Alternate colors flash when battery is low

Options:
- Tamper switch available that sounds alarm when end cap is removed
- Latch monitor switch is available that sounds alarm when latch is retracted without actuating the push pad
- Latch monitor switch typically used with Surface Vertical Rod devices
- When utilizing the latch monitor, the outside trim unit will also sound alarm

Output:
- Alarm is equipped with output port
## 4500 Series - Electric Modifications

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>#</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Dogging</td>
<td>ED</td>
<td>Provides continuous latch retraction and dogging simultaneously.</td>
</tr>
<tr>
<td>Request to Exit</td>
<td>RX</td>
<td>Used to shunt an alarm, activate an alarm, provide release of magnetic locks, or signal a console.</td>
</tr>
<tr>
<td>Electric Dogging with Request to Exit</td>
<td>EDRX</td>
<td>Provides continuous latch retraction and dogging simultaneously along with an SPDT switch.</td>
</tr>
<tr>
<td>Dual Request to Exit</td>
<td>RX2</td>
<td>Features two SPDT switches</td>
</tr>
<tr>
<td>Latchbolt Monitoring</td>
<td>LM</td>
<td>An internal SPDT switch that monitors the latchbolt to signal both egress and access of an opening.</td>
</tr>
<tr>
<td>Latchbolt Monitoring/Request to Exit</td>
<td>RXLM</td>
<td>Two internal SPDT switches that monitor the latchbolt and the pushbar simultaneously.</td>
</tr>
<tr>
<td>Electric Trim</td>
<td>ET</td>
<td>Provides the means of locking or unlocking outside lever trim controls remotely. Specify Fail Safe (EL) or Fail Secure (EU) and voltage (12V or 24V).</td>
</tr>
<tr>
<td>Authorized Ingress/Key Monitoring</td>
<td>A1</td>
<td>An internal SPDT switch that monitors the operation of the outside trim, available for use with either the 45BE, 45CE or 45NL trim or Night Latch by optional pull. Must be ordered with the device.</td>
</tr>
<tr>
<td>Request to Exit/Authorized Ingress</td>
<td>RXAI</td>
<td>Two internal SPDT switches that monitor the pushbar and the outside trim simultaneously, available for use with either the 45CE or 45NL trim. Must be ordered with the device.</td>
</tr>
<tr>
<td>OnBoard Delayed Egress</td>
<td>OBDE</td>
<td>Delays egress for 15 seconds (30 seconds optional) when unauthorized egress is initiated. Modification can be made to 4501 or 4601 exit devices.</td>
</tr>
<tr>
<td>Delayed Egress</td>
<td>DE</td>
<td>Delays egress for 15 or 30 seconds when unauthorized egress is initiated. Wall mount controller (2-679-0630) provides digital countdown display with verbal instructions or alarm tone only and must be ordered separately.</td>
</tr>
<tr>
<td>Motor Driven Electric Latch Retraction</td>
<td>MLR</td>
<td>Provides the means of locking or unlocking exit devices remotely using an electric motor. Recommend Hager 2903 or 2904 Power Supply.</td>
</tr>
<tr>
<td>Motor Driven Electric Latch Retraction with Request to Exit</td>
<td>MLRX</td>
<td>Provides the means of locking or unlocking exit devices remotely using an electric motor, along with an SPDT switch. Recommend Hager 2903 or 2904 Power Supply.</td>
</tr>
<tr>
<td>Electrified Mortise Exit Device</td>
<td>EU/EL</td>
<td>Provides the means of locking or unlocking outside lever trim controls remotely. Specify Fail Safe (EL) or Fail Secure (EU) and voltage (12V or 24V).</td>
</tr>
</tbody>
</table>

### Electrical Specification/Ratings and Wire Requirements

<table>
<thead>
<tr>
<th>Electrical Specification/Ratings:</th>
<th>ED; .225 AMP @ 24 Volt +/- 2V</th>
</tr>
</thead>
<tbody>
<tr>
<td>RX or LM; 125 VAC (3 AMP current); 30 VDC (2 AMP current)</td>
<td>MLR; 1 AMP in rush @ 24 VDC +/- 2V, 400 mA holding</td>
</tr>
<tr>
<td>MLR; 1 AMP in rush @ 24 VDC +/- 2V, 400 mA holding</td>
<td>OBDE; Single, 540 mA; Tandem 790 mA @ 24 VDC</td>
</tr>
<tr>
<td>DE; Single, 430 mA, Tandem 680 mA @ 24 VDC</td>
<td>Monitoring both positions will require 3 wires per switch</td>
</tr>
<tr>
<td>Wire Requirements:</td>
<td>Status switches (i.e. RX, LM, etc.) require 2 wires per switch to monitor a normally open (NO) or normally closed (NC) position</td>
</tr>
<tr>
<td>All devices provide 3 wires per switch so both NO and NC positions can be monitored</td>
<td></td>
</tr>
</tbody>
</table>

### Quick Connect

Available on AI, ED, LM, MLR, and RX

### Power Supplies

For power supply options see electrified section, pages 41-49.

### Alarmed Devices - Specify When Ordering

(Note: Alarm kit components may be purchased separately)

- **ALK** - Alarm Kit
- **ALM** - ALK with latch monitor switch (recommended for use with SVR devices)
- **ALT** - ALK with tamper switch
- **ALL** - ALK with latch monitor and tamper switch
4500 SERIES ESCUTCHEON TRIM - FOR 4500 RIM & VERTICAL ROD DEVICES

WARRANTY
• One-year on electrified components
• Lifetime on hardware components

SPECIFICATIONS
Escutcheon: 2-7/8" x 10-3/4" (73 mm x 273 mm)

Notes:
• Cannot be used with 4500 Series Mortise exit device
• 45BE, 45CE, 45DT, 45NL trim does not match centerline of 4500 Series Mortise trim (45MB, 45MC, 45MD and 45MN)

LEVERS
Archer, August, Charles, Johnston, Joshua, Louis, Warren, William or Withnell Levers

FINISHES
Anti-Microbial available on US26D

45BE
Blank Escutcheon
ANSI Function: 14 - Always operable (passage)

45CE
Cylinder Escutcheon (Free-wheeling when locked)
ANSI Function: 08 - Key locks or unlocks lever
Cylinder: Requires 3902 mortise cylinder with standard cam (sold separately)

45DT
Dummy Trim
ANSI Function: 02 - Pull when device is dogged down

45NL
Night Latch
ANSI Function: 03 - Key retracts latchbolt
Cylinder: Requires 3901 rim cylinder with long tailpiece (sold separately)

45ET
Electrified Trim (Free-wheeling when locked)
ANSI Function:
• 45ET EL- Electric Trim (Fail Safe)
• 45ET EU- Electric Trim (Fail Secure)
Cylinder: Requires 3902 mortise cylinder, 1-1/4” with standard cam (sold separately)
Voltage: 12V or 24V

Electrical Specifications and Wire Requirements - See 4500 Series Electric Modifications page 20.
4500 SERIES - ESCUTCHEON TRIM - LEVER OPTIONS FOR 4500 RIM & VERTICAL ROD DEVICES

LOUIS LEVER

WARREN LEVER - HANDED

WILLIAM LEVER

WITHNELL LEVER

4 7/8" [124]
2 11/16" [68]
3 3/16" [81]

4 7/8" [124]
2 15/32" [63]
3 13/32" [87]

5 1/32" [128]
3 1/2" [89]

1/2" [13]

4 1/16" [103]
1/2" [12]
2 11/16" [68]
4500 SERIES - ESCUTCHEON TRIM - FOR 4500 MORTISE DEVICE

WARRANTY
- One-year on electrified components
- Lifetime on hardware components

SPECIFICATIONS
Escutcheon: 2-15/16" x 10" (75 mm x 254 mm)
Notes:
- Cannot be used with 4500 Series Rim or Vertical Rod devices
- Mortise trim (45MB, 45MC, 45MD, 45MN) does not match center line of other 4500 Series trim (45BE, 45CE, 45DT, 45NL)

LEVERS
Archer, August, William or Withnell Levers

FINISHES
- Anti-Microbial available with US26D

45MB
Blank Escutcheon - For Use with 4501M Mortise Exit Device
ANSI Function: 14 - Always operable (passage)

45MC
Cylinder Escutcheon - For Use with 4501M Mortise Exit Device
ANSI Function: 08 - Key locks or unlocks lever (free-wheeling when locked)
Cylinder: Requires 3902, 1-5/8" mortise cylinder with standard cam (sold separately)

45MD
Dummy Trim - For Use with 4501M Mortise Exit Device
ANSI Function: 02 - Pull when device is dogged down
Cylinder: Requires 3902, 1-5/8" mortise cylinder with standard cam (sold separately)

45MN
Night Latch - For Use with 4501N Mortise Exit Device
ANSI Function: 03 - Key retracts latchbolt
Cylinder: Requires 3902, 1-5/8" mortise cylinder with standard cam (sold separately)
SPECIFICATIONS (45PD, 45PN, 45PT)

<table>
<thead>
<tr>
<th>Plate:</th>
<th>3” x 14” (76 mm x 356 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projection:</td>
<td>1-3/4” (44 mm)</td>
</tr>
<tr>
<td>Pull CTC:</td>
<td>5-1/2” (140 mm)</td>
</tr>
</tbody>
</table>

**45PD Dummy Trim**
- ANSI Function: 02 - Pull when device is dogged down
- Notes:
  - For use with 4500 RIM, SVR, LBR, CLB devices, not for use with CVR
  - Anti-Microbial available with US26D, US32D

**45PN Night Latch**
- ANSI Function: 03 - Key retracts latchbolt
- Cylinder: Requires 3901 rim cylinder (sold separately)
- Notes:
  - Includes retaining cup for 161 door prep
  - For use with 4500 RIM, SVR, LBR, CLB devices, not for use with CVR
  - Anti-Microbial available with US26D, US32D

**45PT Thumb Piece Pull Plate Trim**
- ANSI Function: 05 - Key locks or unlocks thumbpiece
- Finishes: US32D
- Cylinder: Requires 3902 mortise cylinder with standard cam (sold separately)
- Notes:
  - For use with 4500 Rim exit only, not for use with vertical rod devices

**313S Anti Vandal Pull**
- Certification: Meets ANSI A156.6 for J401 Pull and J407 Pull Plate
- Size: 6-11/32” x 11” (161 mm x 280 mm)
- Projection: 1-7/8” (48 mm)
- Clearance: 1-5/8” (41 mm)
- Door Thickness: 1-3/4” – 2” (45 mm - 51 mm)
- Materials: 11 gauge stainless steel
- Finishes: US32D
- Fasteners: Thru bolts directly to device
- Options:
  - Cylinder cutout available 1-1/4” (32 mm) dia. standard for exit device, specify handing
  - Plastisol grip available
- Cylinder: Cylinder and cylinder collar must be ordered separately
  - Requires 2-649-0137 7/16” cylinder collar with 3901 rim cylinder 1-1/4”- 1-3/8” long
    (see instructions for more detail)
- Notes: Available with latchguard (specify 313L)

**RIM Cylinder by Optional Pull**
- ANSI Function: 03 - Key retracts latchbolt
- Cylinder: Requires 3901 rim cylinder (sold separately). Standard (attached) and long tailpieces in every box.
- Notes:
  - For use with 4500 RIM, SVR, LBR, CLB devices, not for use with CVR
  - For pull options see Trim & Auxiliary section
**4500 SERIES - STRIKES**

4915
**Threshold Strike**
Optional strike for use with surface vertical rod exit device and saddle threshold; not for fire-rated doors

Finishes: US32D

4924
**Bottom Strike**
Included standard with 4500 Series Vertical Rod exit devices; not for fire-rated doors

Finishes: US32D

4920
**Strike**
Included standard with 4500 Series Rim exit devices; not for fire-rated doors

Finishes: US32D

4920F
**Fire-rated Strike**
Included standard with fire-rated 4500 Series Rim exit devices

Finishes: US32D

4921
**Double Door Strike**
Optional strike to be used with 4500 Series Surface Vertical Rod and Rim exit devices; not for fire-rated doors


4924F
**Fire-rated Bottom Strike**
Included standard with fire-rated 4500 Series Vertical Rod exit devices

Finishes: US32D

4923
**Top Strike**
Included standard with 4500 Series Surface Vertical Rod exit devices; not for fire-rated doors

Finishes: US32D

4923F
**Fire-rated Top Strike**
Included standard with fire-rated 4500 Series Surface Vertical Rod exit devices

Finishes: US32D

4925
**Top Strike**
Included standard with 4500 Series Concealed Vertical Rod exit devices; not for fire-rated doors

Finishes: US32D

4945F
**Fire-rated Top Strike**
Included standard with fire-rated 4500 Series Concealed Vertical Rod exit devices

Finishes: US32D

**MORTISE EXIT STRIKE**

Included standard with 4500 Series Mortise exit device; not for fire-rated doors.


**FIRE-RATED MORTISE EXIT STRIKE**

Included standard with fire-rated 4500 Series Mortise exit device.

4926
**Cylinder Dogging Conversion Kit**
For use with panic-rated 4500 Series devices


**Packaging:** One (1) each dogging plate, cylinder collar, cash box nut

**Notes:**
- Mortise cylinder 3902 with standard cam, sold separately
- Specify 36” (914 mm) or 48” (1219 mm)

4927
**Bottom Latch Assembly**
For use with 4500 Series Surface Vertical Rod exit device

**Description:** 1/2” (13 mm) throw, pullman type, held retracted during door swing, stainless steel


**Packaging:** One (1) bottom latch with cover and appropriate fasteners

4928
**Top Latch Assembly**
For use with 4500 Series Surface Vertical Rod exit device

**Description:** 1/2” (13 mm) throw, pullman type, held retracted during door swing, stainless steel


**Packaging:** One (1) top latch with cover and appropriate fasteners

4929
**Top/Bottom Rod Replacement Kit**
For use with 4500 Series Surface Vertical Rod exit device


**Packaging:** One (1) each 45-1/4” (1149 mm) rod, rod guide, rod connector, and appropriate fasteners

4929C
**Concealed Rod Replacement Kit**
For use with 4500 Series Concealed Vertical Rod exit device

**Material:** Hardened aluminum

**Finishes:** US26D

**Packaging:** One (1) each 46-5/8” (1184 mm) rod, rod connector and appropriate fasteners

4930R
**Shim Kit**
For use with 4500 Series Rim exit devices where a glass bead kit would interfere with exit device


**Packaging:** Two (2) each 1/8” (3 mm) shims and appropriate fasteners

4930S
**Shim Kit**
For use with 4500 Series Surface Vertical Rod exit devices where a glass bead kit would interfere with exit device


**Packaging:** Two (2) each 1/8” (3 mm) shims and appropriate fasteners

2-649-0250/2-649-0257
**Photoluminescent**
Push bar cover option for 4500 & 4600 Series exit devices

**Description:** 2-649-0250 - 4500/4600 36”
2-649-0275 - 4500/4600 48”

**Features:**
- Requires no wiring or maintenance
- Recharges with exposure to ambient light
4932C
**Head Cover**
For use with 4500 Series Concealed Vertical Rod or Mortise exit devices


*Packaging:* One (1) head cover and four (4) each M4 x 6mm MS

4932R
**Head Cover**
For use with 4500 Series Rim exit device


*Packaging:* One (1) head cover and four (4) each M4 x 6mm MS

4932S
**Head Cover**
For use with 4500 Series Surface Vertical Rod exit devices


*Packaging:* One (1) head cover and four (4) each M4 x 6mm MS

4936
**24” Extension Rod Kit**
For use with 4500 Series Vertical Rod exit devices


*Packaging:* One (1) each 24” (610 mm) extension rod, rod connector, rod guide, plus wood and machine screws

*Notes:* Extension rods threaded on both ends; if cuts are required, cut the standard rod on non-threaded end

4937
**36” Extension Rod Kit**
For use with 4500 Series Vertical Rod exit devices


*Packaging:* One (1) each 36” (914 mm) extension rod, rod connector, rod guide, plus wood and machine screws

*Notes:* Extension rod threaded on both ends; if cuts are required, cut the standard rod on non-threaded end

END CAPS
For use with all 4500 and 4600 Series exit devices

*Finishes:* Anti-microbial available with US26D, US32D.

- **Standard**
  - US3: (2-649-0038) (2-649-0218)
  - US4: (2-649-0039) (2-649-0220)
  - US10: (2-649-0040) (2-649-0214)
  - US10B: (2-649-0041) (2-649-0215)
  - US26: (2-649-0042) (2-649-0216)
  - US26D: (2-649-0043) (2-649-0217)
  - US32D: (2-649-0044) (2-649-0219)
  - BLK: (2-649-5013) (2-649-5012)

*Packaging:* One (1) each cap and bracket plus fasteners

2-649-0166
**Fire Bolt Kit**
For use with fire-rated 4500 Series Vertical Rod less bottom rod device

*Faceplate:* 1-25/32” x 1” (45 mm x 25 mm)

*Bolt Diameter:* 7/16” (11 mm)

*Bolt Length:* 1-1/2” (38 mm)

*Materials:* Stainless steel

*Packaging:* One (1) each fire bolt, plastic plug, head cover plug, and appropriate fasteners

*Notes:* Required with a fire-rated pair of LBR or LLB devices to ensure rating
The Hager 4600 Series is designed and engineered to provide a lifetime of superior performance on narrow stile doors (2-inch minimum) in heavy duty commercial applications. The 4600 Series design complements aluminum and glass construction and provides excellent durability for a range of applications. Properly applied and maintained Hager 4600 Series Exit Devices and Trim are backed by a lifetime warranty, providing peace of mind from distributor to building owner. Go to www.hagerco.com for specific warranty conditions.

Hager 4600 Series Exit Devices are BHMA certified Grade 1 and meet Life Safety codes and Fire Safety requirements.

Extruded aluminum construction, stainless steel push bar covers, die cast caps and covers, and dead locking stainless steel Pullman type latchbolts provide premium security and performance at value pricing.
4600 SERIES - COMPLIANCE AND CERTIFICATIONS

4600 SERIES DEVICES

BHMA Certified ANSI/BHMA A156.3-2014 Grade 1

UL305 Listed for Panic Hardware

UL10C Positive Pressure Rated

UL10B Neutral Pressure Rated

Complies with ANSI A117.1 for Accessible Buildings and Facilities

4600 SERIES FIRE-RATED DEVICES

UL/cUL Listed for "A" Label Door Up to and Including 3 hours on 4’ x 8’ doors

Rim with Fire-rated Removable Mullion 4900UF UL/cUL Listed and Warnock Hersey Listed for “A” Label Door Up to and Including 3 hours on 8’ x 8’ doors
Installation Made Easy
For the convenience of our customers, Hager Companies introduced several key features to the exit device market.

- Thru-bolts are included with every model. Wood and machine screws are also provided standard in every package.
- Slotted strikes speed up installation, allowing the installer to make easy adjustments to align the latch to the strike.
- Non-handed device offers added versatility and means less inventory.
- Escutcheon trim is surface mounted with the locking mechanism built inside, reducing door preparation and installation time by requiring fewer holes in the door.

Shim Kits
Shim kits are available for devices on doors with glass bead kits or other interfacing moldings. Each kit contains two 1/8" (3.2 mm) shims and the appropriate longer fasteners.

Dogging
Cylinder dogging or less dogging are available to replace the standard hex key dogging on panic exit devices. For less dogging, specify LD on order. For cylinder dogging, specify CD on order or purchase 4926 for retrofit applications. Unit requires 1-1/8" (29 mm) mortise cylinder (part number 3902) with standard cam.

Sizing
The exit device is cut for 36" (914 mm) and 48" (1219 mm) wide doors. For other door widths, cut exit device to appropriate length. Recommended overall length of exit device is equal to the door width minus four inches.

<table>
<thead>
<tr>
<th>Trim Functions</th>
<th>Part Number</th>
<th>Function Description</th>
<th>ANSI Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank Escutcheon</td>
<td>46BE</td>
<td>Always operable (Passage)</td>
<td>14</td>
</tr>
<tr>
<td>Cylinder Escutcheon</td>
<td>46CE</td>
<td>Key locks or unlocks lever</td>
<td>08</td>
</tr>
<tr>
<td>Dummy</td>
<td>46DT</td>
<td>Pull when device is dogged down</td>
<td>02</td>
</tr>
<tr>
<td>Night Latch</td>
<td>46NL</td>
<td>Key retracts latchbolt</td>
<td>03</td>
</tr>
<tr>
<td>Night Lever</td>
<td>46NK</td>
<td>Key releases lever; trim locked when key removed</td>
<td>09</td>
</tr>
</tbody>
</table>

Applications

Single Door Panic Exit Hardware - Blade Stop Strike (4950) and Frame

Single or Double Door with Panic Exit Hardware - Standard Strike (4920) and Frame

Single or Double Door with Panic Exit Hardware - Standard Strike (4920) and Mullion

Single or Double Door with Panic Exit Hardware - Semi-Flush Mount Strike (4952) and Mullion
4600 SERIES - DEVICE PROFILE

<table>
<thead>
<tr>
<th>4600 SERIES</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>4600 PANIC -36”</td>
<td>18 5/32” (461mm)</td>
<td>34 3/8”(873mm)</td>
</tr>
<tr>
<td>4600 FIRE -36”</td>
<td>24”(609mm)</td>
<td>45 13/64”(1148mm)</td>
</tr>
</tbody>
</table>

3” (76 mm) in undogged position
2 5/8” (67 mm) in dogged position
4600 SERIES TRIM

**46**

**CE**

Trim/Function

- **BE** - Blank Escutcheon
  Function 14, always operable
- **CE** - Cylinder Escutcheon
  Function 08, key locks/unlocks lever
- **DT** - Dummy Trim
  Function 02, pull when dogged down
- **NL** - Night Latch (Not available for 3” door)
  Function 03, key retracts latchbolt (for use with 4600 Rim Device only)
- **NK** - Night Lever, Function 09, key releases lever, lever locked when key is removed

Product Group

46 - 4600 Series, Grade 1

**ARC**

Lever Style

- **ARC** - Archer
- **AUG** - August
- **WLM** - William
- **WTN** - Withnell

**US3**

Finish

- US3
- US4
- US10
- US10B
- US26
- US26D
- US32D
- BLK

Door Thickness

- 1-5/8”
- 1-3/4”
- 2”
- 2-1/2”
- 3”

Notes:
1. Mortise cylinder 3902 with 3976 L cam is required for use with cylinder escutcheon trim and is sold separately.
2. Rim cylinder 3901 with long tailpiece is required for use with night latch trim and is sold separately.
3. For more cylinder information, please refer to Cylinder, Core & Keying in the Locks section of the catalog.
4. If using shim kit, specify total door thickness including shims.

* Extended lead time on flat black finish.

**TW**

Options

- **TW** - Tactile Warning
- **A** - Antimicrobial Coating (US26D only)

4600 SERIES EXIT DEVICE

**4601**

**RIM**

Product Group

4600 Series, Grade 1

Size

- 36”
- 48”

Finish

- US3
- US4
- US10
- US10B
- US26
- US26D
- US32D
- BLK

Door Thickness

- 1-3/4”

Electric Modifications

- **ALK** - Alarm Kit
- **ALL** - Alarm Kit w/ Tamper Switch and Latch Monitor
- **ALM** - Alarm Kit w/ Latch Monitor
- **ALT** - Alarm Kit w/ Tamper Switch
- **ED** - Electric Dogging
- **EDRX** - Electric Dogging w/ Request to Exit
- **ELR** - Electric Latch Retraction
- **ELRX** - Electric Latch Retraction w/ Request to Exit
- **LM** - Latchbolt Monitor
- **RX** - Request to Exit
- **RX2** - Dual Request to Exit
- **RXL** - Request to Exit w/ Latchbolt Monitor
- **MLR** - Motor Driven Electric Latch Retraction
- **MLRX** - Motor Driven Electric Latch Retraction w/ Request to Exit

Notes:
1. Mortise cylinder 3902 with 3976 L cam is required for use with cylinder escutcheon trim and is sold separately.
2. Rim cylinder 3901 with long tailpiece is required for use with night latch trim and is sold separately.
3. For more cylinder information, please refer to Cylinder, Core & Keying in the Locks section of the catalog.
4. If using shim kit, specify total door thickness including shims.

* Extended lead time on flat black finish.
**4600 SERIES - GRADE 1 NARROW STILE RIM DEVICE**

**WARRANTY**
- Lifetime warranty

**FEATURES**

Certification:
- BHMA Certified Grade 1 and meets life safety codes and fire-safety requirements.
- See page 32 for details and options.

Covers:
- Stainless steel, zinc

Cover Tube:
- Aluminum

Dogging:
- Hex key dogging standard on panic-rated devices
- Less dogging available on panic-rated devices, specify LD
- Cylinder dogging available on panic-rated devices, specify CD
- 3902 1-1/8” (29 mm) mortise cylinder with standard cam sold separately

End Caps:
- Zinc
- Flush end cap option available

Fasteners:
- Wood and machine screws
- Thru-bolts supplied standard

Latchbolt:
- 3/4” (19 mm) throw, pullman type with automatic dead-latching, stainless steel

Strikes:
- Blade stop (4950) - Standard with panic device
- Fire-rated strike (4920F) - Standard with fire-rated device
- Standard strike (4920) - Optional
- Single rabbit strike (4951) - Optional
- Semi-flush mount strike (4952) - Optional

**SPECIFICATIONS**

Door Thickness:
- 1-3/4” (44 mm) - Standard up to 3”, except with night latch (NL) which is 2-1/2”

Door Width:
- 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door
- 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door

Projection:
- 3” (76 mm) in undogged position
- 2-5/8” (67 mm) in dogged position

Stile Width:
- 2-1/8” (54 mm) - Minimum stile width required for 1/2” (13 mm) blade stop frame and 4950 blade stop strike
- 3-1/4” (83 mm) - Minimum stile width required for single door, 5/8” (16 mm) stop and 4920 standard strike
- 3-3/4” (95 mm) - Minimum stile width required for double door x mullion x 4920 strike
- 2-3/4” (70 mm) - Minimum stile width required for double doors with 2” (51 mm) mullion and 4952 semi-flush mount strike
- All stile widths are measured from door edge

Notes:
- Recommended for use on appropriately reinforced doors

**TRIM**

- 4600 Series escutcheon trim for rim device is surface mounted with a variety of lever options (p. 41)
- Rim cylinder x optional pull

**FINISHES**

- Trim not available in US32D
- Anti-Microbial available with US26D, US32D
4600 SERIES - GRADE 1 NARROW STILE RIM DEVICE - ELECTRIFIED

WARRANTY
- One-year on electrified components
- Lifetime on hardware components

FEATURES
Same as 4600 Series Narrow Stile Rim Device

SPECIFICATIONS
Door Width:
- 36” (914 mm) field sizeable to 30” (762 mm) panic-rated door and 28” (711 mm) fire-rated door for devices with any monitoring switches
- 48” (1219 mm) field sizeable to 36” (914 mm) panic- or fire-rated door for devices with any monitoring switches
- 36” field sizeable to 34” door minimum for devices with motorized electric latch retraction or delayed egress
- 36” door minimum for devices with solenoid electric latch retraction, electric dogging, or alarm kit
- 48” field sizeable to 42” door minimum for devices with solenoid electric latch retraction, electric dogging or alarm kit
- 48” field sizeable to 40” door minimum with motorized electric latch retraction or delayed egress

FUNCTIONS
- ED - Electric Dogging
- RX - Request to Exit (field installation kit 2-649-5001)
- RX2 - Dual Request to Exit
- EDRX - Electric Dogging with Request to Exit
- ALK - Alarm Kit (kit 4941, tamper switch 2-649-1090)
- LM - Latchbolt Monitor (2-649-0168)
- RXLM - Request to Exit with Latchbolt Monitor
- MLR - Motor Driven Electric Latch Retraction (field installation kit 2-649-5007)
- MLRX - Motor Driven Electric Latch Retraction with Request to Exit
- DE - Delayed Egress (must order with wall mount controller 2-679-0630 separately)

Electrical Specifications and Wire Requirements - See 4600 Series Electric Modifications page 39.
## 4600 SERIES - 4941 ALARM KIT

### WARRANTY
- One-year on electrified components
- Lifetime on hardware components

### SPECIFICATIONS

| Battery: | • Standard 9-Volt battery required  
|          | • Audible chirp and alternating LED color flash when battery is low |
| Alarm:   | 100 decibel horn sounds immediately upon pressing push pad |
| Cylinder:| • 1-1/8” or 1-1/4” Mortise cylinders acceptable  
|          | • Hager standard cam required  
|          | • Cylinder sold separately |
| Activation: | • Alarm is armed by turning key clockwise  
|           | • Alarm is disarmed by turning the key counter-clockwise  
|           | • Alarm is turned to service mode by turning the key counter-clockwise twice |
| Alarm Timing: | • Alarm will sound for either 1, 3, 5 minutes or continuously  
|              | • Times are selectable by on board switches |
| Warning Decal: | “Emergency Exit Only – Alarm Will Sound” on push pad of exit device |
| Indicator: | • LED Indicator  
|           | • Red LED will illuminate intermittently when armed  
|           | • Green LED will illuminate when unarmed  
|           | • Blue LED will illuminate in service mode  
|           | • Alternate colors flash when battery is low |
| Options: | • Tamper Switch available that sounds alarm when end cap is removed  
|          | • Latch monitor switch is available that sounds alarm when latch is retracted without actuating the push pad  
|          | • Latch Monitor Switch typically used with Surface Vertical Rod devices  
|          | • When utilizing the latch monitor, the outside trim unit will also sound alarm |
| Output: | Alarm is equipped with output port |
### ELECTRICAL SPECIFICATION/RATINGS AND WIRE REQUIREMENTS

**Electrical Specifications/Ratings:**
- ED; .225 AMP @ 24 Volt +/- 2V
- RX or LM; 125 VAC (3 AMP current); 30 VDC (2 AMP current)
- MLR; 1 AMP in rush @ 24 VDC +/- 2V, 400 mA holding

**Wire Requirements:**
- Status switches (i.e. RX, LM, etc.) require 2 wires per switch to monitor a normally open (NO) or normally closed (NC) position
- All devices provide 3 wires per switch so both NO and NC positions can be monitored
- Monitoring both positions will require 3 wires per switch

### QUICK CONNECT
Available on ED, LM, MLR, and RX

### POWER SUPPLIES

<table>
<thead>
<tr>
<th>PRODUCT #</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2903</td>
<td>Provides 24 Volt DC power for Fail Safe or Fail Secure locking devices and interface with building alarm controls, card readers, keypads, and other door controls</td>
</tr>
<tr>
<td>2904</td>
<td>Provides 24 Volt DC power and control for openings with an electrified locking device and automatic door operator</td>
</tr>
<tr>
<td>2908</td>
<td>Provides up to 1 amp of 12 or 24 Volt DC power - modular</td>
</tr>
<tr>
<td>2909</td>
<td>Provides up to 2 amps of 12 or 24 Volt DC power - modular</td>
</tr>
</tbody>
</table>

### ALARMED DEVICES - SPECIFY WHEN ORDERING:
(Note: Alarm kit components may be purchased separately)

- **ALK** - Alarm Kit
- **ALM** - ALK with Latch Monitor Switch
- **ALT** - ALK with Tamper Switch
- **ALL** - ALK with Latch Monitor and Tamper Switch
4600 SERIES - ESCUTCHEON TRIM

WARRANTY
Lifetime on hardware components

SPECIFICATIONS
Escutcheon: 1-11/16" x 7-7/8" (43 mm x 200 mm)

LEVERS
Archer, August, William or Withnell Levers

FINISHES
• Anti-Microbial available with US26D

46BE
Blank Escutcheon
ANSI Function: 14 - Always operable (passage)

46CE
Cylinder Escutcheon
ANSI Function: 08 - Key locks or unlocks lever
Cylinder: Requires 3902 mortise cylinder with 3976 L cam (sold separately)

46DT
Dummy Trim
ANSI Function: 02 - Pull when device is dogged down

46NK
Night Lever
ANSI Function: 09 - Key locks or unlocks lever. Lever is locked when key is removed.
Cylinder: Requires 3902 mortise cylinder, with 3976 L cam (sold separately)

46NL
Night Latch
ANSI Function: 03 - Key retracts latchbolt
Cylinder: Requires 3901 rim cylinder with long tailpiece (sold separately)
Notes: Maximum door thickness compatibility is 2-1/2” (38 mm)

RIM Cylinder by Optional Pull
ANSI Function: 03 - Key retracts latchbolt
Cylinder: Requires 3901 rim cylinder (sold separately). Standard (attached) and long tailpieces in every box.
Notes: • For use with 4600 RIM
       • For pull options see Trim & Auxiliary section
4600 SERIES - ESCUTCHEON TRIM - LEVER OPTIONS

ARCHE LVER

AUGUST LEVER

WILLIAM LEVER

WITHNELL LEVER
**4600 SERIES - STRIKES**

**4920 Strike**
Optional strike to be used with 4600 Series Rim exit device; not for fire-rated doors

- Finishes: US32D
- Notes: For standard surface mounted applications

**4920F Fire-rated Strike**
Included standard with 4600 Series Fire-rated Rim exit device

- Finishes: US32D
- Notes: For standard surface mounted applications

**4950 Blade Stop Strike**
Included standard with 4600 Series Rim exit device; not for fire-rated doors

- Finishes: US32D

**4951 Single Rabbit Strike**
Optional strike to be used with 4600 Series Rim exit device; not for fire-rated doors

- Finishes: US32D

**4952 Semi-Flush Mount Strike**
Optional strike to be used with 4600 Series Rim exit device; not for fire-rated doors

- Finishes: US32D

**2-649-0250/2-649-0257 Photoluminescent**
Push bar cover option for 4500 & 4600 Series exit devices

- Description: 2-649-0250 - 4500/4600 36”
  2-649-0275 - 4500/4600 48”
- Features: Requires no wiring or maintenance
  Recharges with exposure to ambient light

**4600 SERIES - ACCESSORIES**

**4925R Cylinder Dogging Conversion Kit**

- Packaging: One (1) each dogging plate, cylinder collar, cash box nut
- Notes:
  - Mortise cylinder 3902 with standard cam, sold separately
  - Specify 36” (914 mm) or 48” (1219 mm)

**4960R Shim Kit**
To be used with 4600 Series Rim exit device where a glass bead kit would interfere with exit device

- Packaging: Two (2) each 1/8” (3 mm) shims and appropriate fasteners

**4965 Head Cover**
For use with 4600 Series Rim exit device

- Packaging: One (1) head cover and four (4) each M4 x 6mm MS

**END CAPS**
For use with all 4500 and 4600 Series exit devices

- Packaging: One (1) each cap and bracket plus fasteners
- Finishes: Anti-Microbial available with US26D and US32D

<table>
<thead>
<tr>
<th>Standard</th>
<th>Flush</th>
</tr>
</thead>
<tbody>
<tr>
<td>US3</td>
<td>(2-649-0038) (2-649-0218)</td>
</tr>
<tr>
<td>US4</td>
<td>(2-649-0039) (2-649-0220)</td>
</tr>
<tr>
<td>US10</td>
<td>(2-649-0040) (2-649-0214)</td>
</tr>
<tr>
<td>US10B</td>
<td>(2-649-0041) (2-649-0215)</td>
</tr>
<tr>
<td>US26</td>
<td>(2-649-0042) (2-649-0216)</td>
</tr>
<tr>
<td>US26D</td>
<td>(2-649-0043) (2-649-0217)</td>
</tr>
<tr>
<td>US32D</td>
<td>(2-649-0044) (2-649-0219)</td>
</tr>
<tr>
<td>BLK</td>
<td>(2-649-5013) (2-659-5012)</td>
</tr>
</tbody>
</table>
The Hager 4700 Series is designed and engineered to provide superior performance on standard stile doors in a range of light commercial and standard duty applications. Properly applied and maintained Hager 4700 Series Exit Devices and Trim are backed by a five-year warranty. Go to www.hagerco.com for specific warranty conditions.

Hager 4700 Series Exit Devices meet Life Safety codes and Fire Safety requirements. The 4700 Series Rim device meets the requirements for a Severe Windstorm Resistant Component.

Made with superior materials and with dead locking stainless steel Pullman type latchbolts, the 4700 Series Exit Devices provide necessary security and performance at economy pricing.
4700 SERIES - COMPLIANCE AND CERTIFICATIONS

4700 SERIES

- ANSI/BHMA A156.3-2014 Grade 1
  - YES
- UL305 Listed for Panic Hardware
  - YES
- UL10C Positive Pressure Rated
  - YES
- UL10B Neutral Pressure Rated
  - YES
- Complies with ANSI A117.1 for Accessible Buildings and Facilities
  - YES
- ANSI A 250.13 Severe Windstorm Resistant Component
  - YES

<table>
<thead>
<tr>
<th>RIM</th>
<th>SVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>YES</td>
<td>---</td>
</tr>
</tbody>
</table>

4700 SERIES FIRE-RATED DEVICES

- UL/cUL Listed for "A" Label Door Up to and Including...
  - RIM F
  - 3 HR 4'X8'
  - ---
- UL/cUL Listed for "B" Label Door Up to and Including...
  - RIM F
  - --- 90 MIN 4'X8'
- Rim with Fire-rated Removable Mullion 4900UF
  - UL/cUL Listed and Warnock Hersey Listed for "A" Label Door Up to and Including...
  - RIM F
  - 3 HR 8'X8'
  - ---
- VR X VR SAME DIRECTION*
  - UL/cUL Listed for "A" Label Door Up to and Including...
  - RIM F
  - --- 90 MIN 8'X8'
- VR X VR Double Egress
  - UL/cUL Listed for "A" Label Door Up to and Including...
  - RIM F
  - --- 90 MIN 8'X8'

*Currently, no door manufacturer offers a listing over 90 minutes with doors swinging same direction. Consult wood door manufacturers for current UL listings.
Installation Made Easy
For the convenience of our customers, Hager Companies introduced several key features to the exit device market.
- Thru-bolts are included with every model. Wood and machine screws are also provided standard in every package.
- Slotted strikes speed up installation, allowing the installer to make easy adjustments to align the latch to the strike.
- Escutcheon trim is surface mounted with the locking mechanism built inside, reducing door preparation and installation time by requiring fewer holes in the door.

Shim Kits
Shim kits are available for devices on doors with glass bead kits or other interfacing moldings. Each kit contains two 1/8” (3.2 mm) shims and the appropriate longer fasteners.

Sizing
The exit device is cut for 36” (914 mm) and 48” (1219 mm) wide doors. For other door widths, cut exit device to appropriate length. Recommended overall length of exit device is equal to the door width minus four inches. The surface vertical rod devices are supplied for an 84” (2134 mm) opening standard, but can be ordered for a 96” (2438 mm) opening. Extension rods are available to accommodate openings taller than 96” (2438 mm) up to 120” (3048 mm).

### Trim Functions

<table>
<thead>
<tr>
<th>Trim Functions</th>
<th>Part Number</th>
<th>Function Description</th>
<th>ANSI Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passage</td>
<td>47BE*</td>
<td>Always operable (*specify hand when ordering)</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>47BT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>47KP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom</td>
<td>47CE*</td>
<td>Key locks or unlocks lever (*specify hand when ordering)</td>
<td>08</td>
</tr>
<tr>
<td></td>
<td>47KE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy</td>
<td>47DT*</td>
<td>Pull when device is dogged down (*specify hand when ordering)</td>
<td>02</td>
</tr>
<tr>
<td></td>
<td>47KD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>47PD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>47RD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Night Latch</td>
<td>47NL*</td>
<td>Key retracts latchbolt (*specify hand when ordering)</td>
<td>03</td>
</tr>
<tr>
<td></td>
<td>47KN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>47PN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>47RN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cylinder Thumbpiece</td>
<td>47PT</td>
<td>Key locks or unlocks thumbpiece</td>
<td>05</td>
</tr>
</tbody>
</table>
2 7/16" (62 mm) in undogged position
1 3/16" (30 mm) in dogged position

<table>
<thead>
<tr>
<th>4700 SERIES</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>4700 PANIC - 36&quot;</td>
<td>19 45/64 (500mm)</td>
<td>32 51/64 (833mm)</td>
</tr>
<tr>
<td>4700 FIRE - 36&quot;</td>
<td>24 29/64 (621mm)</td>
<td>44 51/64 (1137mm)</td>
</tr>
<tr>
<td>4700 PANIC - 48&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4700 FIRE - 48&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 4700 SERIES EXIT DEVICE

<table>
<thead>
<tr>
<th>4701</th>
<th>RIM</th>
<th>F</th>
<th>36”</th>
<th>US3</th>
<th>2”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RIM - Rim Device</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SVR - Surface Vertical Rod</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ratings</th>
<th>Finish</th>
<th>Door Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>F - Fire Rated</td>
<td>US3</td>
<td>1-5/8”</td>
</tr>
<tr>
<td>O - Non-Fire Rated</td>
<td>US32D</td>
<td>1-3/4”</td>
</tr>
<tr>
<td></td>
<td>ALM</td>
<td>2”</td>
</tr>
<tr>
<td></td>
<td>DBZ</td>
<td>2-1/4”</td>
</tr>
</tbody>
</table>

**Notes:**
1. Handing is required for the 4700 Series trim.
2. Cylinders sold separately.
3. For more cylinder information, please refer to Cylinder, Core & Keying in the Locks section of the catalog.
4. Maximum door thickness compatibility for key-in-lever (Entrance, Night Latch, and Passage) trim is 1-3/4” (44 mm)

### 4700 SERIES TRIM

<table>
<thead>
<tr>
<th>47</th>
<th>CE</th>
<th>RH</th>
<th>ARC</th>
<th>US3</th>
<th>2”</th>
<th>TW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CE - Cylinder Escutcheon</td>
<td>RH - Right Handed / LHR</td>
<td>ARC - Archer</td>
<td>US3</td>
<td></td>
<td>TW</td>
</tr>
<tr>
<td></td>
<td>BE - Blank Escutcheon</td>
<td></td>
<td>AUG - August</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NL - Night Latch</td>
<td></td>
<td>WTN - Withnell</td>
<td>US3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DT - Dummy Trim</td>
<td></td>
<td>APL - Apollo knob</td>
<td>US32D</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KD - Key in Lever - Dummy Trim</td>
<td></td>
<td></td>
<td>ALM</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KE - Key in Lever - Entrance</td>
<td></td>
<td></td>
<td>DBZ</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KN - Key in Lever - Night Latch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KP - Key in Lever - Passage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PD - Pull Plate Dummy Trim</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PN - Pull Plate Night Latch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RD - Raised Lip Pull - Dummy Trim</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RN - Raised Lip Pull - Night Latch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BT - Thumbpiece Pull Plate, Passage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PT - Thumbpiece Pull Plate, Entrance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Options:**
- TW - Tactile Warning
- A - Antimicrobial Coating

**Notes:**
1. Handing is required for the 4700 Series trim.
2. Cylinders sold separately.
3. For more cylinder information, please refer to Cylinder, Core & Keying in the Locks section of the catalog.
4. Maximum door thickness compatibility for key-in-lever (Entrance, Night Latch, and Passage) trim is 1-3/4” (44 mm)
4700 SERIES - STANDARD DUTY RIM DEVICE

**FEATURES**
- Certification: Meets life safety codes and fire-safety requirements. See charts on page 44 for details and options.
- Covers: Cast brass, bronze, stainless steel, zinc
- Cover Tube: Painted steel, plated steel, stainless steel
- Dogging: Hex dogging feature standard on non-fire labeled doors
- End Caps: Painted steel, plated steel, stainless steel
- Fasteners: • Wood and machine screws
  • Thru-bolts supplied standard
- Latchbolt: 3/4” (19 mm) throw, pullman type with automatic dead-latching, stainless steel
- Strikes: • Stainless steel with stainless steel pin and roller - included standard with panic and fire-rated devices
  • Surface applied to frame with slotted holes for easy adjustment
  • Optional double door strike for use with surface vertical rod and rim devices

**SPECIFICATIONS**
- Door Thickness: 1-3/4” (44 mm) - Standard
- Door Width: • 36” (914 mm) field sizeable to 30” (762 mm) door
  • 48” (1219 mm) field sizeable to 36” (914 mm) door
- Projection: • 2-7/16” (62 mm) in undogged position
  • 1-3/16” (30 mm) in dogged position
- Stile Width: • 4-1/2” (114 mm) - minimum stile width required for single door and 5/8” (16 mm) stop
  • 4-1/2” (114 mm) - minimum stile width required for double door x surface vertical rod device with double door strike
  • 5” (127 mm) - minimum stile width required for double doors with 2” (51 mm) mullion
  • All stile widths are measured from door edge

**Notes:**
- Cylinders sold separately
- Escutcheon and thumbpiece pull plate trim is handed
- Apollo knob is not ADA compliant
- Recommended for use on appropriately reinforced doors

**TRIM**
- 4700 Series escutcheon trim for rim device is available with a variety of lever options (p. 51)
- 4700 Series key-in-trim is available with a variety of lever options plus a knob option (p. 53)
- Pull plate trim
- Raised lip pull
- Rim cylinder x optional pull

**FINISHES**
- US3, US32D, ALM, DBZ
### Warranty

Five-year warranty

### Features

- **Certification:** Meets life safety codes and fire-safety requirements. See charts on page 44 for details and options.
- **Covers:** Cast brass, bronze, stainless steel, zinc
- **Cover Tube:** Painted steel, plated steel, stainless steel
- **Dogging:** Hex dogging feature standard on non-fire labeled doors
- **End Caps:** Painted steel, plated steel, stainless steel
- **Fasteners:**
  - Wood and machine screws
  - Thru-bolts supplied standard
- **Latchbolt:**
  - Top - 3/8” (9 mm) throw with automatic dead-latching, stainless steel
  - Bottom - 3/8” (9 mm) throw held retracted during door swing, stainless steel
- **Strikes:**
  - Stainless steel with stainless steel pin and roller - included standard with panic and fire-rated devices
  - Surface applied to frame with slotted holes for easy adjustment
  - Optional double door strike for use with surface vertical rod and rim devices
  - Optional threshold strike for use with saddle threshold

### Specifications

- **Door Thickness:** 1-3/4” (44 mm) - Standard
- **Door Width:**
  - 36” (914 mm) field sizeable to 30” (762 mm) door
  - 48” (1219 mm) field sizeable to 36” (914 mm) door
- **Projection:**
  - 2-7/16” (62 mm) in undogged position
  - 1-3/16” (30 mm) in dogged position
- **Vertical Rods:**
  - Rods for 7’ (2134 mm) doors - 35-1/4” (895 mm) top rod length
  - Rods for 8’ (2438 mm) doors - 47-1/4” (1200 mm) top rod length
  - Extension rod kits available, 2’ (610 mm) or 3’ (914 mm) for doors over 7’
- **Stile Width:**
  - 4-1/2” (114 mm) - minimum stile width required for single door and 5/8” (16 mm) stop
  - 4” (102 mm) - minimum stile width required for double doors
  - 4-1/2” (114 mm) - minimum stile width required for double door x Rim device with double door strike
  - All stile widths are measured from door edge
- **Notes:**
  - Escutcheon and thumbpiece pull plate trim is handed
  - Apollo knob is not ADA compliant
  - Recommended for use on appropriately reinforced doors

### Trim

- 4700 Series escutcheon trim for vertical rod device is available with a variety of lever options (p. 51)
- 4700 Series key-in-trim is available with a variety of lever options plus a knob option (p. 53)
- Pull plate trim
- Raised lip pull
- Rim cylinder x optional pull

### Finishes

US3, US32D, ALM, DBZ
# 4700 SERIES - ESCUTCHEON TRIM

## Warranty

Five-year warranty

## Specifications

<table>
<thead>
<tr>
<th>Escutcheon:</th>
<th>1-11/16” x 7-7/8” (43 mm x 200 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handing:</td>
<td>Specify when ordering</td>
</tr>
<tr>
<td>Door Thickness:</td>
<td>For doors thicker than 1-3/4” or when used with a shim kit, must specify total door thickness</td>
</tr>
</tbody>
</table>

### LEVERS

- Archer, August or Withnell Levers

### Finishes

- ALM, DBZ, US3, US32D

### 47BE

**Blank Escutcheon**  
ANSI Function: 14 - Always operable (Passage)

### 47CE

**Cylinder Escutcheon**  
ANSI Function: 08 - Key locks or unlocks lever  
Cylinder: Requires 3902 mortise cylinder with standard cam (sold separately)

### 47DT

**Dummy Trim**  
ANSI Function: 02 - Pull when device is dogged down

### 47NL

**Night Latch**  
ANSI Function: 03 - Key retracts latchbolt  
Cylinder: Requires 3902 mortise cylinder with standard cam (sold separately)
4700 SERIES - ESCUTCHEON TRIM - LEVER OPTIONS

ARCHER LEVER

AUGUST LEVER

WITHNEILL LEVER
4700 SERIES - KEY-IN-LEVER TRIM

WARRANTY  | Five-year warranty

SPECIFICATIONS

Rose Diameter:  | 3-3/8” (86 mm)

Notes:  | Apollo knob is not ADA compliant. Best used where accessibility is not an issue.

LEVERS/KNOB  | Archer, August or Withnell Levers; Apollo Knob (47KE, 47KN, US32D only)

FINISHES  | ALM, DBZ, US3, US32D

47KD  
Key-in-Lever Dummy Trim
ANSI Function:  | 02 - Entrance by trim when actuating bar is locked down

47KE  
Key-in-Lever Entrance
ANSI Function:  | 08 - Entrance by lever; key locks or unlocks lever
Cylinder:  | • Standard core, C keyway - Standard
          | • Small Format Interchangeable Core available. 3981 core sold separately.

Keys:  | Two (2) brass keys per lock

47KN  
Key-in-Lever Night Latch
ANSI Function:  | 03 - Entrance by trim when latchbolt is released by key; key is removable when locked
Cylinder:  | • Standard core, C keyway - Standard
          | • Small Format Interchangeable Core available. 3981 core sold separately.

Keys:  | Two (2) brass keys per lock

47KP  
Key-in-Lever Passage
ANSI Function:  | 14 - Entrance by trim when latchbolt is released by lever; always active, no cylinder

WARRANTY  | Five-year warranty

SPECIFICATIONS

Rose Diameter:  | 3-3/8” (86 mm)

Notes:  | Apollo knob is not ADA compliant. Best used where accessibility is not an issue.

LEVERS/KNOB  | Archer, August or Withnell Levers; Apollo Knob (47KE, 47KN, US32D only)

FINISHES  | ALM, DBZ, US3, US32D

47KD  
Key-in-Lever Dummy Trim
ANSI Function:  | 02 - Entrance by trim when actuating bar is locked down

47KE  
Key-in-Lever Entrance
ANSI Function:  | 08 - Entrance by lever; key locks or unlocks lever
Cylinder:  | • Standard core, C keyway - Standard
          | • Small Format Interchangeable Core available. 3981 core sold separately.

Keys:  | Two (2) brass keys per lock

47KN  
Key-in-Lever Night Latch
ANSI Function:  | 03 - Entrance by trim when latchbolt is released by key; key is removable when locked
Cylinder:  | • Standard core, C keyway - Standard
          | • Small Format Interchangeable Core available. 3981 core sold separately.

Keys:  | Two (2) brass keys per lock

47KP  
Key-in-Lever Passage
ANSI Function:  | 14 - Entrance by trim when latchbolt is released by lever; always active, no cylinder

WARRANTY  | Five-year warranty

SPECIFICATIONS

Rose Diameter:  | 3-3/8” (86 mm)

Notes:  | Apollo knob is not ADA compliant. Best used where accessibility is not an issue.

LEVERS/KNOB  | Archer, August or Withnell Levers; Apollo Knob (47KE, 47KN, US32D only)

FINISHES  | ALM, DBZ, US3, US32D

47KD  
Key-in-Lever Dummy Trim
ANSI Function:  | 02 - Entrance by trim when actuating bar is locked down

47KE  
Key-in-Lever Entrance
ANSI Function:  | 08 - Entrance by lever; key locks or unlocks lever
Cylinder:  | • Standard core, C keyway - Standard
          | • Small Format Interchangeable Core available. 3981 core sold separately.

Keys:  | Two (2) brass keys per lock

47KN  
Key-in-Lever Night Latch
ANSI Function:  | 03 - Entrance by trim when latchbolt is released by key; key is removable when locked
Cylinder:  | • Standard core, C keyway - Standard
          | • Small Format Interchangeable Core available. 3981 core sold separately.

Keys:  | Two (2) brass keys per lock

47KP  
Key-in-Lever Passage
ANSI Function:  | 14 - Entrance by trim when latchbolt is released by lever; always active, no cylinder

WARRANTY  | Five-year warranty

SPECIFICATIONS

Rose Diameter:  | 3-3/8” (86 mm)

Notes:  | Apollo knob is not ADA compliant. Best used where accessibility is not an issue.

LEVERS/KNOB  | Archer, August or Withnell Levers; Apollo Knob (47KE, 47KN, US32D only)

FINISHES  | ALM, DBZ, US3, US32D

47KD  
Key-in-Lever Dummy Trim
ANSI Function:  | 02 - Entrance by trim when actuating bar is locked down

47KE  
Key-in-Lever Entrance
ANSI Function:  | 08 - Entrance by lever; key locks or unlocks lever
Cylinder:  | • Standard core, C keyway - Standard
          | • Small Format Interchangeable Core available. 3981 core sold separately.

Keys:  | Two (2) brass keys per lock

47KN  
Key-in-Lever Night Latch
ANSI Function:  | 03 - Entrance by trim when latchbolt is released by key; key is removable when locked
Cylinder:  | • Standard core, C keyway - Standard
          | • Small Format Interchangeable Core available. 3981 core sold separately.

Keys:  | Two (2) brass keys per lock

47KP  
Key-in-Lever Passage
ANSI Function:  | 14 - Entrance by trim when latchbolt is released by lever; always active, no cylinder
4700 SERIES - KEY-IN-LEVER TRIM - LEVER AND KNOB OPTIONS

ARCHER LEVER

AUGUST LEVER

WITHNELL LEVER

APOLLO KNOB

WEIGHT: 2.13

Material <not specified>

HAGER RESERVES THE RIGHT TO MAKE DESIGN CHANGES WITHOUT NOTICE. CALL HAGER ENGINEERING AT 1-800-325-9995 FOR THE LATEST REVISION DATE OF TEMPLATE.

PRIMARY DIMENSIONS SHOWN IN INCHES, DIMENSIONS IN [ ] ARE MILLIMETERS.
**4700 SERIES - PULL PLATE TRIM**

**SPECIFICATIONS**

| Escutcheon: | • 47BT and 47PT - 3” x 14-5/8” (76 mm x 371 mm)  
|            | • 47PD and 47PN - 3” x 11” (76 mm x 279 mm)  |
| Projection: | 1-3/4” (44 mm)  |
| Pull CTC:   | 5-1/2” (140 mm)  |

**FINISHES**

| • 47PD and 47PN - ALM, DBZ, US3, US32D  
| • 47BT and 47PT - US32D  |

---

**47PD**

**Dummy Trim**

ANSI Function: 02 - Pull when device is dogged down

---

**47PN**

**Night Latch**

ANSI Function: 03 - Key retracts latchbolt  
Cylinder: Requires 3901 rim cylinder (sold separately)  
Notes: Supplied with retaining cup for use with 161 door prep

---

**47BT**

**Passage**

ANSI Function: 15 - Entrance by trim when latch is released by thumbpiece. Thumbpiece is always active.  
Handing: Specify when ordering

---

**47PT**

**Entrance**

ANSI Function: 05 - Entrance by thumbpiece. Key locks or unlocks thumbpiece.  
Cylinder: Requires 3902 mortise cylinder 1-1/8” to 1-3/8” with standard cam (sold separately)  
Handing: Specify when ordering
### 4700 SERIES - RAISED LIP TRIM

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Size:</th>
<th>3” x 7-3/4” (76 mm x 197 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projection:</td>
<td>1” (25 mm)</td>
</tr>
</tbody>
</table>

**FINISHES**

| ALM, DBZ, US3, US32D |

### 4700 SERIES - STRIKES

**4910 Strike**

- Included standard with 4700 Series Rim exit device
- Finishes: US32D
- Notes: For use with panic- or fire-rated doors

**4911 Double Door Strike**

- Optional strike for use with 4700 Series Surface Vertical Rod and Rim exit device
- Finishes: US32D
- Notes: Not for fire-rated doors

**4913 Top Strike**

- Included standard with 4700 Series Surface Vertical Rod exit device
- Finishes: US32D
- Notes: For use with panic- or fire-rated doors

**4914 Bottom Strike**

- Included standard with 4700 Series Surface Vertical Rod exit device
- Finishes: US32D
- Notes: For use with panic- or fire-rated doors

**4915 Threshold Strike**

- Optional strike for use with surface vertical rod exit device and saddle threshold
- Finishes: US32D
- Notes: Not for fire-rated doors
4917
Bottom Latch Assembly
For use with 4700 Series Rim exit device; not for fire-rated doors
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) bottom latch with cover and appropriate fasteners

4917F
Bottom Latch Assembly
For use with 4700 Series Rim exit device; for fire-rated doors
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) bottom latch with cover and appropriate fasteners

4918
Top Latch Assembly
For use with 4700 Series Surface Vertical Rod exit device
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) top latch with cover and appropriate fasteners

4919
Top or Bottom Rod Replacement Kit
For use with 4700 Series Surface Vertical Rod exit device
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) each
47-1/4” (1200 mm) rod, rod guide, rod connector assembly, and appropriate fasteners

4931R
Shim Kit
To be used with 4700 Series Rim exit devices where a glass bead kit or molding would interfere with exit device
Finishes: US3, ALM, DBZ, US32D
Packaging: Two (2) each 1/8” (3 mm) shims and appropriate fasteners

4931S
Shim Kits
To be used with 4700 Series Surface Vertical Rod exit devices where a glass bead kit or molding would interfere with exit device
Finishes: US3, ALM, DBZ, US32D
Packaging: Two (2) each 1/8” (3 mm) shims and appropriate fasteners

4933R
Head Cover
For use with 4700 Series Rim exit device
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) head cover with four (4) each
M4 x 6 mm MS

4933S
Head Cover
For use with 4700 Series Surface Vertical Rod exit device
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) head cover with four (4) each
M4 x 6 mm MS
4934
Panic-Rated Dogging Plate
For use with 4700 Series exit devices
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) each dogging plate and hex key
Notes: Not for use on fire-rated device

END CAP
For use with all 4700 Series exit devices
Packaging: One (1) each cap and bracket plus fasteners
Finishes:
ALM (2-649-0144)
DBZ (2-649-0145)
US3 (2-649-0146)
US32D (2-649-0147)

4934F
Fire-Rated Dogging Plate
For use with 4700 Series exit devices
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) each dogging plate

4936
24” Extension Rod Kit
For use with 4700 Series Surface Vertical Rod exit device
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) each 24” (610 mm) extension rod, rod connector, rod guide, plus wood and machine screws
Notes: Threaded on both ends; if cuts are required, cut the standard top rod on non-threaded end.

4937
36” Extension Rod Kit
For use with 4700 Series Surface Vertical Rod exit device
Finishes: US3, ALM, DBZ, US32D
Packaging: One (1) each 36” (914 mm) extension rod, rod connector, rod guide, plus wood and machine screws
Notes: Threaded on both ends; if cuts are required, cut the standard top rod on non-threaded end.
Hager 4900 Series offers both a keyed removable mullion and a non-keyed removable mullion. Both are designed for use on double door openings with 4500, 4600 and 4700 Series Rim devices providing increased security and tighter closure, while providing easy adaptation for full width access. Our 4900 Series Mullions sets include a mullion tube, top and bottom brackets, and fasteners. Fire-rated mullions are UL listed for 3 hours on fire-rated pairs of doors up to 8 feet by 8 feet.
4900 SERIES MULLION SETS

**Product Group**
4900 Series, Mullions

**Type**
- T - Keyed Removable Mullion
- U - Non-Keyed Removable Mullion

**Fire Rating**
- F - Fire Rated
- 0 - Non-Fire Rated

**Size**
- 84”
- 96”
- 10’ (120”)

**Finish**
- USP

**Notes:**
1. Keyed removable mullion requires 3901 rim cylinder (sold separately).
2. Fire rated strike and hook kits sold separately (4912 for use with 4500 Series fire-rated exit device and mullion or 4916 for use with 4700 Series fire-rated exit device and mullion).
3. Stabilizer kit 4953 (sold separately).
**4900 SERIES - KEYED REMOVABLE MULLION**

**WARRANTY**

One-year warranty

**SPECIFICATIONS**

Certification: UL/cUL/Warnock Hersey listed for fire-rated doors up to 8’ (2438 mm) x 8’ (2438 mm)

Cylinders:
- Solid brass 6-pin rim cylinders (3901, sold separately)
- Standard core, C keyway - Standard
- Small Format Interchangeable Core available (sold separately)

Mullion:

2” x 3” (51 mm x 76 mm) – 11 gauge steel tube

Fasteners:
- Four (4) 8 - 32 x 3/4” (19 mm) FPHMS
- Four (4) 5/16” - 18 x 5/8” (16 mm) FPHMS
- Two (2) 5/16” - 18 x 1-1/2” (38 mm) FPHMS
- Two (2) 3/8” wedge anchors

Shims:
- 1/2” (13 mm) and 5/8” (16 mm) spacers included (top)
- 1/8” (4 mm) shims included (bottom)

Strikes:
- Panic-rated Mullions use standard Rim strike supplied with exit device
- Fire-rated strike and hook kit 4912 (4500 or 4600 Series) or 4916 (4700 Series) must be purchased separately

Top Fitting:
- Dead latch on fire-rated device
- Latching head allows the mullion to be removed in seconds
- Mullion can be locked in place without the use of a key

**FINISHES**

USP - grey primer only

---

**4900T Mullion Set**

Certification: Panic-rated

Opening Height: 84” (2134 mm), 96” (2438 mm), 120” (3048 mm)

Material: 11 gauge steel tube

---

**4900TF Fire-Rated Mullion Set**

Certification: UL fire-rated

Opening Height: 84” (2134 mm), 96” (2438 mm)

Material: 11 gauge steel tube
4900 SERIES - NON-KEYED REMOVABLE MULLION

WARRANTY
One-year warranty

SPECIFICATIONS
Certification: UL/cUL Listed for fire-rated pairs of doors up to 8’ (2438 mm) X 8’ (2438 mm)

Mullion:
- 2” x 3” (51 mm x 76 mm) – 11 gauge steel tube
- Mullion easily removed by loosening top and bottom screws

Fasteners:
- Four (4) each 5/16” - 18 x 5/8” FHPMS (top bracket)
- Two (2) each 5/16” - 18 x 1-1/2” FHPMS (top bracket)
- Four (4) each 5/16” - 18 x 1-1/2” FHMS (bottom bracket)*
- Four (4) each 5/16” - 18 masonry anchors (5/8” diameter x 7/8” long) (bottom bracket)**
- Two (2) each 1/4” - 20 x 1-1/4” FHPMS (top fitting)
- Two (2) each 1/4” - 20 thru bolts (top fitting)
- Two (2) #10 - 24 x 3/8” FHPMS (top fitting)
- One (1) 1/4 - 20 x 3/16” set screw (top fitting)
- Fire-rated device - 5/16” - 18 x 1-1/4” FHMS,
  5/16” - 18 masonry anchors (1/2” diameter x 1-1/2” long)

Shims:
- Two (2) each 1/2” (13 mm) and 5/8” (16 mm) spacers included (top)
- Two (2) 1/16” (1.6 mm) shims included (bottom)

 Strikes:
- Panic-rated Mullions use standard Rim strike supplied with exit device
- Fire-rated strike and hook kit 4912 (4500 or 4600 Series) or 4916 (4700 Series) must be purchased separately

FINISHES
USP - grey primer only

4900U
Non-Keyed Removable Mullion Set
Certification: Panic-rated
Opening Height: 84” (2134 mm), 96” (2438 mm), 120” (3048 mm)
Material: 11 gauge steel tube

4900UF
Fire-Rated Non-Keyed Removable Mullion Set
Certification: UL fire-rated*
Opening Height: 84” (2134 mm), 96” (2438 mm)
Material: 11 gauge stainless steel tube
4912
Fire-Rated Strike and Hook Kit for 4500 and 4600 Series
Finishes: US32D
Notes: Must order for use with fire-rated mullion and fire-rated Rim devices to ensure fire rating

4916
Fire-Rated Strike and Hook Kit for 4700 Series
Finishes: US32D
Notes: • Must order for use with fire-rated mullion and fire-rated Rim devices to ensure fire rating

4953
Mullion Stabilizer Kit
Finishes: US32D
Notes: For use with mullion and exit devices for added security

4900T - CYLINDER

3901
Rim Cylinder
Conventional cylinder and Small Format Interchangeable Core sold separately. For more cylinder information, please refer to Cylinder, Core & Keying in the Lock section of this catalog.

4902
Top/Bottom Bracket Set
Certification: Non-fire-rated
Function: Keyed removable
Materials: Steel
Fasteners: Two (2) each MS #5/16 -18 x 1-1/2” FHP stainless; four (4) each MS #8-32 x 3/4” 100 degree FHP; four (4) each MS #5/16-18 x 5/8” FHP stainless zinc plated
Cylinder: Rim cylinder, 3901, sold separately

4902F
Fire-Rated Top/Bottom Bracket Set
Certification: Fire-rated
Function: Keyed removable
Materials: Steel
Fasteners: Two (2) each MS #5/16 - 18 x 1-1/2” FHP stainless; four (4) each MS #10 x 1” Type A FHP undercut stainless; four (4) each MS 10 - 24 x 5/8” FHP undercut stainless; four (4) each MS #5/16 - 18 x 5/8” FHP stainless zinc plated
Cylinder: Rim cylinder, 3901, sold separately

4907
Mullion Tube
Certification: Fire-rated up to 96” (2438 mm)
Function: Keyed removable
Opening Height: 84” (2134 mm), 96” (2438 mm), 120” (3048 mm)
Finishes: USP grey primer
Materials: Steel
**4904**

*Top/Bottom Bracket Set*
- Certification: Non-fire-rated
- Function: Non-keyed removable
- Materials: Steel

**4904F**

*Fire-Rated Top/Bottom Bracket Set*
- Certification: Fire-rated
- Function: Non-keyed removable
- Materials: Steel

**4905**

*Mullion Tube*
- Certification: Fire-rated up to 96” (2438 mm)
- Function: Non-keyed removable
- Opening Height: 84” (2134 mm), 96” (2438 mm), 120” (3048 mm)
- Finishes: USP grey primer
- Materials: Steel
Hager Companies offers a wide range of Grade 1 and Grade 2 products to meet almost any application and specification requirements. Hager locks are manufactured to the highest quality standards and extensively tested to ANSI standards and BHMA certification requirements. In addition, all leversets comply with ADA requirements outlined in ANSI A117.1.

Table of Contents

2300 Series Tubular ........................................................... 3
2500 Series Cylindrical ....................................................... 9
3100 Series Deadlock ........................................................ 17
3200 Series Deadlock ....................................................... 21
3400 Series Cylindrical ..................................................... 25
3500 Series Cylindrical ..................................................... 35
3600 Series Tubular .......................................................... 43
3700 Series Interconnected .............................................. 49
3800 Series Mortise .......................................................... 55
Cylinder, Core & Keying .................................................... 73
Hager 2300 Series tubular lockset provides the necessary security and dependability for applications where there is a need for interior functions requiring a residential look and feel. It is well suited for light duty residential interior applications such as multi-family housing. It is offered in many of the popular designs that are seen throughout the industry today.
2300 SERIES - HOW TO ORDER

2310 2\(^{3}/4\)"

Function
- Passage
- Single Dummy
- Double Dummy
- Privacy

Backset/Faceplate
- 2-3/4” (70 mm)
- 2-3/8” (60 mm)

US15

Finish
- US3
- US15
- US10B
- US26
- US26D

US26D

Interior Finish
- (if different)

CHA

Lever Style
- Charles Lever
- Johnston Lever
- Joshua Lever
- Louis Lever
- Warren Lever

ASA

Strike
- ASA
- TEE
- FLRC and FULL (Default)

Product Group
- Tubular, DECO

* Handing required for Johnston and Warren levers when specifying single dummy function.

Note:
Finishes other than US10B, US15, and US26D are subject to longer lead times.

2300 SERIES FUNCTION CHART

<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Keyed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passage</td>
<td>10</td>
<td>Latchbolt operated by lever from either side at all times.</td>
<td>-</td>
</tr>
<tr>
<td>Dummy - Single</td>
<td>17</td>
<td>Pull one side, no mechanical operation.</td>
<td>-</td>
</tr>
<tr>
<td>Dummy - Double</td>
<td>27</td>
<td>Pull both sides, no mechanical operation (back to back).</td>
<td>-</td>
</tr>
<tr>
<td>Privacy</td>
<td>40</td>
<td>Latchbolt operated by lever from either side. Outside lever is locked by push button and unlocked by emergency release outside or operating inside lever.</td>
<td>-</td>
</tr>
</tbody>
</table>
2300 SERIES - LEVER OPTIONS

CHARLES LEVER

JOHNSTON LEVER

JOSHUA LEVER

LOUIS LEVER

WARREN LEVER
2300 SERIES - DECO TUBULAR - LIGHT DUTY RESIDENTIAL - MULTI FAMILY

WARRANTY
Five-year warranty

FEATURES
• ADA Compliant
• No exposed mounting screws

Lever Options:
Charles, Johnston, Joshua, Louis, and Warren

Options:
Split finish available

SPECIFICATIONS
Exposed Trim:
• Levers: Solid cast zinc (4.69” / 119 mm length)
• Rose: Stainless steel (2.5” / 63.5 mm diameter)

Door Thickness:
1-3/8” - 1-3/4” (35 mm - 45 mm)

Rose Diameter:
2-1/2” (63.5 mm)

Backset:
• 2-3/4” (70 mm) - Standard
• 2-3/8” (60 mm) - Optional

Latchbolt:
• 7/16” (11 mm) throw
• 1” x 2-1/4” (25 mm x 57 mm) faceplate
• Square and round corner faceplates come standard

Strike:
Square and round corner full lip strikes come standard

Door Handing:
Non-handed (except for Johnston and Warren, 17 Functions)

Functions:
10 Passage, 17 Dummy, 27 Back to Back Dummy, 40 Privacy

FINISHES
2-639-7607
2-3/4” Backset Passage Spring Latch
- Square and round corner standard
- 1” x 2-1/4” (25 mm x 57 mm) faceplate
- For use with passage function

2-639-7608
2-3/4” Backset Privacy Spring Latch
- Square and round corner standard
- 1” x 2-1/4” (25 mm x 57 mm) faceplate
- For use with privacy function

2-639-7609
2-3/8” Backset Passage Spring Latch
- Square and round corner standard
- 1” x 2-1/4” (25 mm x 57 mm) faceplate
- For use with passage function

2-639-7610
2-3/8” Backset Privacy Spring Latch
- Square and round corner standard
- 1” x 2-1/4” (25 mm x 57 mm) faceplate
- For use with privacy function

3933
T-Strike with Plastic Dust Box
- 1-1/8” x 2-3/4” (29 mm x 70 mm)
- Dust box included

3935
Standard ASA Strike Plate
- 1-1/4” x 4-7/8” (32 mm x 124 mm)
- 1-5/16” lip
- Other lengths available upon request

3959
Faceplate Adapter
Converts 1” (25 mm) to 1-1/8” (28 mm) width
Hager 2500 Series Grade 2 lock is a perfect combination of value and performance and is the ideal choice of lock for typical commercial applications. The inherent value of this lock and the product offering make our 2500 Series lock a perfect choice for a stocking program. As an economical alternative to other Grade 2 cylindrical locks, it offers both dependability and affordability.
## 2500 Series - How to Order

<table>
<thead>
<tr>
<th>2553</th>
<th>2-3/4”</th>
<th>US3</th>
<th>US26D</th>
<th>ARC</th>
<th>SCC</th>
<th>KD</th>
<th>ASA</th>
<th>TW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Group</strong></td>
<td>Cylindrical, Grade 2</td>
<td><strong>Function</strong></td>
<td>10 - Passage</td>
<td>17 - Single Dummy</td>
<td>25 - Exit</td>
<td>27 - Double Dummy</td>
<td>40 - Privacy</td>
<td>50 - Entry/Office</td>
</tr>
<tr>
<td><strong>Backset/Faceplate</strong></td>
<td>2-3/4” (70 mm), SC (Standard)</td>
<td><strong>Interior Finish</strong></td>
<td>US3</td>
<td>US10B</td>
<td>US26D</td>
<td><strong>Conventional Keyway</strong></td>
<td>SCC - Schlage C</td>
<td>AR1 - Arrow</td>
</tr>
<tr>
<td><strong>Finish</strong></td>
<td>US3</td>
<td><strong>Lever Style</strong></td>
<td>ARC - Archer Lever</td>
<td>WTN - Withnell Lever</td>
<td><strong>Strike</strong></td>
<td>ASA (Standard)</td>
<td>Full Lip</td>
<td>RC Full Lip</td>
</tr>
<tr>
<td><strong>Options</strong></td>
<td>TW - Tactile Warning</td>
<td>LL - Leadlined</td>
<td>6PKEY - 6-pin Keyed</td>
<td>7PKEY - 7-pin Keyed (Hager)</td>
<td>SFIC* - Small Format Interchangeable Core Prep</td>
<td><strong>Keying</strong></td>
<td>KA - Keyed Alike</td>
<td>KD - Keyed Different</td>
</tr>
</tbody>
</table>

**Notes:**
1. If masterkeyed, include completed master key form with order (available on page 88 or www.hagerco.com).
2. For additional keying information, please refer to cylinder, core, and keying section of catalog (page 73).

* Small format interchangeable core sold separately. Available in Best Keyways (A Standard), or Hager Keyways (optional).

**Ordering example:** 2553 2-3/4” US26D WTN NC ASA SFIC
## 2500 SERIES - FUNCTION CHART

<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-Keyed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passage</td>
<td>10</td>
<td>Latchbolt operated by lever from either side at all times.</td>
<td>F75</td>
</tr>
<tr>
<td>Dummy - Single</td>
<td>17</td>
<td>Pull one side, no mechanical operation.</td>
<td>-</td>
</tr>
<tr>
<td>Exit</td>
<td>25</td>
<td>Blank plate outside (13/16” [31 mm] projection). Inside lever is always unlocked.</td>
<td>F111</td>
</tr>
<tr>
<td>Dummy - Double</td>
<td>27</td>
<td>Pull both sides. No mechanical operation (back to back).</td>
<td>-</td>
</tr>
<tr>
<td>Privacy</td>
<td>40</td>
<td>Latchbolt operated by lever from either side. Outside lever is locked by push button inside and unlocked by emergency release outside, operating inside lever or closing door.</td>
<td>F76A</td>
</tr>
<tr>
<td><strong>Keyed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry/Office</td>
<td>50</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked by push button on inside lever or operating inside lever unlocks push button or other locking device and retracts latchbolt. Closing door does not release push button.</td>
<td>F82A</td>
</tr>
<tr>
<td>Entry</td>
<td>53</td>
<td>Deadlocking latchbolt by lever either side, except when turn button inside locks outside lever. Pushing turn button in locks outside lever, requiring use of key outside to unlock. Turning inside lever unlocks outside lever. Pushing in and turning button locks outside lever, requiring key at all times. Turning inside lever does not unlock outside lever until button is manually turned to unlocked position. Inside lever always free.</td>
<td>F109</td>
</tr>
<tr>
<td>Classroom</td>
<td>70</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked from outside by key. When outside lever is locked, latchbolt is operated by inside lever.</td>
<td>F84</td>
</tr>
<tr>
<td>Storeroom</td>
<td>80</td>
<td>Deadlocking latchbolt operated by key in outside lever, or by operating inside lever. Outside lever is always locked. Inside lever is always unlocked.</td>
<td>F86</td>
</tr>
</tbody>
</table>
Optional tactile warning available on all lever styles (only outside lever will include raised surfaces unless otherwise specified).
2500 SERIES - GRADE 2 CYLINDRICAL - STANDARD DUTY COMMERCIAL

**WARRANTY**
- Five year warranty

**FEATURES**
- No exposed mounting screws
- Non-handed
- Conventional cylinder and small format interchangeable core option available

**Applications:**
- Standard duty commercial
- Standard door prep - 2-1/8” (54 mm) diameter (bore)
- Latch hole - 1” (25.4 mm) diameter (cross bore)

**Certifications:**
- Meets BHMA ANSI A156.2, Series 4000, Grade 2
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for all functions up to 3 hours “A” label single doors
- UL 10C Positive Pressure Related
- UL 10B Neutral Pressure Rated

**Lever Options:**
- Archer, Withnell levers

**Options:**
- Lead lined
- Tactile warning

**SPECIFICATIONS**

**Exposed Trim:**
- Wrought brass, bronze, and stainless steel
- Lever is zinc based, plated to match BHMA symbols

**Rose Diameter:**
3-11/32” (85 mm)

**Lock Chassis:**
- Heavy gauge steel, zinc dichromated for corrosion resistance
- “Non-clutching” exterior lever on keyed functions
- Removable thru-bolts
- Failure to install thru-bolts and removable screw posts voids BHMA certification, UL rating, and warranty

**Keys:**
- Two operating keys supplied per lock

**Cylinders/Cores:**
- Brass, keyed different, Schlage C keyway standard
- Cylinder drilled 6-pin, keyed 5-pin
- Other keying options, including keyed 6-pin, available from the factory (see cylinders, cores and keying sections).
- Zero bit cylinders will be 6 pin keyed – standard
- Small Format Interchangeable Core option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately

**Door Thickness:**
1-3/8” - 2” (35 mm - 51 mm)

**Backset:**
- 2-3/4” (70 mm) - Standard
- 2-3/8” (60 mm) - Optional

**Latchbolt:**
- 1/2” (13 mm) throw, stainless steel
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate for 2-3/4” (70 mm) backset
- 1” x 2-1/4” (25 mm x 57 mm) faceplate for 2-3/8” (60 mm) backset
- Deadlocking latchbolt prevents manipulation when door is closed; keyed functions and 25 function only

**Strike:**
- 3935 ASA 1-1/4” x 4-7/8” (32 mm x 124 mm) strike standard
- Optional strikes available

**Functions:**
- 10 Passage, 17 Dummy, 25 Exit Only, 27 Back to Back Dummy, 40 Privacy, 50 Entry/Office, 53 Entry, 70 Classroom, 80 Storeroom

**Notes:**
- Blank plate projection is 13/16” (21 mm) for function 25

**FINISHES**
Spring Latches

3947
2-3/4” (70 mm) Backset Passage Spring Latch
• Square and round corner available
• 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

3949
2-3/8” (60 mm) Backset Passage Spring Latch
• Square and round corner available
• 1” x 2-1/4” (25 mm x 57 mm) faceplate

3965
2-3/4” (70 mm) Backset Privacy Spring Latch
• Square and round corner available
• 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

3967
2-3/8” (60 mm) Backset Privacy Spring Latch
• Square and round corner available
• 1” x 2-1/4” (25 mm x 57 mm) faceplate

Dead Latches

3948
2-3/4” (70 mm) Backset Dead Latch
• Square and round corner available
• 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

3950
2-3/8” (60 mm) Backset Dead Latch
• Square and round corner available
• 1” x 2-1/4” (25 mm x 57 mm) faceplate

Optional Drive-In Spring Latches

3922
2-3/4” (70 mm) Backset Passage Spring Latch

3925
2-3/8” (60 mm) Backset Passage Spring Latch

3923
2-3/4” (70 mm) Backset Privacy Spring Latch

3926
2-3/8” (60 mm) Backset Privacy Spring Latch

Optional Drive-In Dead Latches

3924
2-3/4” (70 mm) Backset Dead Latch

3927
2-3/8” (60 mm) Backset Dead Latch

Backset Extension Links

3917
3-3/4” (95 mm) Backset Extension Link
For use with 2-3/8” (60 mm) backset latch to achieve 3-3/4” total backset

3937
5” (127 mm) Backset Extension Link
For use with 2-3/4” (70 mm) backset latch to achieve 5” total backset
3933  
T-Strike with Plastic Dust Box  
1-1/8” x 2-3/4” (29 mm x 70 mm)

3934  
Full Lip Strike  
1-5/8” x 2-1/4” (41 mm x 57 mm)

3935  
ASA Strike Plate - Standard  
• 1-1/4” x 4-7/8” (32 mm x 124 mm)  
• 1-5/16” lip  
• Other lengths available upon request

3958  
Full Lip Strike with Round Corner  
• 1-5/8” x 2-1/4” (41 mm x 57 mm)  
• 1/4” (6 mm) radius

3959  
Faceplate Adapter  
Converts 1” (25 mm) to 1-1/8” (28 mm) width
Hager 3100 Series Grade 1 deadlock is designed and engineered to withstand the most abusive environments. It is the perfect complement to Hager 3400 Series lockset for extra protection against break-in and is backed by a lifetime warranty.
# 3100 SERIES - HOW TO ORDER

## 3100 SERIES FUNCTION CHART

<table>
<thead>
<tr>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Double Cylinder</td>
<td>E2141</td>
</tr>
<tr>
<td>15</td>
<td>Cylinder x Thumbturn</td>
<td>E2151</td>
</tr>
<tr>
<td>18</td>
<td>Classroom</td>
<td>E2171</td>
</tr>
</tbody>
</table>

## 3100 SERIES LOCKS HOW TO ORDER

### Product Group
- **31** - Deadlock, Grade 1

### Function
- **14** - Double Cylinder
- **15** - Single Cylinder
- **18** - Classroom

### Finish
- **US3**
- **US4**
- **US10**
- **US10B**
- **US26**
- **US26D**

### Backset/Faceplate
- 2-3/4" (70 mm), SC (Standard)
- 2-3/4" (70 mm), RC
- 2-3/8" (60 mm), SC
- 2-3/8" (60 mm), RC

### Strike
- ASA Deadbolt
  - No Lip (Standard)

### Keying
- **KA** - Keyed Alike
- **KD** - Keyed Different
- **MK** - Master Key
- **CMK** - Construction Master Key
- **SK** - Customer Specified Keying
- **0BC** - "0" Bitted Cylinder
- **1BC** - "1" Bitted Cylinder

### Conventional Keyway
- **SCC** - Schlage C
- **AR1** - Arrow
- **C60** - Corbin 60
- **C67** - Corbin 67
- **C77** - Corbin 77
- **CL4** - Corbin L4
- **SCE** - Schlage E
- **SCF** - Schlage F
- **H1** - Hager 1
- **H2** - Hager 2
- **H3** - Hager 3
- **KW1** - Kwikset
- **RD1** - Russwin D1
- **SGT** - Sargent LA
- **YAP** - Yale E1R (Para)
- **YGA** - Yale GA
- **WE** - Weiser E
- **NC** - No Cylinder
  - (SFIC Housing Only)

### Options
- **6PKEY**
  - 6-pin Keyed
- **7PKEY**
  - 7-pin Keyed (Hager)
- **SFIC**
  - Small Format Interchangeable Core Housing (NC)

### Notes:
1. If masterkeyed, include completed master key form with order (available on page 88 or www.hagerco.com).
2. For additional keying information, please refer to cylinder, core, and keying section of catalog (page 73).

* Small format interchangeable core sold separately. Available in Best Keyways (A Standard), or Hager Keyways (optional).

**Ordering example:** 3114 2-3/4" US26D NC SFIC
**3100 SERIES - GRADE 1 DEADLOCK - AUXILIARY**

**WARRANTY**
- Lifetime warranty

**FEATURES**
- Non-handed
- Conventional cylinder or Small Format Interchangeable Core option available

**Certifications:**
- BHMA Certified ANSI A156.5 Grade 1
- ANSI A250.13 Severe Windstorm Resistant Component
- UL/cUL Listed for all functions up to 3 hours for "A" label single doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated
- ADA - Thumbturn

**Options:**
- Split finish
- Additional deadbolts and strikes available

**SPECIFICATIONS**

**Standard Door**
- Cylinder hole: 2-1/8" (54 mm) diameter (bore)
- Latch hole: 1" (25 mm) diameter (coss bore)

**Exposed Trim:**
- Wrought brass or bronze

**Mechanism:**
- Steel, zinc dichromate plating

**Keys:**
- Two operating keys supplied per lock

**Cylinders/Cores:**
- Brass - Keyed Different - Schlage C Keyway standard
- Cylinder drilled 6-pin, Keyed 5-pin - Standard
- Other keying options, including keyed 6-pin, available from the factory (see Cylinder, Core and Keying section)
- Zero bit cylinders will be 6 pin keyed – standard
- Small Format Interchangeable Core option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately

**Door Thickness:**
- 1-3/4" - 2" (45 mm - 51 mm) - Standard
- 2" - 2-1/4" (57 mm) available for conventional cylinder
- Must specify

**Backset:**
- 2-3/4" (70 mm) - Standard
- 2-3/8" (60 mm) - Optional

**Latchbolt:**
- 1" (25 mm) Throw - Brass with concealed hardened steel roller to prevent sawing or cutting
- 1-1/8" x 2-1/4" (29 mm x 57 mm) Square Corner Faceplate

**Strikes:**
- 3930 Square Corner, 1-1/8" x 2-3/4" (29 mm x 70 mm) with dustbox - Standard
- 3929 ASA Deadbolt Strike - Optional

**Functions:**
- 14 Double Cylinder, 15 Cylinder x Thumbturn, 18 Classroom

**FINISHES**

---

**FEATURES**
- Non-handed
- Conventional cylinder or Small Format Interchangeable Core option available

**Certifications:**
- BHMA Certified ANSI A156.5 Grade 1
- ANSI A250.13 Severe Windstorm Resistant Component
- UL/cUL Listed for all functions up to 3 hours for "A" label single doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated
- ADA - Thumbturn

**Options:**
- Split finish
- Additional deadbolts and strikes available

**SPECIFICATIONS**

**Standard Door**
- Cylinder hole: 2-1/8" (54 mm) diameter (bore)
- Latch hole: 1" (25 mm) diameter (coss bore)

**Exposed Trim:**
- Wrought brass or bronze

**Mechanism:**
- Steel, zinc dichromate plating

**Keys:**
- Two operating keys supplied per lock

**Cylinders/Cores:**
- Brass - Keyed Different - Schlage C Keyway standard
- Cylinder drilled 6-pin, Keyed 5-pin - Standard
- Other keying options, including keyed 6-pin, available from the factory (see Cylinder, Core and Keying section)
- Zero bit cylinders will be 6 pin keyed – standard
- Small Format Interchangeable Core option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately

**Door Thickness:**
- 1-3/4" - 2" (45 mm - 51 mm) - Standard
- 2" - 2-1/4" (57 mm) available for conventional cylinder
- Must specify

**Backset:**
- 2-3/4" (70 mm) - Standard
- 2-3/8" (60 mm) - Optional

**Latchbolt:**
- 1" (25 mm) Throw - Brass with concealed hardened steel roller to prevent sawing or cutting
- 1-1/8" x 2-1/4" (29 mm x 57 mm) Square Corner Faceplate

**Strikes:**
- 3930 Square Corner, 1-1/8" x 2-3/4" (29 mm x 70 mm) with dustbox - Standard
- 3929 ASA Deadbolt Strike - Optional

**Functions:**
- 14 Double Cylinder, 15 Cylinder x Thumbturn, 18 Classroom

**FINISHES**
3940
2-3/4” (70 mm) Backset Latchbolt - Standard
- Square and round corner available
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate
- Round corner not available in US32/32D

3941
2-3/8” (60 mm) Backset Latchbolt - Optional
- Square and round corner available
- 1” x 2-1/4” (25 mm x 57 mm) faceplate
- Round corner not available in US32/32D

3929
ASA Deadbolt Strike - Optional
1-1/4” x 4-7/8” (32 mm x 124 mm)

3930
Strike Plate - Standard
- 1-1/8” x 2-3/4” (29 mm x 70 mm)
- Dust box included
Hager 3200 Series Grade 2 deadlock provides a perfect combination of value and performance and is the ideal choice of lock for typical commercial applications. Our 3200 Series is an economical alternative to Grade 1 when Grade 1 is not required. It is a perfect complement to our 3500 Series for extra protection against break-in and is backed by a lifetime warranty.
# 3200 SERIES - HOW TO ORDER

## 3214 2-3/4" US26D US26 SCC KD ASA 6PKEY

### Function

- **Function No.** 14
- **Function Description**
  - Deadbolt thrown or retracted by key from either side. Bolt automatically deadlocks when fully thrown.
  - ANSI No. E2142

### Interior Finish

- **Finish**
  - US3
  - US4
  - US10
  - US10B
  - US26D

### Conventional Keyway

- **Keyway**
  - SCC - Schlage C
  - AR1 - Arrow
  - C60 - Corbin 60
  - C67 - Corbin 67
  - C77 - Corbin 77
  - CL4 - Corbin LA
  - SCE - Schlage E
  - SCF - Schlage F
  - H1 - Hager 1
  - H2 - Hager 2
  - H3 - Hager 3
  - KW1 - kwikset
  - RD1 - Russwin D1
  - SGT - Sargent LA
  - YAP - Yale E1R (Para)
  - YGA - Yale GA
  - WE - Weiser E
  - NC - No Cylinder

### Backset/Faceplate

- **Backset/Faceplate**
  - 2-3/4" (70 mm), SC (standard)
  - 2-3/4" (70 mm), RC
  - 2-3/8" (60 mm), SC
  - 2-3/8" (60 mm), RC
  - 2-3/8" - 2-3/4" Adjustable, SC*
  - 2-3/8" - 2-3/4" Adjustable, RC*

### Strike

- **Strike**
  - ASA Deadbolt No Lip (Standard)
  - ANSI No. -

### Options

- **Options**
  - 6PKEY - 6-pin Keyed
  - 7PKEY - 7-pin Keyed (Hager)
  - SFIC** - Small Format Interchangeable Core Housing (NC)

### Keying

- **Keying**
  - KA - Keyed Alike
  - KD - Keyed Different
  - MK - Master Key
  - CMK - Construction Master Key
  - SK - Customer Specified Keying
  - 0BC - "0" Bitted Cylinder
  - 1BC - "1" Bitted Cylinder

### Notes:

1. If masterkeyed, include completed master key form sheet with order (available on page 88 or www.hagerco.com).
2. For additional keying information, please refer to cylinder, core, and keying section of catalog (page 73).

* Adjustable backset deadbolts supplied with 3220 and 3221.

** Small format interchangeable core sold separately. Available in Best Keyways (A Standard), or Hager Keyways (optional).

Ordering example: 3214 2-3/4" US26D NC SFIC

### 3200 SERIES FUNCTION CHART

<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Cylinder</td>
<td>14</td>
<td>Deadbolt thrown or retracted by key from either side. Bolt automatically deadlocks</td>
<td>E2142</td>
</tr>
<tr>
<td></td>
<td></td>
<td>when fully thrown.</td>
<td></td>
</tr>
<tr>
<td>Cylinder x Thumbturn</td>
<td>15</td>
<td>Deadbolt thrown or retracted by key from outside or by inside thumbturn. Bolt</td>
<td>E2152</td>
</tr>
<tr>
<td></td>
<td></td>
<td>automatically deadlocks when fully thrown.</td>
<td></td>
</tr>
<tr>
<td>Thumbturn x</td>
<td>16</td>
<td>Deadbolt operated by thumbturn inside, emergency override key outside. Outside</td>
<td></td>
</tr>
<tr>
<td>Occupancy Indicator</td>
<td></td>
<td>indicator displays &quot;In Use&quot; when deadbolt is thrown and &quot;Vacant&quot; when deadbolt is retracted</td>
<td></td>
</tr>
<tr>
<td>Thumbturn w/ Blank Plate (no cylinder)</td>
<td>20</td>
<td>Deadbolt thrown or retracted by thumbturn only. Outside blank plate. Bolt</td>
<td>E21112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>automatically deadlocks when fully thrown.</td>
<td></td>
</tr>
<tr>
<td>Thumbturn Only</td>
<td>21</td>
<td>Deadbolt thrown or retracted by thumbturn only. No outside trim. Bolt</td>
<td>E2192</td>
</tr>
<tr>
<td>(no cylinder)</td>
<td></td>
<td>automatically deadlocks when fully thrown.</td>
<td></td>
</tr>
</tbody>
</table>

Note: 3222 available for retrofit applications, converting a 3221 into a 3220.
3200 SERIES - GRADE 2 DEADLOCK - AUXILIARY

WARRANTY  |  Lifetime warranty
FEATURES  |  • Non-handed
        |  • Conventional cylinder or Small Format Interchangeable Core option available
Certifications:  |  • BHMA Certified ANSI A156.5 Grade 2
        |  • ANSI A250.13 Severe Windstorm Resistant Component
        |  • UL/cUL Listed for all functions up to 3 hours for "A" label single doors
        |  • UL10C Positive Pressure Rated
        |  • UL10B Neutral Pressure Rated
        |  • ADA - Thumbturn
Options:  |  • Split finish
        |  • Additional deadbolts and strikes available

SPECIFICATIONS

Standard Door
Prep:  |  • Cylinder hole: 2-1/8" (54 mm) diameter (bore)
        |  • Latch hole: 1" (25 mm) diameter (cross bore)
Exposed Trim:  |  Wrought brass, bronze or stainless steel
Mechanism:  |  Steel, zinc dichromate plating
Keys:  |  Two operating keys supplied per lock
Cylinders/Cores:  |  • Brass - Keyed Different - Schlage C Keyway standard
        |  • Cylinder drilled 6-pin, Keyed 5-pin - Standard
        |  • Other keying options, including keyed 6-pin, available from the factory (see Cylinder, Core and Keying section)
        |  • Zero bit cylinders will be 6 pin keyed – standard
        |  • Small Format Interchangeable Core option available
        |  • SFIC uncombined or combined, brass 6- or 7-pin cores sold separately
Door Thickness:  |  • 1-3/4" (45 mm) only - 3214 SFIC and 3216
        |  • 1-3/8" - 1-3/4" (35 mm - 45 mm) - Standard
        |  • 2" - 2-1/4" (51 mm - 57 mm) available for conventional cylinder only - Must specify
Backset:  |  • 2-3/4" (70 mm) - Standard
        |  • 2-3/8" (60 mm) - Optional
        |  • 2-3/8" - 2-3/4" adjustable backset supplied with 3220 and 3221 (not available on 3214 or 3215)
Latchbolt:  |  • 1" (25 mm) Throw - Brass with concealed hardened steel roller to prevent sawing or cutting
        |  • 1-1/8" x 2-1/4" (29 mm x 57 mm) square corner faceplate
Strikes:  |  • 3930 Square Corner, 1-1/8" x 2-3/4" (29 mm x 70 mm) with dustbox - Standard
        |  • 3929 ASA Deadbolt Strike - Optional
Functions:  |  14 Double Cylinder, 15 Cylinder x Thumbturn, 16 Thumbturn x Occupancy Indicator, 20 Thumbturn w/ Blank Plate, 21 Thumbturn Only
Notes:  |  3222 retrofit kit available for use with 21 function
3940
2-3/4” (70 mm) Backset Latchbolt - Standard
- Square and round corner available
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate
- Round corner not available in US32/32D

3941
2-3/8” (60 mm) Backset Latchbolt - Optional
- Square and round corner available
- 1” x 2-1/4” (25 mm x 57 mm) faceplate
- Round corner not available in US32/32D

3942
2-3/8” (60 mm) - 2-3/4” (70 mm) Adjustable Backset Latchbolt - Standard for 3220 and 3221
- Square and round corner available
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate - Standard
- 1” x 2-1/4” (25 mm x 57 mm) faceplate - Optional
- Round corner not available in US32/32D

3929
ASA Deadbolt Strike - Optional
1-1/4” x 4-7/8” (32 mm x 124 mm)

3930
Strike Plate - Standard
- 1-1/8” x 2-3/4” (29 mm x 70 mm)
- Dust box included
Hager’s 3300 Series Grade 3 tubular leverset is field reversible, with a thru-bolt design for ease of installation. This field reversible lock is designed with thru-bolts to make installation quick and simple. The 3300 Series is offered in four functions — Passage, Privacy, Entry, and Single Dummy — with four lever designs — Archer, August, Johnston and Withnell — to provide the perfect solution for suiting with other Grade 1 and Grade 2 products provided by Hager. Vertical markets that may benefit are assisted living facilities as well as multi-family.
### 3300 SERIES

#### 3353 ADJ US26D US26 AUG SCC KD

<table>
<thead>
<tr>
<th>PRODUCT GROUP</th>
<th>33 – Tubular, Grade 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUNCTION</td>
<td>10 – Passage</td>
</tr>
<tr>
<td></td>
<td>17 – Single Dummy</td>
</tr>
<tr>
<td></td>
<td>40 – Privacy</td>
</tr>
<tr>
<td></td>
<td>53 - Entry</td>
</tr>
<tr>
<td>FINISH</td>
<td>US3</td>
</tr>
<tr>
<td></td>
<td>US10B</td>
</tr>
<tr>
<td></td>
<td>US15</td>
</tr>
<tr>
<td></td>
<td>US26</td>
</tr>
<tr>
<td></td>
<td>US26D</td>
</tr>
<tr>
<td>BACKSET</td>
<td>2-3/8” to 2-3/4” Adjustable</td>
</tr>
<tr>
<td></td>
<td>SQ and RD corner Faceplate Std</td>
</tr>
<tr>
<td>INTERIOR FINISH (if different)</td>
<td>US3</td>
</tr>
<tr>
<td></td>
<td>US10B</td>
</tr>
<tr>
<td></td>
<td>US15</td>
</tr>
<tr>
<td></td>
<td>US26</td>
</tr>
<tr>
<td></td>
<td>US26D</td>
</tr>
<tr>
<td>LEVER STYLE</td>
<td>ARC - Archer</td>
</tr>
<tr>
<td></td>
<td>AUG - August</td>
</tr>
<tr>
<td></td>
<td>*JHN - Johnston</td>
</tr>
<tr>
<td></td>
<td>WTN - Withnell</td>
</tr>
<tr>
<td>KEYWAY</td>
<td>SCC – Schlage C Only</td>
</tr>
<tr>
<td>KEYING</td>
<td>KD - Keyed Different Only</td>
</tr>
</tbody>
</table>

**Notes:**

1. All entry locks supplied keyed different. Any other keying is provided by others.
2. US3 and US26 finish, as well as split finish, will be subject to extended lead times.
3. 3317 Johnston lever is handed. All others are non-handed.
<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-Keyed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passage*</td>
<td>10</td>
<td>Latchbolt operated by lever from either side at all times.</td>
</tr>
<tr>
<td>Dummy - Single</td>
<td>17</td>
<td>Pull one side, no mechanical operation.</td>
</tr>
<tr>
<td>Privacy</td>
<td>40</td>
<td>Latchbolt operated by lever from either side. Outside lever is locked and unlocked by turn button inside and can also be unlocked by emergency coin turn release outside. Closing door does not release turn button.</td>
</tr>
<tr>
<td><strong>Keyed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry / Office</td>
<td>53</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked by turn button on inside. When outside lever is locked, operating key in outside lever unlocks locking device. Closing door does not release turn button.</td>
</tr>
</tbody>
</table>

* Passage function meets ADA requirements
3300 SERIES - LEVER OPTIONS

ARCHER LEVER

AUGUST LEVER

JOHNSTON LEVER

WITHNELL LEVER
# 3300 SERIES - GRADE 3 TUBULAR LEVERSET

## FEATURES
- Field reversible (exception of 3317 Johnston)
- Thru-bolt design for ease of installation
- Standard 4-way latch provides versatility for most retrofit applications

## Applications
- Multi-Family
- Assisted Living Facilities
- Hospitality

## Certifications:
- Meets BHMA ANSI 156.2, Grade 3 test standards
- ADA compliant ANSI A117.1 Accessibility Code

## Lever Options:
- Archer, August, Johnston, Withnell

## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Standard Door</th>
<th>2-1/8&quot; (54 mm) diameter (bore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prep:</td>
<td>Latch hole: 1&quot; (25 mm) diameter (cross bore)</td>
</tr>
<tr>
<td>Door Handling</td>
<td>Non-handed, except for the Johnston Single Dummy</td>
</tr>
<tr>
<td>Exposed Trim:</td>
<td>Levers: Solid Cast Zinc</td>
</tr>
<tr>
<td></td>
<td>Rose: Brass</td>
</tr>
<tr>
<td>Rose Diameter:</td>
<td>2-9/16&quot; (65 mm)</td>
</tr>
<tr>
<td>Keys:</td>
<td>(2) Cut keys provided with each entry lockset</td>
</tr>
<tr>
<td>Cylinders/Core:</td>
<td>Brass 5-pin Keyed Different - Schlage C keyway only</td>
</tr>
<tr>
<td></td>
<td>Keying by others</td>
</tr>
<tr>
<td>Door Thickness:</td>
<td>1-3/8” - 1-3/4” (35 mm - 45 mm)</td>
</tr>
<tr>
<td>Backset:</td>
<td>1” x 2-1/4” (25mm x 57mm) Faceplate</td>
</tr>
<tr>
<td></td>
<td>2-3/8” to 2-3/4” (60mm to 70mm) adjustable</td>
</tr>
<tr>
<td></td>
<td>4-Way design (Square corner &amp; Round corner faceplate provided)</td>
</tr>
<tr>
<td>Strikes:</td>
<td>Round Corner Full Lip Standard</td>
</tr>
<tr>
<td></td>
<td>Square Corner Full Lip and Tee Strike available separately</td>
</tr>
<tr>
<td>Functions:</td>
<td>Passage, Privacy, Entry, Single Dummy</td>
</tr>
<tr>
<td>Packaging:</td>
<td>Box packed</td>
</tr>
<tr>
<td>Warranty:</td>
<td>One year</td>
</tr>
</tbody>
</table>

## FINISHES
- *Denotes finishes available with extended lead time
Hager 3400 Series Grade 1 lock is designed and engineered to withstand the most abusive environments. We’ve categorized it ‘extra heavy duty’ and you can rest assured that it has been tested against heavy use, impact, strength, resistance, and abuse. We’re so confident in our 3400 Series lock, it’s backed by a lifetime warranty. The exceptional quality of our 3400 Series lock has made it incredibly successful in application after application across the country and around the globe.
### 3400 SERIES - HOW TO ORDER

#### 3453 2-3/4” US26D US26 WTN SCC KD ASA TW

<table>
<thead>
<tr>
<th>Product Group</th>
<th>Interior Finish (If Different)</th>
<th>Conventional Keyway</th>
</tr>
</thead>
<tbody>
<tr>
<td>34 - Cylindrical, Grade 1</td>
<td>US3 US4 US10 US10B US26 US26D</td>
<td>SCC - Schlage C AR1 - Arrow C60 - Corbin 60 C67 - Corbin 67 C77 - Corbin 77 CL4 - Corbin L4 SCE - Schlage E SCF - Schlage F H1 - Hager 1 H2 - Hager 2 H3 - Hager 3 KW1 - Kwikset RD1 - Russwin D1 SGT - Sargent LA YAP - Yale E1R (Para) YGA - Yale GA WE - Weiser E NC - No Cylinder (SFIC and LFIC Only)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Backset/Faceplate</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3/4” (70 mm), SC (Standard)</td>
<td>10 - Passage 17 - Single Dummy 40 - Privacy 50 - Entry/Office 53 - Entry 70 - Classroom 73 - Corridor 80 - Storeroom 95 - Intruder Classroom</td>
</tr>
<tr>
<td>2-3/4” (70 mm), RC</td>
<td>2-3/8” (60 mm), SC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Finish</th>
<th>Conventional Keyway</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Function</th>
<th>Interior Finish (If Different)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 - Single Dummy</td>
<td></td>
</tr>
<tr>
<td>40 - Privacy</td>
<td></td>
</tr>
<tr>
<td>50 - Entry/Office</td>
<td></td>
</tr>
<tr>
<td>53 - Entry</td>
<td></td>
</tr>
<tr>
<td>70 - Classroom</td>
<td></td>
</tr>
<tr>
<td>73 - Corridor</td>
<td></td>
</tr>
<tr>
<td>80 - Storeroom</td>
<td></td>
</tr>
<tr>
<td>95 - Intruder Classroom</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lever Style</th>
<th>Keying</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC - Archer Lever</td>
<td>KA - Keyed Alike KD - Keyed Different MK - Master Key CMK - Construction Master Key SK - Customer Specified Keying</td>
</tr>
<tr>
<td>AUG - August Lever</td>
<td>0BC - &quot;0&quot; Bitted Cylinder 1BC - &quot;1&quot; Bitted Cylinder</td>
</tr>
<tr>
<td>WTN - Withnell Lever</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strike Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASA (Standard)</td>
</tr>
<tr>
<td>RC Full</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TW Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>TW - Tactile Warning</td>
</tr>
<tr>
<td>LL - Leadlined</td>
</tr>
<tr>
<td>EL24 - Fail Safe 24 Volt</td>
</tr>
<tr>
<td>EL12 - Fail Safe 12 Volt</td>
</tr>
<tr>
<td>EU24 - Fail Secure 24 Volt</td>
</tr>
<tr>
<td>EU12 - Fail Secure 12 Volt</td>
</tr>
<tr>
<td>RX - Request to Exit</td>
</tr>
<tr>
<td>ELRX24 - Fail Safe 24 Volt with Request to Exit</td>
</tr>
<tr>
<td>ELRX12 - Fail Safe 12 Volt with Request to Exit</td>
</tr>
<tr>
<td>EURX24 - Fail Secure 24 Volt with Request to Exit</td>
</tr>
<tr>
<td>EURX12 - Fail Secure 12 Volt with Request to Exit</td>
</tr>
<tr>
<td>6PKEY - 6-pin Keyed</td>
</tr>
<tr>
<td>7PKEY - 7-pin Keyed (Hager Only)</td>
</tr>
<tr>
<td>SFIC* - Small Format Interchangeable Core Prep</td>
</tr>
<tr>
<td>LFIC** - Large Format Interchangeable Core Prep (Leverset Only)</td>
</tr>
<tr>
<td>ANTI - Antimicrobial Coating (26D only)</td>
</tr>
</tbody>
</table>

**Notes:**
1. If masterkeyed, include completed master key form with order (available on page 88 or www.hagerco.com).
2. For additional keying information, please refer to cylinder, core, and keying section of catalog (page 73).

* Small format interchangeable core sold separately. Available in Best Keyways (A Standard) or Hager Keyways (optional).
** Large format interchangeable core sold separately. Available in Schlage C Keyway only.

**Ordering example:**
3453 2-3/4” US26D WTN NC ASA SFIC
3453 2-3/4” US26D WTN NC ASA LFIC
# 3400 SERIES - FUNCTION CHART

<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Keyed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passage</td>
<td>10</td>
<td>Latchbolt operated by lever from either side at all times.</td>
<td>F75</td>
</tr>
<tr>
<td>Dummy - Single</td>
<td>17</td>
<td>Pull one side, no mechanical operation.</td>
<td>-</td>
</tr>
<tr>
<td>Privacy</td>
<td>40</td>
<td>Latchbolt operated by lever from either side. Outside lever is locked by push button inside and unlocked by emergency release outside, operating inside lever or closing door.</td>
<td>F76A</td>
</tr>
<tr>
<td>Keyed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry/Office</td>
<td>50</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked by push button on inside lever. When outside lever is locked, operating key in outside lever or operating inside lever unlocks push button. Closing door does not release push button.</td>
<td>F82A</td>
</tr>
<tr>
<td>Entry</td>
<td>53</td>
<td>Deadlocking latchbolt by lever either side, except when turn button inside locks outside lever. Pushing turn button in locks outside lever, requiring use of key outside to unlock. (Lever handle is freewheeling in locked position.) Turning inside lever unlocks outside lever. Pushing in and turning button locks outside lever, requiring key at all times. Turning inside lever does not unlock outside lever until button is manually turned to unlocked position. Inside lever always operates latchbolt.</td>
<td>F109</td>
</tr>
<tr>
<td>Classroom</td>
<td>70</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked from outside by key. When outside lever is locked, latchbolt is operated by inside lever.</td>
<td>F84</td>
</tr>
<tr>
<td>Corridor</td>
<td>73</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked by key in outside lever or by push button on inside. Key in outside lever locks or unlocks outside lever. Operating inside lever releases push button. Closing door releases push button. Inside lever always operates latchbolt.</td>
<td>F90</td>
</tr>
<tr>
<td>Storeroom</td>
<td>80</td>
<td>Deadlocking latchbolt operated by key in outside lever, or by operating inside lever. Outside lever is always locked. Inside lever is always unlocked.</td>
<td>F86</td>
</tr>
<tr>
<td>Intruder Classroom*</td>
<td>95</td>
<td>Deadlocking latchbolt operated by lever from either side. Key either inside or outside locks or unlocks outside lever. Inside lever always operates latchbolt.</td>
<td>F110</td>
</tr>
</tbody>
</table>

Notes: *Intruder Classroom includes locking direction indicator stamped on the inside rose standard.
Optional tactile warning available on all lever styles (only outside lever will include raised surfaces unless otherwise specified).
### 3400 SERIES - GRADE 1 CYLINDRICAL - HEAVY DUTY

**WARRANTY**
- Lifetime warranty

**FEATURES**
- Heavy duty commercial, industrial, institutional
- No exposed mounting screws
- Non-handed
- Conventional cylinder, Small Format Interchangeable Core, and Large Format Interchangeable Core option available

**Certifications:**
- BHMA Certified ANSI A156.2 Series 4000 Grade 1
- ADA Compliant ANSI A117.1 Accessibility Code (levers only)
- ANSI A250.13 Severe Windstorm Resistant Component
- UL/cUL Listed for all functions up to 3 hours for “A” label doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

**Lever Options:**
- Apollo knob; Archer, August, Withnell levers

**Options:**
- Lead lined (leversets only)
- Tactile warning (levers only)
- Antimicrobial coating (26D finish only)
- Split finish
- Additional latchbolts and strikes available

**SPECIFICATIONS**

**Standard Door**
- 2-1/8” (54 mm) diameter (bore)

**Prep:**
- Latch hole: 1” (25 mm) diameter (cross bore)

**Exposed Trim:**
- Knobs: Wrought brass or stainless steel
- Levers: Cast zinc
- Rose: Wrought brass or stainless steel

**Rose Diameter:**
- 3-17/32” (90 mm) levers; 3” (76 mm) knobs

**Lock Chassis:**
- Heavy gauge steel, zinc dichromated for corrosion resistance
- Free wheeling (levers only)
- Thru-bolt mounting (levers only)

**Keys:**
- Two operating keys supplied per lock

**Cylinders/Cores:**
- Brass 6-pin, keyed different - Schlage C Keyway - Standard
- Cylinder drilled 6-pin, Keyed 5-pin - Standard
- Other keying options, including keyed 6-pin, available from factory (see cylinder, core and keying section)
- Zero bit cylinders will be 6 pin keyed – standard
- Small Format Interchangeable Core option available
- SFIC uncombined of combined, brass 6- or 7-pin cores sold separately
- Large Format Interchangeable Core option available - leversets only
- LFIC zero bitted or combined, brass 6-pin cores sold separately - Schlage C only

**Door Thickness:**
- Knobs: 1-3/8” - 1-3/4” (35 mm - 45 mm)
- Levers: 1-3/8” - 2” (35 mm - 51 mm)

**Backset:**
- 2-3/4” (70 mm) - Standard
- 2-3/8” (60 mm) - Optional
- 3-3/4” (94 mm) - Optional
- 5” (128 mm) - Optional

**Latchbolt:**
- 1/2” (13 mm) throw, stainless steel
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate
- Square corner faceplates standard, round corner available
- Deadlocking latchbolt prevents manipulation when door is closed; keyed functions only
- 3/4” (18 mm) latch available

**Strike:**
- 3935 ASA 1-1/4” x 4-7/8” (32 mm x 124 mm) strike - Standard

**Functions:**
- 10 Passage, 17 Dummy, 40 Privacy, 50 Entry/Office, 53 Entry, 70 Classroom, 73 Corridor (levers only), 80 Storeroom, 95 Intruder Classroom (levers only)

**FINISHES**
- US3, US32D (knobs only)

- 2016 www.hagerco.com
3400 SERIES - ELECTRIFIED - GRADE 1 CYLINDRICAL HEAVY DUTY

WARRANTY
• Lifetime warranty on mechanical locking components
• One-year warranty on electric components

FEATURES
• Deadlocking latchbolt
• Key override allows latchbolt to be momentarily retracted with the key even though electrically locked. Note that locks that are electrically unlocked may not be locked via the key cylinder.
• Inside lever always allows egress
• Interface with life-safety systems
• Continuous-duty solenoids

Function: 80 - Storeroom

Applications:
• Provides remote locking and unlocking ideal for access control where added security is necessary
• Stairtower doors
• Office doors
• Classrooms
• Elevator lobby doors
• Computer rooms
• Hospital equipment rooms
• Pharmaceutical storage rooms

Voltage:
• 12V AC/DC; current - .250AMP
• 24V AC/DC; current - .150AMP
• Specify 12V or 24V when ordering

FINISHES

<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storeroom - Fail Safe</td>
<td>3480EL</td>
<td>Outside lever continuously locked electrically. Latchbolt operable from the outside by key, by breaking electric current, or by power failure. Auxiliary latch deadlocks latchbolt when door is closed. Inside always free for immediate egress.</td>
</tr>
<tr>
<td>Storeroom - Fail Secure</td>
<td>3480EU</td>
<td>Outside lever continuously locked. Latchbolt operable from the outside by key or by applying electrical current. Auxiliary latch deadlocks latchbolt when door is closed. Inside always free for immediate egress.</td>
</tr>
<tr>
<td>Storeroom - Request to Exit</td>
<td>3480RX</td>
<td>Monitors inside lever rotation. Incorporates into fire alarm system or in conjunction with an electromagnet.</td>
</tr>
<tr>
<td>Storeroom - Fail Safe w/ Request to Exit</td>
<td>3480ELRX</td>
<td>Outside lever continuously locked electrically. Latchbolt operable from the outside by key, by breaking electric current, or by power failure. Auxiliary latch deadlocks latchbolt when door is closed. Inside always free for immediate egress. Inside lever rotation is monitored. Incorporates into fire alarm system.</td>
</tr>
<tr>
<td>Storeroom - Fail Secure w/ Request to Exit</td>
<td>3480EURX</td>
<td>Outside lever continuously locked. Latchbolt operable from the outside by key or by applying electrical current. Auxiliary latch deadlocks latchbolt when door is closed. Inside always free for immediate egress. Inside lever rotation is monitored. Incorporates into fire alarm system.</td>
</tr>
</tbody>
</table>
See power supply area within the Electrified Products section for more details on our full selection of power supplies.

Hager 2903, 2908 and 2909 power supplies are designed to power locking devices. Their features include:

- UL Listed
- Filtered/regulated 24VDC
- Overload protection
- Over voltage protection
- Short circuit protection
- Surge suppression on Fail Safe and Fail Secure outputs
- Fire alarm input standard

**2903 Power Supply Includes:**

- 24VDC, 2Amp
- Automatically accepts 120 or 240VAC input
- Auxiliary 24VDC output for stand alone devices
- Switch 24VDC outputs for fail safe or fail secure locking hardware
- Surge suppression on Fail Safe and Fail Secure outputs

**2908 Power Supply Includes:**

- Field selectable 12VDC or 24VDC, 1Amp
- 115VAC standard (230VAC optional)
- Separate PTC protected charging for battery backup
- LED status indicator
- Modular design allows optional components to fit any application (see Electrified Catalog for a full list of components)

**2909 Power Supply Includes:**

- Field selectable 12VDC or 24VDC, 2Amp
- 115VAC standard (230VAC optional)
- Separate PTC protected charging for battery backup
- LED status indicator
- Modular design allows optional components to fit any application (see Electrified Catalog for a full list of components)

**Hager Locking System**
### 3400 SERIES - LATCHBOLTS

#### Spring Latches

<table>
<thead>
<tr>
<th>Model</th>
<th>Backset</th>
<th>Description</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>3943</td>
<td>2-3/4” (70 mm)</td>
<td>Passage Spring Latch - Standard</td>
<td>- Square and round corner available&lt;br&gt;- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate</td>
</tr>
<tr>
<td>3945</td>
<td>2-3/8” (60 mm)</td>
<td>Passage Spring Latch</td>
<td>- Square and round corner available&lt;br&gt;- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate</td>
</tr>
<tr>
<td>3964</td>
<td>2-3/4” (70 mm)</td>
<td>Privacy Spring Latch - Standard</td>
<td>- Square and round corner available&lt;br&gt;- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate</td>
</tr>
<tr>
<td>3966</td>
<td>2-3/8” (60 mm)</td>
<td>Privacy Spring Latch</td>
<td>- Square and round corner available&lt;br&gt;- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate</td>
</tr>
</tbody>
</table>

#### Dead Latches

<table>
<thead>
<tr>
<th>Model</th>
<th>Backset</th>
<th>Description</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>3932</td>
<td>2-3/4” (70 mm)</td>
<td>Dead Latch</td>
<td>- 3/4” (18 mm) throw&lt;br&gt;- Square corner only&lt;br&gt;- For use on fire rated pairs of doors&lt;br&gt;- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate</td>
</tr>
<tr>
<td>3934</td>
<td>2-3/4” (70 mm)</td>
<td>Dead Latch - Standard</td>
<td>- Square and round corner available&lt;br&gt;- For use with all keyed functions other than corridor&lt;br&gt;- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate</td>
</tr>
<tr>
<td>3944</td>
<td>2-3/8” (60 mm)</td>
<td>Dead Latch</td>
<td>- Square and round corner available&lt;br&gt;- For use with all keyed functions other than corridor&lt;br&gt;- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate</td>
</tr>
<tr>
<td>3946</td>
<td>2-3/8” (60 mm)</td>
<td>Dead Latch</td>
<td>- Square and round corner available&lt;br&gt;- For use with all keyed functions other than corridor&lt;br&gt;- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate</td>
</tr>
</tbody>
</table>

#### Backset Extension Links

<table>
<thead>
<tr>
<th>Model</th>
<th>Backset</th>
<th>Description</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>3916</td>
<td>3-3/4” (95 mm)</td>
<td>Extension Link</td>
<td>Must use with 2-3/8” (60 mm) backset latch to achieve 3-3/4” total backset</td>
</tr>
<tr>
<td>3936</td>
<td>5” (127 mm)</td>
<td>Extension Link</td>
<td>Must use with 2-3/4” (70 mm) backset latch to achieve 5” total backset</td>
</tr>
</tbody>
</table>

**Notes:** All Grade 1 latchbolts supplied with 1-1/8” (29 mm) x 2-1/4” (57 mm) faceplates.
3933
T-Strike with Plastic Dust Box
• 1-1/8” x 2-3/4” (29 mm x 70 mm)
• Dust box included

3934
Full Lip Strike
1-5/8” x 2-1/4” (41 mm x 57 mm)

3935
Standard ASA Strike Plate
• 1-1/4” x 4-7/8” (32 mm x 124 mm)
• 1-5/16” lip
• Other lengths available upon request

3958
Full Lip Strike with Round Corner
• 1-5/8” x 2-1/4” (41 mm x 57 mm)
• 1/4” (6 mm) radius

3911
Thru-Bolt Jig
For lever set only
Hager’s 34K Series Grade 1 pushbutton standalone lockset is a battery operated leverset with mechanical key override. This ADA compliant lock offers 500 total access codes and provides a perfect solution for most retrofit applications. Applications include Assisted Living, Multi-Family, Retail, Office Buildings and Healthcare facilities.
34K SERIES - HOW TO ORDER

34K1  2-3/4”  US26D  WTN  SCC  KD  ASA  6PKEY

FUNCTION
K1 - Keypad - Storeroom
K2 - Keypad + Prox - Storeroom

FINISH
US26D - Brushed Chrome
US10B - Oil Rubbed Bronze

CONVENTIONAL KEYWAY
SCC - Schlage C - Standard
Others optional

KEYING
KA - Keyed Alike
KD - Keyed Different (Standard)
0BC - “0” Bitted Cylinder
1BC - “1” Bitted Cylinder
MK - Master Key
CMK - Construction Master Keying
NC - SFIC, No Core

BACKSET/FACEPLATE
2-3/4” (70mm), SC (Standard)
2-3/4” (70mm), RC

LEVER STYLE
WTN - Withnell Lever (Standard)
ARC - Archer Lever
AUG - August Lever

STRIKE
ASA - ASA Strike 1-5/16” Lip (Standard)
TEE - Tee Strike

PRODUCT GROUP
34 - Cylindrical, Grade1

OPTIONS
6PKEY - 6 Pin Keyed
7PKEY - 7 Pin Keyed
SFIC - Small Format Interchangeable Core Housing (NC)
TW - Tactile Warning

34K SERIES - LEVER OPTIONS

WITHNELL LEVER

ARPER LEVER

AUGUST LEVER

Optional tactile warning available on all lever styles (only outside lever will include raised surfaces unless otherwise specified).
FEATURES

- Mechanical key override
- Non-handed design
- Weatherproof design (-31 F to 151 F) with two gaskets supplied standard
- 34K2 model uses 26 bit 125kHz Wiegand HID proximity cards; 500 card users available
- Real time clock
- Quick passage mode available without being in programming mode
- Individual, group, or total lockout codes available
- Low battery alert
- Adjustable volume
- Audible Keystroke option
- (4) AA alkaline batteries provided, 30,000 cycle battery life
- 9V external power supported
- 500 total access codes available to be categorized as User, Service User, or Manager
- Relocking delay - Adjustable from 2 to 99 seconds
- Temporary keypad lockout (based on failed entry attempts)
- Tamper attempt alarm
- Audit trail (last 2,000 events) available with purchase of software kit

SPECIFICATIONS

Door Prep:
- Standard ANSI A115 Prep, modified by adding (4) additional thru-bolt holes

Lock Chassis:
- Heavy gauge steel, zinc dichromated for corrosion resistance
- Free-wheeling levers

Housing:
- Cast zinc housing with keypad

Keys:
- (2) operating keys supplied per lock

Door Thickness:
- 1-3/8” (35mm) – 2” (51mm)

Backset:
- 2-3/4” (70mm)

Latchbolt:
- 1/2” (13mm) throw, stainless steel
- 1-1/8” x 2-1/4” (29mm x 57mm) square faceplate - standard
- 3/4” Anti-Friction latchbolt available for pairs of fire doors

Strike:
- 1-1/4” x 4-7/8” (32mm x 124mm) ASA Strike - standard
- 1-1/8” x 2-1/4” (29mm x 57mm) Tee Strike - optional

Cylinders/Cores:
- Brass 6-Pin, keyed different - Schlage C keyway - Standard
- Cylinder drilled 6-Pin, Keyed 5-Pin - Standard
- Zero bit cylinders will be 6 pin keyed – standard
- Small Format Interchangeable Core option available
- 6-Pin and 7-Pin SFIC cores sold separately

Operating System:
- Microsoft Windows (XP up to Windows 8)
- Programming and data transfer can be done via laptop at the door
**34K SERIES CYLINDRICAL LATCHBOLTS**

**3932**
2-3/4” (70 mm) Backset
Dead Latch
• 3/4” (18 mm) throw
• Square corner only
• For use on fire rated pairs of doors
• 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

**3933**
T-Strike with Plastic Dust Box
• 1-1/8” x 2-1/4” (29 mm x 57 mm)
• Dust box included

**3944**
2-3/4” (70 mm) Backset
Dead Latch - Standard
• Square and round corner available
• For use with all keyed functions other than corridor
• 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

**3935**
Standard ASA Strike Plate
• 1-1/4” x 4-7/8” (32mm x 124mm)
• 1-5/16” lip
• Other lengths available upon request

**AUDIT TRAIL ACCESSORIES:**

2-639-6000
34K1 Software Kit
• Includes disc, USB cable, and programming manual

2-639-6001
34K2 Software Kit
• Includes disc, USB cable, prox card reader/enroller, and programming manual
Hager 3500 Series Grade 2 lock provides a perfect combination of value and performance and is the ideal choice of lock for typical commercial applications. It is an economical alternative to Grade 1 when Grade 1 is not required. Our 3500 Series lock offers superior dependability and is backed by a lifetime warranty.
# 3500 Series - How to Order

## 3553 2-3/4" US26D US26 WTN SCC KD ASA TW

### Function
- 10 - Passage
- 17 - Single Dummy
- 25 - Exit
- 27 - Double Dummy
- 40 - Privacy
- 50 - Entry/Office
- 53 - Entry
- 70 - Classroom
- 73 - Corridor
- 79 - Keyed Communicating
- 80 - Storeroom

### Interior Finish (If Different)
- US3 - Knob/Lever
- US4
- US10
- US10B
- US26
- US26D
- US32D - Knob Only

### Backset/Faceplate
- 2-3/4" (70 mm), SC (standard)
- 2-3/4" (70 mm), RC
- 2-3/4" (70 mm) Drive-In
- 2-3/8" (60 mm), SC
- 2-3/8" (60 mm), RC
- 2-3/8" (60 mm) Drive-In

### Product Group
- 35 - Cylindrical, Grade 2

### Conventional Keyway
- SCC - Schlage C
- AR1 - Arrow
- C60 - Corbin 60
- C67 - Corbin 67
- C77 - Corbin 77
- CL4 - Corbin L4
- SCE - Schlage E
- SCF - Schlage F
- H1 - Hager 1
- H2 - Hager 2
- H3 - Hager 3
- KW1 - Kwikset
- RD1 - Russwin D1
- SGT - Sargent LA
- YAP - Yale E1R (Para)
- YGA - Yale GA
- WE - Weiser E
- NC - No Cylinder (SFIC Housing Only)

### Lever Style
- APL - Apollo Knob
- ARC - Archer Lever
- AUG - August Lever
- WTN - Withnell Lever

### Strike
- ASA (standard)
- Full Lip
- RC Full Lip
- TEE

### Options
- TW - Tactile Warning
- LL - Leadlined
- 6PKEY - Small Format
- 7PKEY - Small Format Interchangeable Core Prep
- SFIC* - Small Format Interchangeable Core Prep
- ANTI - Antimicrobial Coating (26D Only)

### Keying
- KA - Keyed Alike
- KD - Keyed Different
- MK - Master Key
- CMK - Construction Master Key
- SK - Customer Specified Keying
- 0BC - "0" Bitted Cylinder (Conventional Only)
- 1BC - "1" Bitted Cylinder (Conventional Only)

### Notes:
1. If masterkeyed, include completed master key form with order (available on page 88 or www.hagerco.com).
2. For additional keying information, please refer to cylinder, core, and keying section of catalog (page 73).

* Small format interchangeable core sold separately. Available in Best Keyways (A Standard) or Hager Keyways (optional).

**Ordering example:** 3553 2-3/4" US26D WTN NC ASA SFIC
<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-Keyed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passage</td>
<td>10</td>
<td>Latchbolt operated by lever from either side at all times.</td>
<td>F75</td>
</tr>
<tr>
<td>Dummy - Single</td>
<td>17</td>
<td>Pull one side, no mechanical operation (back to back).</td>
<td>-</td>
</tr>
<tr>
<td>Exit</td>
<td>25</td>
<td>Blank plate outside (13/16” [31 mm] projection). Inside lever always unlocked.</td>
<td>F111</td>
</tr>
<tr>
<td>Dummy - Double</td>
<td>27</td>
<td>Pull both sides. No mechanical operation (back to back).</td>
<td>-</td>
</tr>
<tr>
<td>Privacy</td>
<td>40</td>
<td>Latchbolt operated by lever from either side. Outside lever is locked by push button inside and unlocked by emergency release outside, operating inside lever or closing door.</td>
<td>F76A</td>
</tr>
<tr>
<td><strong>Keyed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry/Office</td>
<td>50</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked by push button on inside lever. When outside lever is locked, operating key in outside lever or operating inside lever unlocks push button and retracts latchbolt. Closing door does not release push button.</td>
<td>F82A</td>
</tr>
<tr>
<td>Entry</td>
<td>53</td>
<td>Deadlocking latchbolt by lever either side, except when turn button inside locks outside lever. Pushing turn button in locks outside lever, requiring use of key outside to unlock (lever handle is freewheeling in locked position). Turning inside lever unlocks outside lever. Pushing in and turning button locks outside lever, requiring key at all times. Turning inside lever does not unlock outside lever until button is manually turned to unlocked position. Inside lever always operates latchbolt.</td>
<td>F109</td>
</tr>
<tr>
<td>Classroom</td>
<td>70</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked from outside by key. When outside lever is locked, latchbolt is operated by inside lever.</td>
<td>F84</td>
</tr>
<tr>
<td>Function</td>
<td>Function No.</td>
<td>Function Description</td>
<td>ANSI No.</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Corridor</td>
<td>73</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked by key in outside lever or by push button. Key in outside lever locks or unlocks outside lever. Operating inside lever releases push button. Closing door releases push button. Inside lever always operates latchbolt.</td>
<td>F90</td>
</tr>
<tr>
<td>Keyed Communicating</td>
<td>79</td>
<td>Deadlocking latchbolt by inside lever except when locked by key. Non-removable blank plate outside (13/16&quot; [31 mm] projection).</td>
<td>F113</td>
</tr>
<tr>
<td>Storeroom</td>
<td>80</td>
<td>Deadlocking latchbolt operated by key in outside lever, or by operating inside lever. Outside lever is always locked. Inside lever is always unlocked.</td>
<td>F86</td>
</tr>
</tbody>
</table>
3500 SERIES - LEVER OPTIONS

APOLLO KNOB

ARCHER LEVER

AUGUST LEVER

WITHNELL LEVER

Notes: Optional tactile warning available on all lever styles (only outside lever will include raised surfaces unless otherwise specified).
### FEATURES
- No exposed mounting screws
- Non-handed
- Conventional cylinder or Small Format Interchangeable Core option available

### Certifications:
- BHMA Certified ANSI A156.2 Series 4000 Grade 2
- ADA Compliant ANSI A117.1 Accessibility Code (levers only)
- ANSI A250.13 Severe Windstorm Resistant Component
- UL/cUL Listed for all functions up to 3 hours for “A” label single doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

### Lever Options:
- Apollo knob; Archer, August, Withnell levers

### Options:
- Lead lined (leversets only)
- Tactile warning (levers only)
- Antimicrobial coating (26D finish only)
- Split finish
- Additional latchbolts and strikes available

### SPECIFICATIONS

| Standard Door | 2-1/8” (54 mm) diameter (bore) |
| Prep: | Latch hole: 1” (25 mm) diameter (cross bore) |
| Exposed Trim: | Knobs: Wrought brass or stainless steel |
| | Levers: Cast zinc |
| | Rose: Wrought brass or stainless steel |
| Rose Diameter: | 3-11/32” (85 mm) levers; 3” (76 mm) knobs |
| Lock Chassis: | Heavy gauge steel, zinc dichromated for corrosion resistance |
| | Free wheeling (levers only) |
| | Removable thru-bolts (Note: Failure to install thru-bolts and removable screw posts voids BHMA certification, UL rating and warranty) |
| Keys: | Two operating keys supplied per lock |
| Cylinders/Cores: | Brass - keyed different - Schlage C Keyway - Standard |
| | Cylinder drilled 6-pin, keyed 5-pin - Standard |
| | Other keying options, including keyed 6-pin, available from factory (see cylinder, core and keying section) |
| | Zero bit cylinders will be 6 pin keyed – standard |
| | Small Format Interchangeable Core option available |
| | SFIC uncombined or combined, brass 6- or 7-pin cores sold separately |
| Door Thickness: | Knobs: 1-3/8” - 1-3/4” (35 mm - 45 mm) |
| | Levers: 1-3/8” - 2” (35 mm - 51 mm) |
| Backset: | 2-3/4” (70 mm) - Standard |
| | 2-3/8” (60 mm) - Optional |
| | 3-3/4” (94 mm) - Optional |
| | 5” (128 mm) - Optional |
| Latchbolt: | 1/2” (13 mm) throw, stainless steel |
| | 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate for 2-3/4” (70 mm) backset |
| | 1” x 2-1/4” (29 mm x 57 mm) faceplate for 2-3/8” (60 mm) backset |
| | Deadlocking latchbolt prevents manipulation when door is closed; keyed functions and 25 function only |
| | Square corner faceplate standard, round corner available |
| Strike: | 3935 ASA 1-1/4” x 4-7/8” (32 mm x 124 mm) strike - Standard |
| Functions: | 10 Passage, 17 Dummy, 25 Exit (only), 27 Back to Back Dummy (levers only), 40 Privacy, 50 Entry/Office, 53 Entry, 70 Classroom, 73 Corridor (levers only), 79 Keyed Communicating, 80 Storeroom |
| (Notes: Blank plate projection is 13/16” for functions 25 and 79) |

### FINISHES
- US3, US32D (knobs only)

### WARRANTY
- Lifetime warranty
Spring Latches

3947
2-3/4” (70 mm) Backset
Passage Spring Latch
- Square and round corner available
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

3949
2-3/8” (60 mm) Backset
Passage Spring Latch
- Square and round corner available
- 1” x 2-1/4” (25 mm x 57 mm) faceplate

Optional Drive-In Spring Latches

3922
2-3/4” (70 mm) Backset
Passage Spring Latch

3925
2-3/8” (60 mm) Backset
Passage Spring Latch

Dead Latches

3948
2-3/4” (70 mm) Backset
Dead Latch
- Square and round corner available
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate
- For use with all keyed functions other than corridor

3950
2-3/8” (60 mm) Backset
Dead Latch
- Square and round corner available
- 1” x 2-1/4” (25 mm x 57 mm) faceplate
- For use with all keyed functions other than corridor

Optional Drive-In Dead Latches

3924
2-3/4” (70 mm) Backset
Dead Latch
For use with all keyed functions other than corridor

3927
2-3/8” (60 mm) Backset
Dead Latch
For use with all keyed functions other than corridor

Dead Latches - Corridor Function Only

3995
2-3/4” (70 mm) Backset
Dead Latch - Corridor Function Only
- Square and round corner available
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

3994
2-3/8” (60 mm) Backset
Dead Latch - Corridor Function Only
- Square and round corner available
- 1” x 2-1/4” (25 mm x 57 mm) faceplate

3996
2-3/8” (60 mm) Backset
Dead Latch - Corridor Function Only

3997
2-3/4” (70 mm) Backset
Dead Latch - Corridor Function Only
3500 SERIES LATCHBOLTS

Backset Extension Links

**3917**
3-3/4” (95 mm) Backset Extension Link
Must use with 2-3/8” (60 mm) backset latch to achieve 3-3/4” total backset

**3937**
5” (127 mm) Backset Extension Link
Must use with 2-3/4” (70 mm) backset latch to achieve 5” total backset

3500 SERIES STRIKES

**3933**
T-Strike with Plastic Dust Box
- 1-1/8” x 2-3/4” (29 mm x 70 mm)
- Dust box included

**3934**
Full Lip Strike
- 1-5/8” x 2-1/4” (41 mm x 57 mm)

**3935**
Standard ASA Strike Plate
- 1-1/4” x 4-7/8” (32 mm x 124 mm)
- 1-5/16” lip
- Other lengths available upon request

**3958**
Full Lip Strike with Round Corner
- 1-5/8” x 2-1/4” (41 mm x 57 mm)
- 1/4” (6 mm) radius

3500 SERIES ACCESSORIES

**3959**
Faceplate Adapter
Convents 1” (25 mm) to 1-1/8” (28 mm) width

**3912**
Thru-Bolt Jig
For 3500 Series lever set only
Hager 3600 Series Grade 2 tubular lockset provides the necessary security and dependability of a commercial lock with a more residential look. It is well suited for medium duty commercial or heavy duty residential applications such as multi-family housing.
# 3600 Series - How to Order

## Product Group
- **3653**: 3600 Series Locks
- **ADJ**: Adjustable Backset/Faceplate (2-3/8” to 2-3/4”)  
- **US26**: Interior Finish (US26)
- **ARC**: Conventional Keyway  
  - SCC - Schlage C  
  - AR1 - Arrow  
  - C60 - Corbin 60  
  - C67 - Corbin 67  
  - C77 - Corbin 77  
  - CL4 - Corbin L4  
  - SCE - Schlage E  
  - SCF - Schlage F  
  - H1 - Hager 1  
  - H2 - Hager 2  
  - H3 - Hager 3  
  - KW1 - Kwikset  
  - RD1 - Russwin D1  
  - SGT - Sargent LA  
  - YAP - Yale E1R (Para)  
  - YGA - Yale GA  
  - WE - Weiser E  
  - NC - No Cylinder  
  - SFIC* - Small Format Interchangeable Core Prep  
- **KD**: Strike  
  - ASA (Standard)  
  - Full Lip  
  - RC Full Lip  
  - TEE  
- **ASA**: Lever Style  
  - ARC - Archer Lever  
  - AUG - August Lever  
  - WTN - Withnall Lever  
- **TW**: Options  
  - TW - Tactile Warning  
  - 6PKEY - 6-pin Keyed  
  - 7PKEY - 7-pin Keyed  
  - SFIC* - Small Format Interchangeable Core Prep  

## Notes:
1. If masterkeyed, include completed master key form with order (available on page 88 or www.hagerco.com).
2. For additional keying information, please refer to cylinder, core, and keying section of catalog (page 73).

* Small format interchangeable core sold separately. Available in Best Keyways (A Standard) or Hager Keyways (optional).

**Ordering example:** 3653 ADJ 2-3/8” to 2-3/4” US26D WTN NC ASA SFIC

---

**Lever Style**
- **ARC** - Archer Lever
- **AUG** - August Lever
- **WTN** - Withnall Lever

**Conventional Keyway**
- **SCC** - Schlage C
- **AR1** - Arrow
- **C60** - Corbin 60
- **C67** - Corbin 67
- **C77** - Corbin 77
- **CL4** - Corbin L4
- **SCE** - Schlage E
- **SCF** - Schlage F
- **H1** - Hager 1
- **H2** - Hager 2
- **H3** - Hager 3
- **KW1** - Kwikset
- **RD1** - Russwin D1
- **SGT** - Sargent LA
- **YAP** - Yale E1R (Para)
- **YGA** - Yale GA
- **WE** - Weiser E
- **NC** - No Cylinder (SFIC Housing Only)

**Function**
- 10 - Passage
- 17 - Single Dummy
- 40 - Privacy
- 53 - Entry/Office
- 70 - Classroom
- 80 - Storeroom

**Backset/Faceplate**
- 2-3/8” (60 mm) - 2-3/4” (70 mm), SC Adjustable (standard)
- 2-3/8” (60 mm) - 2-3/4” (70 mm), RC Adjustable

**Interior Finish**
- **US3**
- **US4**
- **US10**
- **US10B**
- **US26**
- **US26D**

**Strike**
- ASA (Standard)
- Full Lip
- RC Full Lip
- TEE

**Options**
- TW - Tactile Warning
- 6PKEY - 6-pin Keyed
- 7PKEY - 7-pin Keyed
- SFIC* - Small Format Interchangeable Core Prep

**Keying**
- **KA** - Keyed Alike
- **KD** - Keyed Different
- **MK** - Master Key
- **CMK** - Construction Master Key
- **SK** - Customer Specified Keying
- **0BC** - “0” Bitted Cylinder (Conventional Only)
- **1BC** - “1” Bitted Cylinder (Conventional Only)
<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Keyed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passage</td>
<td>10</td>
<td>Latchbolt operated by lever from either side at all times.</td>
<td>F75</td>
</tr>
<tr>
<td>Dummy - Single</td>
<td>17</td>
<td>Pull one side, no mechanical operation.</td>
<td>-</td>
</tr>
<tr>
<td>Privacy</td>
<td>40</td>
<td>Latchbolt operated by lever from either side. Outside lever is locked by push button inside and unlocked by emergency release outside or operating inside lever.</td>
<td>F76B</td>
</tr>
<tr>
<td>Keyed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry/Office</td>
<td>53</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked by push button on inside. When outside lever is locked, operating key in outside lever unlocks locking device. Locking device shall automatically release when inside lever is operated. Closing door does not release push button.</td>
<td>F82A</td>
</tr>
<tr>
<td>Classroom</td>
<td>70</td>
<td>Deadlocking latchbolt operated by lever from either side except when outside lever is locked from outside by key. When outside lever is locked, latchbolt is operated by inside lever.</td>
<td>F84</td>
</tr>
<tr>
<td>Storeroom</td>
<td>80</td>
<td>Deadlocking latchbolt operated by key in outside lever, or by operating inside lever. Outside lever is always locked. Inside lever is always unlocked.</td>
<td>F86</td>
</tr>
</tbody>
</table>
Notes: Optional tactile warning available on all lever styles (only outside lever will include raised surfaces unless otherwise specified).
**3600 SERIES - GRADE 2 TUBULAR**

**WARRANTY**
- Five-year warranty

**FEATURES**
- Heavy duty residential - medium duty commercial
- No exposed mounting screws
- Non-handed
- Conventional cylinder or Small Format Interchangeable Core option available

**Certifications:**
- BHMA Certified ANSI A156.2 Series 4000 Grade 2
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for all functions up to 3 hours for “A” label single doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

**Lever Options:**
- Archer, August, Withnell levers

**Options:**
- Tactile warning
- Split finish

**SPECIFICATIONS**

**Standard Door**

<table>
<thead>
<tr>
<th>Prep:</th>
<th>Latch hole: 1” (25 mm) diameter (cross bore)</th>
</tr>
</thead>
</table>

**Exposed Trim:**
- Levers: Cast zinc
- Rose: Wrought brass

**Rose Diameter:**
- 2-15/16” (75 mm)

**Lock Chassis:**
- Heavy gauge steel, zinc dichromated

**Keys:**
- Two operating keys supplied per lock

**Cylinders/Cores:**
- Brass - keyed different - Schlage C Keyway - Standard
- Cylinder drilled 6-pin, keyed 5-pin - Standard
- Other keying options, including keyed 6-pin, available from factory (see cylinder, core and keying section)
- Zero bit cylinders will be 6 pin keyed – standard
- Small Format Interchangeable Core option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately

**Door Thickness:**
- 1-3/8” - 1-3/4” (35 mm - 45 mm)

**Backset:**
- Adjustable 2-3/8” - 2-3/4” (60 mm - 70 mm)
- Preset at factory for 2-3/8” (60 mm)

**Latchbolt:**
- 1/2” (13 mm) throw, stainless steel
- 1” x 2-1/4” (25 mm x 57 mm) faceplate
- Square corner faceplate standard, round corner available
- Deadlocking latchbolt prevents manipulation when door is closed; keyed functions only

**Strike:**
- 3935 ASA 1-1/4” x 4-7/8” (32 mm x 124 mm) strike - Standard

**Functions:**
- 10 Passage, 17 Dummy, 40 Privacy, 53 Entry, 70 Classroom, 80 Storeroom

**FINISHES**
3600 SERIES LATCHBOLTS

Adjustable Backset Spring Latches

3951
2-3/8” (60 mm) - 2-3/4” (70 mm)
Adjustable Backset
Spring Latch - Standard
• Square corner
• 1” x 2-1/4” (25 mm x 57 mm) faceplate
• For use with Passage/Privacy functions

3953
2-3/8” (60 mm) - 2-3/4” (70 mm)
Adjustable Backset
Spring Latch
• Round corner
• 1” x 2-1/4” (25 mm x 57 mm) faceplate
• For use with Passage/Privacy functions

Optional Drive-In Latchbolts

3914
2-3/8” (60 mm) - 2-3/4” (70 mm)
Adjustable Backset
Spring Latch
For use with Passage/Privacy functions

3915
2-3/8” (60 mm) - 2-3/4” (70 mm)
Adjustable Backset
Dead Latch
For use with all keyed functions

5” Backset Spring Latches

3939
5” (127 mm) Backset
Spring Latch
• Square and round corner available
• 1” x 2-1/4” (25 mm x 57 mm) faceplate
• For use with Passage/Privacy functions

Adjustable Backset Dead Latches

3952
2-3/8” (60 mm) - 2-3/4” (70 mm)
Adjustable Backset
Dead Latch - Standard
• Square corner
• 1” x 2-1/4” (25 mm x 57 mm) faceplate
• For use with all keyed functions

3954
2-3/8” (60 mm) - 2-3/4” (70 mm)
Adjustable Backset
Dead Latch
• Round corner
• 1” x 2-1/4” (25 mm x 57 mm) faceplate
• For use with all keyed functions

3600 SERIES STRIKES

3933
T-Strike with Plastic Dust Box
• 1-1/8” x 2-3/4” (29 mm x 70 mm)
• Dust box included

3934
Full Lip Strike
1-5/8” x 2-1/4” (41 mm x 57 mm)

3935
ASA Strike - Standard
• 1-1/4” x 4-7/8” (32 mm x 124 mm)
• 1-5/16” lip
• Other lengths available upon request

3958
Full Lip Strike with Round Corner
• 1-5/8” x 2-1/4” (41 mm x 57 mm)
• 1/4” radius

3959
Faceplate Adapter
• Converts 1” (25 mm) to 1-1/8” (28 mm) width
• Supplied standard with 3600 Series
Hager 3700 Series Grade 2 interconnected lock is a perfect match for residential or commercial applications such as apartment buildings and assisted living facilities. These versatile locks provide a single action for retracting the latchbolt and deadbolt simultaneously for panic-free egress. They are supplied with an optional exterior escutcheon plate standard and are backed by a lifetime warranty.
## 3700 SERIES - HOW TO ORDER

### 3710 2-3/4" US3 US26 ARC SCC KD TEE TW

<table>
<thead>
<tr>
<th>Function</th>
<th>Interior Finish</th>
<th>Conventional Keyway</th>
<th>Strike</th>
<th>TW Options</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - Entry/Single Locking</td>
<td></td>
<td>SCC - Schlage C</td>
<td>T-Strike (Standard)</td>
<td>Leadlined</td>
<td>1. If masterkeyed, include completed master key form with order (available on page 88 or <a href="http://www.hagerco.com">www.hagerco.com</a>).</td>
</tr>
<tr>
<td>53 - Entry/Double Locking</td>
<td>(IF Different)</td>
<td>AR1 - Arrow</td>
<td>No Lip, DB Strike (Standard)</td>
<td>6-pin Keyed</td>
<td>2. For additional keying information, please refer to Cylinder, Core &amp; Keying section of catalog (page 73).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C60 - Corbin 60</td>
<td>Full Lip</td>
<td>7-pin Keyed (Hager)</td>
<td>* Small format interchangeable core sold separately. Available in Best Keyways (A Standard) or Hager Keyways (optional).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C67 - Corbin 67</td>
<td>RC</td>
<td>Small Format Interchangeable Core Prep</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C77 - Corbin 77</td>
<td></td>
<td></td>
<td>Ordering example: 3753 2-3/4&quot; US26D WTN NC TEE SFIC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CL4 - Corbin L4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCE - Schlage E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCF - Schlage F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H1 - Hager 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H2 - Hager 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H3 - Hager 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>KW1 - Kwilset</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>RD1 - Russwin D1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SGT - Sargent LA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>YAP - Yale E1R (Para)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>YGA - Yale GA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WE - Weiser E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NC - No Cylinder (SFIC Housing Only)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Lever Style
- ARC - Archer Lever
- AUG - August Lever
- WTN - Withnell Lever

### Backset/Faceplate
- 2-3/4" (70 mm), SC (Standard)
- 2-3/4" (70 mm), RC
- 2-3/8" (60 mm), SC
- 2-3/8" (60 mm), RC

### Function Chart

<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interconnected Single Locking Entry</td>
<td>10</td>
<td>Deadbolt thrown or retracted by key outside or by inside thumbturn. Bolt automatically deadlocks when fully thrown. Latchbolt retracted by lever from either side. Inside lever retracts deadbolt and latchbolt simultaneously for immediate exit.</td>
<td>F95</td>
</tr>
<tr>
<td>Interconnected Double Locking Entry</td>
<td>53</td>
<td>Deadbolt thrown or retracted by key outside or by inside thumbturn. Bolt automatically deadlocks when fully thrown. Deadlatch retracted by key outside when locked by pushing turnbutton on inside lever. Outside lever may be fixed in locked position by rotating turnbutton. Inside lever retracts deadbolt and deadlatch simultaneously for immediate exit.</td>
<td>F97</td>
</tr>
</tbody>
</table>
3700 SERIES - LEVER OPTIONS

ARCHER LEVER

AUGUST LEVER

WITHNELL LEVER

INSIDE ESCUTCHEON

OPTIONAL OUTSIDE ESCUTCHEON

WEIGHT: 1.93

S-LS00813 - copy 2

- Material <not specified>

MRJ 1/6/2009

GRADE 2 - PASSAGE LEVERSET

INTERCONNECTED

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HAGER COMPANIES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HAGER COMPANIES IS PROHIBITED. SHEET 1 OF 1

Q.A.

ENG. APPR.

DRAWN

TOLERANCES:

FRACTIONAL: 0.015"

ANGULAR: MACH: 1  BEND: 1

TWO PLACE DECIMAL: 0.01"

THREE PLACE DECIMAL: 0.004"

DO NOT SCALE DRAWING FINISH MATERIAL

REV.

DWG. NO.SIZE

SCALE:1:2

HAGER RESERVES THE RIGHT TO MAKE DESIGN CHANGES WITHOUT NOTICE. CALL HAGER ENGINEERING AT 1-800-325-9995 FOR THE LATEST REVISION DATE OF TEMPLATE.
3700 SERIES - GRADE 2 INTERCONNECTED - MEDIUM DUTY COMMERCIAL

**WARRANTY**
- Lifetime warranty

**FEATURES**
- Cylindrical chassis
- Non-handed
- Conventional cylinder or Small Format Interchangeable Core option available
- BHMA Certified ANSI A156.12 Grade 2
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for all functions up to 3 hours for "A" label single doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

**Certifications:**
- BHMA Certified ANSI A156.12 Grade 2
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for all functions up to 3 hours for "A" label single doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

**Lever Options:**
- Archer, August, Withnell levers

**Options:**
- Split finish
- Split lever design

**SPECIFICATIONS**

**Standard Door**
- 4” (102 mm) center of deadbolt to center of lock chassis
- 2-1/8” (54 mm) diameter (bore)

**Prep:**
- Latch hole: 1” (25 mm) diameter (cross bore)

**Exposed Trim:**
- Wrought brass or bronze, cast zinc lever

**Rose Diameter:**
- 2-1/2” (63 mm)

**Lock Chassis:**
- Heavy gauge steel, zinc dichromated
- Thru-bolt mounting
- "Non-clutching" exterior lever

**Outside Escutcheon:**
- 3-5/16” x 7-15/16” x 3/8” (84 mm x 202 mm x 10 mm)

**Inside Escutcheon:**
- 3-1/16” x 7-15/16” x 1/8” (78 mm x 202 mm x 3 mm)

**Keys:**
- Two operating keys supplied per lock

**Cylinders/Core options:**
- Brass - keyed different - Schlage C Keyway - Standard
- Cylinder drilled 6-pin, keyed 5-pin - Standard
- Other keying options, including keyed 6-pin, available from the factory (see cylinder, cores and keying section)
- Zero bit cylinders will be 6 pin keyed – standard
- Small Format Interchangeable Core option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately

**Door Thickness:**
- 1-3/8” - 1-3/4” (35 mm - 45 mm) - Standard
- 2” (52 mm) doors - Optional

**Backsets:**
- 2-3/4” (70 mm) - Standard
- 2-3/8” (60 mm) - Optional

**Latchbolt:**
- 1/2” (13 mm) Throw - stainless steel
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate for 2-3/4” (70 mm) backset
- 1” x 2-1/4” (25 mm x 57 mm) faceplate for 2-3/8” (60 mm) backset
- Deadlocking latchbolt prevents manipulation when door is closed; keyed functions only
- Square corner faceplate standard, round corner available

**Deadbolt:**
- 1” (25 mm) Throw - brass with concealed steel roller to prevent sawing or cutting
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate for 2-3/4” (70 mm) backset 1” x 2-1/4” (25 mm x 57 mm) faceplate for 2-3/8” (60 mm) backset

**Strikes:**
- 3933 square corner t-strike with plastic dust box, 1-1/8” x 2-3/4” (29 mm x 70 mm) - Standard
- 3930 square corner strike plate with dust box, 1-1/8” x 2-3/4” (29 mm x 70 mm) - Standard

**Functions:**
- 10 Single Locking Entry
- 53 Double Locking Entry

**FINISHES**

**WARRANTY**
- Lifetime warranty

**FEATURES**
- Cylindrical chassis
- Non-handed
- Conventional cylinder or Small Format Interchangeable Core option available

**Certifications:**
- BHMA Certified ANSI A156.12 Grade 2
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for all functions up to 3 hours for "A" label single doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

**Lever Options:**
- Archer, August, Withnell levers

**Options:**
- Split finish
- Split lever design

**SPECIFICATIONS**

**Standard Door**
- 4” (102 mm) center of deadbolt to center of lock chassis
- 2-1/8” (54 mm) diameter (bore)

**Prep:**
- Latch hole: 1” (25 mm) diameter (cross bore)

**Exposed Trim:**
- Wrought brass or bronze, cast zinc lever

**Rose Diameter:**
- 2-1/2” (63 mm)

**Lock Chassis:**
- Heavy gauge steel, zinc dichromated
- Thru-bolt mounting
- "Non-clutching" exterior lever

**Outside Escutcheon:**
- 3-5/16” x 7-15/16” x 3/8” (84 mm x 202 mm x 10 mm)

**Inside Escutcheon:**
- 3-1/16” x 7-15/16” x 1/8” (78 mm x 202 mm x 3 mm)

**Keys:**
- Two operating keys supplied per lock

**Cylinders/Core options:**
- Brass - keyed different - Schlage C Keyway - Standard
- Cylinder drilled 6-pin, keyed 5-pin - Standard
- Other keying options, including keyed 6-pin, available from the factory (see cylinder, cores and keying section)
- Zero bit cylinders will be 6 pin keyed – standard
- Small Format Interchangeable Core option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately

**Door Thickness:**
- 1-3/8” - 1-3/4” (35 mm - 45 mm) - Standard
- 2” (52 mm) doors - Optional

**Backsets:**
- 2-3/4” (70 mm) - Standard
- 2-3/8” (60 mm) - Optional

**Latchbolt:**
- 1/2” (13 mm) Throw - stainless steel
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate for 2-3/4” (70 mm) backset
- 1” x 2-1/4” (25 mm x 57 mm) faceplate for 2-3/8” (60 mm) backset
- Deadlocking latchbolt prevents manipulation when door is closed; keyed functions only
- Square corner faceplate standard, round corner available

**Deadbolt:**
- 1” (25 mm) Throw - brass with concealed steel roller to prevent sawing or cutting
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate for 2-3/4” (70 mm) backset
- 1” x 2-1/4” (25 mm x 57 mm) faceplate for 2-3/8” (60 mm) faceplate

**Strikes:**
- 3933 square corner t-strike with plastic dust box, 1-1/8” x 2-3/4” (29 mm x 70 mm) - Standard
- 3930 square corner strike plate with dust box, 1-1/8” x 2-3/4” (29 mm x 70 mm) - Standard

**Functions:**
- 10 Single Locking Entry
- 53 Double Locking Entry
### 3700 SERIES - LATCHBOLTS

#### Spring Latches

**3947**
2-3/4” (70 mm) Backset  
Passage Spring Latch  
- Square and round corner available  
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

**3949**
2-3/8” (60 mm) Backset  
Passage Spring Latch  
- Square and round corner available  
- 1” x 2-1/4” (25 mm x 57 mm) faceplate

#### Dead Latches

**3948**
2-3/4” (70 mm) Backset  
Dead Latch - Standard  
- Square and round corner available  
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

**3950**
2-3/8” (60 mm) Backset  
Dead Latch  
- Square and round corner available  
- 1” x 2-1/4” (25 mm x 57 mm) faceplate

### 3700 SERIES STRIKES

**3930**
Strike Plate  
1-1/8” x 2-3/4” (29 mm x 70 mm)

**3933**
T-Strike with Plastic Dust Box  
1-1/8” x 2-3/4” (29 mm x 70 mm)

**3934**
Full Lip Strike  
1-5/8” x 2-1/4” (41 mm x 57 mm)

**3958**
Round Corner Full Lip Strike  
- 1-5/8” x 2-1/4” (41 mm x 57 mm)  
- 1/4” (6 mm) radius

**3959**
Faceplate Adapter  
Converts 1” (25 mm) to 1-1/8” (28 mm) width

### 3700 SERIES DEADBOLTS

**3920**
2-3/4” (70 mm) Backset  
Tapered Deadbolt - Standard  
- Square and round corner available  
- 1-1/8” x 2-1/4” (29 mm x 57 mm) faceplate

**3921**
2-3/8” (60 mm) Backset  
Tapered Deadbolt  
- Square and round corner available  
- 1” x 2-1/4” (25 mm x 57 mm) faceplate
Hager 3800 Series mortise lock provides maximum security and durability for the harshest environments. With field reversible handing, ease of installation, and both escutcheon and sectional models available, our 3800 Series lock provides great flexibility. What’s more, it is ANSI certified Grade 1 Operational and Security and is backed by a lifetime warranty.
### 3800 SERIES - ESCUTCHEON & SECTIONAL MORTISE LOCKS - HOW TO ORDER

#### Product Group

- **38** - Mortise Lock, Grade 1

#### Function

- 10 - Passage
- 17 - Single Dummy
- 27 - Double Dummy
- 40 - Privacy
- 44 - Privacy w/ Cointurn
- 50 - Office
- 53 - Entry
- 56 - Corridor
- 57 - Intruder Classroom
  - with Deadbolt
- 61 - Apartment
- 70 - Classroom
- 80 - Storeroom
- 81 - Storeroom with Deadbolt
- 82 - Institution
- 96 - Privacy w/ Indicator

#### Conventional Keyway

- **SCC** - Schlage C
- **AR1** - Arrow
- **C60** - Corbin 60
- **C67** - Corbin 67
- **C77** - Corbin 77
- **CL4** - Corbin L4
- **SCE** - Schlage E
- **SCF** - Schlage F
- **H1** - Hager 1
- **H2** - Hager 2
- **H3** - Hager 3
- **KW1** - Kwikset
- **RD1** - Russwin D1
- **SGT** - Sargent LA
- **YAP** - Yale E1R (Para)
- **YGA** - Yale GA
- **WE** - Weiser E
- 0 - No Core

#### Keying

- KA - Keyed Alike
- KD - Keyed Different
- MK - Master Key
- **CMK** - Construction Master Key
- **SK** - Customer Specified Keying
- **0BC** - "0" Bitted Cylinder
- **1BC** - "1" Bitted Cylinder
- NC - Less SFIC Core
- LF - Less LFIC Core
- **0** -

#### Cylinder

- **Full** - Full Face Cylinder
- **ICFull6** - IC Full Face Cylinder 6-Pin Housing
- **ICFull7** - IC Full Face Cylinder 7-Pin Housing
- **000** - Less Mortise Cylinder

#### Armor Front

- **Square Corner**
  - **1-1/4"**
- RCAF - Round Corner
  - **1-1/4"**
- NAF - Narrow 1-1/16"
- RCNAF - Round Corner
  - Narrow 1-1/16"

#### Trim

- **ESC** - Escutcheon
- **SECT** - Sectional

#### Lever Style

- **ARC** - Archer
- **AUG** - August
- **CHA** - Charles
- **JHN** - Johnston (Handed)
- **JOS** - Joshua
- **LOU** - Louis
- **WRN** - Warren (Handed)
- **WLM** - William
- **WTN** - Withnell

#### Finish

- US3
- US4
- US10
- US10B
- US15
- US26
- JHN - Johnston (Handed)
- JOS - Joshua
- LOU - Louis
- WRN - Warren (Handed)
- WLM - William
- WTN - Withnell

#### Interior Finish (If Different)

- US3
- US4
- US10

#### Door Thickness

- 0 - 1-3/4" Door
- DR1G - 1-3/8" Door
- DR20 - 2" Door
- DR2D - 2-1/4" Door
- DR25 - 2-1/2" Door

#### Strike

- 0 - Standard (ASA)
- EL15 - Extended
  - (1-1/2" Lip)
- FLP - Flat
  - (7/8" Lip)
- FL1C - Flat
  - (1-3/16" Lip)
- RCS - Round Corner
  - (1-3/16" Lip)
- RCEL15 - Round Corner
  - (1-1/2" Lip)

#### Options

- TW - Tactile Warning
- LL - Leadlined
- LH - Left Hand
- LHR - Left Hand Reverse
- RH - Right Hand
- RHR - Right Hand Reverse
- T - Torx Screws
- WSR - Windstorm Rated

#### Notes:

- Finishes other than US10B, US15, US26D and US32D will be subject to extended lead times.
- If masterkeyed, include completed master key form with order (available on page 88 or www.hagerco.com).
- For additional keying information, refer to cylinder, core, and keying section of catalog (page 73).
- * Small format interchangeable core sold separately. Available in Best Keyways (A Standard), Hager Keyways (optional).
- * Large format interchangeable core sold separately. Available in Schlage C Keyway only.

**Ordering example:** 3850 ESC 26D WTN ICFULL6 NC

**Ordering example:** 3850 ESC 26D WTN ICFULL6 LF
3800 SERIES - MORTISE DEADLOCKS - HOW TO ORDER

### 3860 SECT US3 US26 Full6 SCC KD 0 0 0 LL

#### Trim
- SECT - Sectional

#### Interior Finish
- (if different)

#### Finish
- US3*
- US4*
- US10*
- US10B*
- US26*
- US26D

#### Function
- 30 - Small Case Deadbolt/Cylinder x Thumbturn
- 31 - Small Case Deadbolt/Door Bolt
- 32 - Small Case Deadbolt/Double Cylinder
- 33 - Small Case Deadbolt/Classroom (Handed)
- 34 - Small Case Deadbolt/Cylinder Only
- 35 - Sliding Door/Cylinder x Thumbturn
- 36 - Sliding Door/Cylinder Only
- 37 - Sliding Door/Double Cylinder
- 38 - Sliding Door/Thumbturn Only
- 39 - Sliding Door/Thumbturn w/Emergency Key
- 60 - Deadbolt/Cylinder x Thumbturn
- 62 - Deadbolt/Double Cylinder
- 63 - Deadbolt/Classroom (Handed)
- 64 - Deadbolt/Cylinder

#### Cylinder
- Full - Full face cylinder 6-pin
- ICFull6* - IC full face cylinder 6-pin housing
- ICFull7* - IC full face cylinder 7-pin housing
- 000 - Less mortise cylinder

#### Conventional Keyway
- SCC - Schlage C
- AR1 - Arrow
- C60 - Corbin 60
- C67 - Corbin 67
- C77 - Corbin 77
- CL4 - Corbin L4
- SCE - Schlage E
- SCF - Schlage F
- H1 - Hager 1
- H2 - Hager 2
- H3 - Hager 3
- KW1 - Kwikset
- RD1 - Russwin D1
- SGT - Sargent LA
- YAP - Yale EIR (Para)
- YGA - Yale GA
- WE - Weiser E
- 0 - No Core

#### Keying
- KA - Keyed Alike
- KD - Keyed Different
- MK - Master Key
- CMK - Construction Master Key
- SK - Customer Specified Keying
- 0BC - "0" Bitted Cylinder
- 1BC - "1" Bitted Cylinder
- NC - Less SFIC Core
- LF - Less LFIC Core

#### Notes:
- Finishes other than US26D may require extended lead times.
- If masterkeyed, include completed master key form with order (available on page 88 or www.hagerco.com).
- For additional keying information, refer to cylinder, core, and keying section of catalog (page 73).

* Small format interchangeable core sold separately. Available in Best Keyways (A standard), or Hager Keyways (optional).

* Large format interchangeable core sold separately. Available in Schlage C Keyway only.

**Ordering example:**
- 3860 SECT 26D ICFULL6 NC
- 3860 SECT 26D ICFULL6 LF


<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Keyed Without Deadbolt</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>50</td>
<td>Latchbolt retracted by lever from either side unless outside is made inoperative by key outside or by turning inside thumbturn. When outside is locked, latchbolt is retracted by lever inside. Outside lever remains locked until thumbturn is returned to vertical or unlocked by key. Auxiliary latch deadlocks latchbolt when door is closed.</td>
<td>F04</td>
</tr>
<tr>
<td>Apartment Entrance</td>
<td>61</td>
<td>Latchbolt retracted by lever from either side unless outside is locked by key from inside. When locked, latchbolt retracted by key outside or lever inside. Auxiliary latch deadlocks latchbolt when door is closed.</td>
<td>F09</td>
</tr>
<tr>
<td>Classroom</td>
<td>70</td>
<td>Latchbolt retracted by lever from either side unless outside is locked by key. Unlocked from outside by key. Inside lever always free for immediate exit. Auxiliary latch deadlocks latchbolt when door is closed.</td>
<td>F05</td>
</tr>
<tr>
<td>Storeroom</td>
<td>80</td>
<td>Latchbolt retracted by key outside or by lever inside. Outside lever always inoperative. Inside lever always free for immediate exit. Auxiliary latch deadlocks latchbolt when door is closed.</td>
<td>F07</td>
</tr>
<tr>
<td>Institution</td>
<td>82</td>
<td>Latchbolt retracted by key from either side. Lever on both sides always inoperative. Auxiliary latch deadlocks latchbolt when door is closed.</td>
<td>F30</td>
</tr>
<tr>
<td><strong>Keyed With Deadbolt</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry</td>
<td>53</td>
<td>Latchbolt retracted by lever from either side unless outside is locked by 20° rotation of thumbturn. Deadbolt thrown or retracted by 90° rotation of thumbturn. When locked, key outside or lever inside retracts deadbolt and latchbolt simultaneously. Outside lever remains locked until thumbturn is restored to vertical position. Throwing deadbolt automatically locks outside lever. Auxiliary latch deadlocks latchbolt when door is closed.</td>
<td>F20</td>
</tr>
<tr>
<td>Corridor</td>
<td>56</td>
<td>Latchbolt retracted by lever from either side. Deadbolt thrown or retracted by key outside or thumbturn side. Throwing deadbolt locks outside lever. Turning inside lever simultaneously retracts deadbolt and latchbolt and unlocks the outside lever.</td>
<td>F13</td>
</tr>
<tr>
<td>Intruder Classroom w/ Deadbolt</td>
<td>57</td>
<td>Latchbolt retracted by lever from either side. Deadbolt thrown or retracted by key from either side. Throwing deadbolt locks outside lever. Turning inside lever simultaneously retracts deadbolt and latchbolt and unlocks the outside lever.</td>
<td>F33</td>
</tr>
<tr>
<td>Storeroom w/ Deadbolt</td>
<td>81</td>
<td>Latchbolt retracted by key outside or by lever inside. Outside lever always fixed. Deadbolt thrown or retracted by key outside or thumbturn inside. Turning inside lever simultaneously retracts deadbolt and latchbolt. Auxiliary latch deadlocks latchbolt when door is closed.</td>
<td></td>
</tr>
<tr>
<td><strong>Non-Keyed Without Deadbolt</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passage</td>
<td>10</td>
<td>Latchbolt retracted by lever from either side at all times.</td>
<td>F01</td>
</tr>
<tr>
<td>Privacy</td>
<td>40</td>
<td>Latchbolt retracted by lever from either side unless outside is locked by inside thumbturn. Turning inside lever or closing door unlocks outside lever. To unlock from outside, remove emergency button, insert emergency turn (furnished) in access hole and rotate.</td>
<td>F22</td>
</tr>
<tr>
<td>Privacy with Cointurn</td>
<td>44</td>
<td>Latchbolt retracted by lever from either side unless outside is locked by inside thumbturn or outside cointurn. Operating inside lever, closing door, rotating inside thumbturn, or rotating outside cointurn unlocks outside lever.</td>
<td></td>
</tr>
<tr>
<td>Function</td>
<td>Function No.</td>
<td>Function Description</td>
<td>ANSI No.</td>
</tr>
<tr>
<td>----------</td>
<td>--------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Non-Keyed Without Deadbolt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Privacy with Indicator                                                                       96</td>
<td>Latchbolt retracted by lever from either side. Turning inside thumbturn locks outside lever and displays “Occupied.” Operating inside lever, closing door, rotating inside thumbturn. To unlock from outside, remove emergency button, insert emergency turn (furnished) in access hole and rotate.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Non-Keyed Dummy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Dummy 17</td>
<td>Pull one side. No mechanical operation.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Double Dummy 27</td>
<td>Pull both sides. No mechanical operation (back to back).</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### 3800 SERIES DEADLOCK FUNCTION CHART

<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder x Thumbturn (Small Case) 30</td>
<td>Deadbolt operated by key from outside and by thumbturn from inside.</td>
<td>E06071</td>
<td></td>
</tr>
<tr>
<td>Door Bolt (Small Case) 31</td>
<td>Deadbolt operated by thumbturn from one side only. No trim on other side.</td>
<td>E06181</td>
<td></td>
</tr>
<tr>
<td>Double Cylinder Lock (Small Case) 32</td>
<td>Deadbolt operated by key from either side.</td>
<td>E06061</td>
<td></td>
</tr>
<tr>
<td>Classroom (Small Case) 33</td>
<td>Deadbolt operated by key from outside. Cylinder turn from inside retracts but does not project deadbolt.</td>
<td>E06091</td>
<td></td>
</tr>
<tr>
<td>Cylinder Only (Small Case) 34</td>
<td>Deadbolt operated by key from one side only.</td>
<td>E06081</td>
<td></td>
</tr>
<tr>
<td>Cylinder x Thumbturn (Sliding Door) 35</td>
<td>Deadbolt operated by key from outside and by thumbturn from inside.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cylinder Only (Sliding Door) 36</td>
<td>Deadbolt operated by key from one side only.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Double Cylinder Lock (Sliding Door) 37</td>
<td>Deadbolt operated by key from either side.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Thumbturn Only (Sliding Door) 38</td>
<td>Deadbolt operated by thumbturn from one side only.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Thumbturn w/ Emergency Key (Sliding Door) 39</td>
<td>Deadbolt operated by thumbturn from inside. To unlock from outside, remove emergency button, insert emergency key (furnished) in access hole and rotate.</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
## 3800 SERIES - ESCUTCHEON AND SECTIONAL LOCK FUNCTION CHART

<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
<th>ANSI No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder x Thumbturn</td>
<td>60</td>
<td>Deadbolt thrown or retracted by key outside or thumbturn inside.</td>
<td>F17</td>
</tr>
<tr>
<td>(Full Case)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Double Cylinder</td>
<td>62</td>
<td>Deadbolt operated by key from either side.</td>
<td>F16</td>
</tr>
<tr>
<td>(Full Case)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom</td>
<td>63</td>
<td>Deadbolt thrown or retracted by key from outside. Inside thumbturn cylinder retracts</td>
<td>F29</td>
</tr>
<tr>
<td>(Full Case)</td>
<td></td>
<td>deadbolt but cannot project it.</td>
<td></td>
</tr>
<tr>
<td>Cylinder</td>
<td>64</td>
<td>Deadbolt thrown or retracted by key from one side. No trim on opposite side.</td>
<td>F18</td>
</tr>
<tr>
<td>(Full Case)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ARCHER LEVER

Optional tactile warning available on all lever styles (only outside lever will include raised surfaces unless otherwise specified).

AUGUST LEVER

WILLIAM LEVER

WITHNELL LEVER

Optional tactile warning available on all lever styles (only outside lever will include raised surfaces unless otherwise specified).
3800 SERIES - ESCUTCHEON - DECORATIVE LEVER OPTIONS

CHARLES LEVER

JOHNSTON LEVER

JOSHUA LEVER

LOUIS LEVER

WARREN LEVER
3800 SERIES - SECTIONAL - STANDARD LEVER OPTIONS

ARCHER LEVER

Optional tactile warning available on all lever styles (only outside lever will include raised surfaces unless otherwise specified).
3800 SERIES - GRADE 1 MORTISE (ESCUTCHEON) - HEAVY DUTY

WARRANTY
Lifetime warranty

FEATURES
- Heavy duty commercial, industrial, institutional
- Concealed thru-bolts
- Lock body handing is field reversible (default from the factory is Left Hand Reverse)
- Conventional mortise cylinder, Small Format Interchangeable Core, or Large Format Interchangeable Core option available
- BHMA Certified Grade 1 Security with standard mortise cylinder

Certifications:
- BHMA Certified ANSI A156.13 Grade 1 Series 1000 Operational and Security
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for all functions up to 3 hours for "A" label doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated
- A250.13 Severe Windstorm Resistant (only available in 53 and 81 Functions)

Lever Options:
Archers, August, Charles, Johnston (handed), Joshua, Louis, Warren (handed), William, Withnell levers

Options:
- Tactile warning
- Lead lining
- Split finish
- Factory handing available if specified

SPECIFICATIONS

Standard Door
- 3-5/8" (92 mm) center of cylinder to spindle
- 2-7/16" (62 mm) center of thumbturn to spindle

Exposed Trim:
Cast zinc - Standard

Lock Case:
4-5/16" x 6" x 1" (110 mm x 152 mm x 25 mm)

Armor Front:
1-1/4" x 8" x 7/32" (32mm x 203mm x 5mm) - Square corner standard, round corner optional

Escutcheon:
1-15/16" x 8" (50 mm x 203 mm)

Keys:
Two operating keys supplied per lock

Cylinders/Cores:
- Brass - keyed different - Schlage C Keyway
- Cylinder drilled 6-pin, keyed 5-pin - Standard
- Other keying options, including keyed 6-pin, available from factory
- Zero bit cylinders will be 6 pin keyed – standard
- Large Format Interchangeable Core cylinder option available
- LFIC core available zero bitted or combined, brass 6- pin cores sold separately
- Small Format Interchangeable Core cylinder option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately
- Schlage "L" cam - Standard
- For function 61, ext cylinders, use standard cam

Door Thickness:
- 1-3/4" - 2-1/2" (45 mm - 64 mm)
- Privacy functions have a max door thickness of 2" (51 mm)
- Must specify door thickness if greater than 1-3/4" (45 mm)

Backset:
2-3/4" (70 mm) only

Latchbolt:
3/4" (19 mm) throw with anti-friction tongue, all stainless steel

Deadbolt:
1" (25 mm) throw - stainless steel

Strike:
3985 1-1/4" x 4 7/8" (32 mm x 124 mm), 1-7/32" (31 mm) lip - Standard

Fasteners:
Thru-bolted trim concealed under escutcheon

Functions:
10 Passage, 17 Dummy, 27 Double Dummy, 40 Privacy, 44 Privacy with Cointurn, 50 Office, 53 Entry, 56 Corridor, 57 Intruder Classroom with Deadbolt, 61 Apartment, 70 Classroom, 80 Storeroom, 81 Storeroom with Deadbolt, 82 Institution, 96 Privacy with Indicator

Notes:
- Self-adjusting case for beveled doors or square edge doors
- Stopworks are incorporated in thumbturn
- Non-handed, stainless steel, deadlocking latchbolt

FINISHES
- US3, US4, US10 and US26 may be subject to extended lead times
3800 SERIES - GRADE 1 MORTISE (SECTIONAL) - HEAVY DUTY

WARRANTY
- Lifetime warranty

FEATURES
- Heavy duty commercial, industrial, institutional
- Concealed thru-bolts
- Lock body handing is field reversible (default from the factory is Left Handed Reverse)
- Conventional mortise cylinder, Small Format Interchangeable Core, or Large Format Interchangeable Core option available
- BHMA Certified Grade 1 Security with standard mortise cylinder

Certifications:
- BHMA Certified ANSI A156.13 Series 1000 Grade 1 Operational and Security
- ADA Compliant ANSI A117.1 Accessibility Code
- A250.13 Severe Windstorm Resistant (only available in 53 and 81 Functions)

Lever Options: Archer, August, Charles, Johnston (handed), Joshua, Louis, Warren (handed), William, Withnell levers

Options:
- Tactile warning
- Lead lining
- Split finish
- Factory handing available if specified

SPECIFICATIONS

Standard Door
- 3-5/8" (92 mm) center of cylinder to spindle
- 2-7/16" (62 mm) center of thumbturn to spindle

Exposed Trim:
- Cast zinc - Standard

Lock Case:
- 4-5/16" x 6" x 1" (110 mm x 152 mm x 25 mm)

Armor Front:
- 1-1/4" x 8" x 7/32" (32mm x 203mm x 5mm) - Square corner standard, round corner optional

Rose Diameter:
- 2-7/16" (62 mm)

Keys:
- Two operating keys supplied per lock

Cylinders/Cores:
- Brass - keyed different - Schlage C Keyway
- Cylinder drilled 6-pin, keyed 5-pin - Standard
- Other keying options, including keyed 6-pin, available from factory
- Large Format Interchangeable Core cylinder option available
- LFIC core available zero bitted or combined, brass 6-pin cores sold separately
- Small Format Interchangeable Core cylinder option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately
- Schlage “L” Cam - Standard
- For Function 61, Ext Cylinders, use Standard Cam

Door Thickness:
- 1-3/4” - 2-1/2” (45 mm - 64 mm)
- Privacy functions have a max door thickness of 2” (51 mm)
- Must specify door thickness if greater than 1-3/4” (45 mm)

Backset:
- 2-3/4” (70 mm) only

Latchbolt:
- 3/4” (19 mm) throw with anti-friction tongue, all stainless steel

Deadbolt:
- 1” (25 mm) throw - stainless steel

Strike:
- 3985 1-1/4" x 4-7/8" (32 mm x 124 mm), 1-7/32” (31 mm) lip - standard

Fasteners:
- Thru-bolted trim concealed under rose

Functions:
- 10 Passage, 17 Dummy, 27 Double Dummy, 40 Privacy, 44 Privacy with Cointurn, 50 Office, 53 Entry, 56 Corridor, 57 Intruder Classroom with Deadbolt, 61 Apartment, 70 Classroom, 80 Storeroom, 81 Storeroom with Deadbolt, 82 Institution, 96 Privacy with Indicator

Notes:
- Self-adjusting case for beveled doors or square edge doors
- Stopworks are incorporated in thumbturn
- Non-handed, stainless steel, deadlocking latchbolt

FINISHES
- US3, US4, US10 and US26 may be subject to extended lead time
### FEATURES
- **Deadlocking latch**
- **Key override allows latchbolt to be momentarily retracted with the key even though electrically locked. Note that locks that are electrically unlocked may not be locked via the key cylinder.**
- **Inside lever always allows egress**
- **Interface with life-safety systems**
- **Continuous-duty solenoids**

### Function:
- 80 - Storeroom
- 82 - Institutional

### Applications:
- Provides remote locking and unlocking ideal for door control where added security is necessary
- Stairtower doors
- Office doors
- Classrooms
- Elevator lobby doors
- Computer rooms
- Hospital equipment rooms
- Pharmaceutical storage rooms

### Voltage:
- 12V AC/DC; current - .612AMP
- 24V AC/DC; current - .330AMP
- Specify 12V or 24V when ordering

### Quick Connect:
- Available option on EL, EU, RX, DPM, and LM. Compatible with Hager Quick Connect Harness Cable which can plug into Hager Hinges with Quick Connects for quick and accurate wiring of the door.

### FINISHES
- US3, US4, US10 and US26 may be subject to extended lead time

### Function Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Function No.</th>
<th>Function Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storeroom - Fail Safe</td>
<td>3880EL</td>
<td>Outside lever continuously locked electrically. Latchbolt operable from the outside by key, by breaking electric current, or by power failure. Auxiliary latch deadlocks latchbolt when door is closed. Inside always free for immediate egress.</td>
</tr>
<tr>
<td>Storeroom - Fail Secure</td>
<td>3880EU</td>
<td>Outside lever continuously locked. Latchbolt operable from the outside by key or by applying electrical current. Auxiliary latch deadlocks latchbolt when door is closed. Inside always free for immediate egress.</td>
</tr>
<tr>
<td>Institution - Fail Safe</td>
<td>3882EL</td>
<td>Both levers continuously locked electrically. Latchbolt operable by key, by breaking electric current, or by power failure. Auxiliary latch deadlocks latchbolt when door is closed.</td>
</tr>
<tr>
<td>Institution - Fail Secure</td>
<td>3882EU</td>
<td>Both levers continuously locked. Latchbolt operable by key or by applying electrical current. Auxiliary latch deadlocks latchbolt when door is closed.</td>
</tr>
<tr>
<td>Request to Exit</td>
<td>RX</td>
<td>Monitors inside lever rotation. Incorporates into fire alarm systems or in conjunction with an electromagnet. Available on 3880 or in combination with 3880EL/3880EU.</td>
</tr>
<tr>
<td>Latchbolt Monitor</td>
<td>LM</td>
<td>A single switch (SPDT) mounted inside lockset monitors the full extension of the latchbolt. Available on 3880 or in combination with 3880EL/3880EU.</td>
</tr>
<tr>
<td>Door Position Monitor</td>
<td>DPM</td>
<td>A single switch (SPDT Reed Magnetic Switch) mounted inside lockset monitors whether the door is fully closed. Available on 3880, 3882, or in combination with 3880EL/3880EU or 3882EL/3882EU.</td>
</tr>
</tbody>
</table>
3800 SERIES - POWER SUPPLIES

See power supply area within the Electrified Products section for more details on our full selection of power supplies. Hager 2903, 2908 and 2909 power supplies are designed to power locking devices. Their features include:

- UL Listed
- Filtered/regulated 24VDC
- Overload protection
- Over voltage protection
- Short circuit protection
- Surge suppression on Fail Safe and Fail Secure outputs
- Fire alarm input standard

2903 Power Supply Includes:
- 24VDC, 2Amp
- Automatically accepts 120 or 240VAC input
- Auxiliary 24VDC output for stand alone devices
- Switch 24VDC outputs for fail safe or fail secure locking hardware
- Surge suppression on Fail Safe and Fail Secure outputs

2908 Power Supply Includes:
- Field selectable 12VDC or 24VDC, 1Amp
- 115VAC standard (230VAC optional)
- Separate PTC protected charging for battery backup
- LED status indicator
- Modular design allows optional components to fit any application (see Electrified Catalog for a full list of components)

2909 Power Supply Includes:
- Field selectable 12VDC or 24VDC, 2Amp
- 115VAC standard (230VAC optional)
- Separate PTC protected charging for battery backup
- LED status indicator
- Modular design allows optional components to fit any application (see Electrified Catalog for a full list of components)

Hager Locking System
3800 SERIES - STRIKES

3985
Standard Lip Strike
• Square corner
• 1-1/4” x 4-7/8” x 1-7/32” lip
  (32 mm x 124 mm x 31 mm)

3986
Extended Lip Strike
• Square corner
• 1-1/4” x 4-7/8” x 1-1/2” lip
  (32 mm x 124 mm x 30 mm)

3987
Standard Lip Strike
• Round corner
• 1-1/4” x 4-7/8” x 1-7/32” lip
  (32 mm x 124 mm x 31 mm)

3988
Extended Lip Strike
• Round corner
• 1-1/4” x 4-7/8” x 1-1/2” lip
  (32 mm x 124 mm x 38 mm)

3989
Flat Lip Strike
• Square corner
• 1-1/4” x 4-7/8” x 7/8” lip
  (32 mm x 124 mm x 22 mm)

3990
Extended Flat Lip Strike
• Square corner
• 1-1/4” x 4-7/8” x 1-7/32” lip
  (32 mm x 124 mm x 31 mm)

3800 SERIES - MORTISE CYLINDERS

3902
Mortise Cylinder
• If cylinder is ordered separately from
  the mortise lock, please specify Schlage
  “L” Cam; For 61 Function, specify
  Standard Cam and “L” Cam
• Available in Conventional, Small Format
  Interchangeable Core, and Large Format
  Interchangeable Core (6-pin only)
• SFIC core sold separately
• LFIC core sold separately
• Conventional cylinder available in 1-1/8”
  (29 mm) and 1-1/4” (32 mm)
• SFIC cylinder available in 1-1/4” (32 mm)
  and 1-3/8” (35 mm) length
• LFIC cylinder available in 1-1/2” (38 mm)
  length
• For more cylinder information, please
  refer to Cylinder, Core, and Keying
  section.
# 3800 SERIES - GRADE 1 MORTISE DEADLOCK - HEAVY DUTY

## Warranty
- Lifetime warranty

## Features
- Heavy duty commercial, industrial, institutional
- Non-handed (except for 63 Classroom Function)
- Conventional mortise cylinder, Small Format Interchangeable Core or Large Format Interchangeable option available
- BHMA Certified Grade 1 Security with standard mortise cylinder

## Certifications:
- BHMA Certified ANSI A156.13 Grade 1 Series 1000
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for all functions up to 3 hours for “A” label doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

## Options:
- Lead lining

## Specifications
### Lock Case:
- 4-5/16” x 6” x 1” (110 mm x 152 mm x 25 mm)

### Armor Front:
- 1-1/4” x 8” x 7/32” (32mm x 203mm x 5mm) - Square corner standard, round corner optional

### Keys:
- Two operating keys supplied per lock

### Cylinders/Cores:
- Brass - keyed different - Schlage C Keyway
- Cylinder drilled 6-pin, keyed 5-pin - standard
- Other keying options, including keyed 6-pin, available from factory
- Large Format Interchangeable Core cylinder option available
- LFIC core available zero bitted or combined, brass 6- pin cores sold separately
- Small Format Interchangeable Core cylinder option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately
- Schlage “L” Cam - standard

### Door Thickness:
- 1-3/4” - 2-1/2” (45 mm - 64 mm)
- Must specify door thickness if greater than 1-3/4” (45 mm)

### Backset:
- 2-3/4” (70 mm) only

### Deadbolt:
- 1” (25 mm) throw - stainless steel

### Strike:
- 3991 1-1/4” x 4-7/8” (32 mm x 124 mm) no lip - Standard

### Functions:
- 60 Cylinder x Thumbturn, 62 Double Cylinder, 63 Classroom, 64 Cylinder

### Notes:
- Self-adjusting case for beveled doors or square edge doors

## Finishes
- US3, US4, US10, US10B, and US26 may be subject to extended lead time

## 3800 Series Deadlock Strikes

### 3991
- **No Lip Strike**
- Square corner
- 1-1/4” x 4-7/8” (32 mm x 124 mm)
- For use with 60, 62, 63 and 64 Functions only

## 3800 Series Mortise Cylinders

### 3902
- **Mortise Cylinder**
- If cylinder is ordered separately from the mortise lock, please specify Schlage “L” Cam
- Available in Conventional, Small Format Interchangeable Core, and Large Format Interchangeable Core (6-pin only)
- SFIC core sold separately
- LFIC core sold separately
- Conventional cylinder available in 1-1/8” (29 mm) and 1-1/4” (32 mm) length
- SFIC cylinder available in 1-1/4” (32 mm) and 1-3/8” (35 mm) length
- LFIC cylinder available in 1-1/2” (38 mm) length
- For more cylinder information, please refer to Cylinder, Core, and Keying section.
**3800 SERIES - GRADE 1 SMALL CASE MORTISE DEADLOCK - HEAVY DUTY**

**WARRANTY**
- Lifetime warranty

**FEATURES**
- Heavy duty commercial, industrial, institutional
- Non-handed (except for 33 Classroom Function)
- Conventional mortise cylinder, Small Format Interchangeable Core or Large Format Interchangeable Core option available
- BHMA Certified Grade 1 Security with standard mortise cylinder

**Certifications:**
- BHMA Certified ANSI A156.13 Grade 1 Series 1000
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for all functions up to 3 hours for "A" label doors
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

**Options:**
- Lead lining

**SPECIFICATIONS**

| Lock Case: | 4-5/16" x 3-9/16" x 1" (110 mm x 90 mm x 25 mm) |
| Armor Front: | • 1-1/4" x 5-5/8" x 7/32" (32 mm x 143 mm x 5 mm) - Standard |
| Keys: | Two operating keys supplied per lock |
| Cylinders/Cores: | • Brass - keyed different - Schlage C Keyway |
| | • Cylinder drilled 6-pin, keyed 5-pin - standard |
| | • Other keying options, including keyed 6-pin, available from factory |
| | • Large Format Interchangeable Core cylinder option available |
| | • LFIC core available zero bitted or combinated, brass 6- pin cores sold separately |
| | • Small Format Interchangeable Core cylinder option available |
| | • SFIC uncombined or combinated, brass 6- or 7-pin cores sold separately |
| | • Schlage "L" Cam - standard |
| Door Thickness: | • 1-3/4" - 2-1/2" (45 mm - 64 mm) |
| | • Must specify door thickness if greater than 1-3/4" (45 mm) |
| Backset: | 2-3/4" (70 mm) only |
| Deadbolt: | 1" (25 mm) throw - stainless steel |
| Strike: | 3999 1-1/8" x 3-1/2" (29 mm x 89 mm) no lip - Standard |
| Functions: | 30 Cylinder x Thumbturn, 31 Door Bolt, 32 Double Cylinder, 33 Classroom, 34 Cylinder |
| Notes: | Self-adjusting case for beveled doors or square edge doors |

**FINISHES**
- US3, US4, US10, US10B, and US26 may be subject to extended lead time

**3800 SERIES DEADLOCK STRIKES**

| 3999 No Lip Strike |
| Square corner |
| 1-1/8" x 3-1/2" (29 mm x 89 mm) |
| For use with 30, 31, 32, 33 and 34 Functions only |

**3800 SERIES MORTISE CYLINDERS**

| 3902 Mortise Cylinder |
| If cylinder is ordered separately from the mortise lock, please specify Schlage "L" Cam |
| Available in Conventional, Small Format Interchangeable Core, and Large Format Interchangeable Core (6-pin only) |
| SFIC core sold separately |
| LFIC core sold separately |
| Conventional cylinder available in 1-1/8" (29 mm) and 1-1/4" (32 mm) length. |
| SFIC cylinder available in 1-1/4" (32 mm) and 1-3/8" (35 mm) length. |
| LFIC cylinder available in 1-1/2" (38 mm) length |
| For more cylinder information, please refer to Cylinder, Core, and Keying section. |
3800 SERIES - SLIDING DOOR MORTISE LOCK - HEAVY DUTY

WARRANTY
Lifetime warranty

FEATURES
- Heavy duty commercial, industrial, institutional
- Non-handed
- Conventional mortise cylinder, Small Format Interchangeable Core or Large Format Interchangeable Core option available

Certifications:
- ADA Compliant ANSI A117.1 Accessibility Code

SPECIFICATIONS

Lock Case: 4-5/16” x 3-9/16” x 1” (110 mm x 90 mm x 25 mm)
Armor Front: 1-1/4” x 5-5/8” x 7/32” (32 mm x 143 mm x 5 mm) - Standard
Keys: Two operating keys supplied per lock
Cylinders/Cores:
- Brass - keyed different - Schlage C Keyway
- Cylinder drilled 6-pin, keyed 5-pin - standard
- Other keying options, including keyed 6-pin, available from factory
- Large Format Interchangeable Core cylinder option available
- LFIC core available zero bitted or combined, brass 6-pin cores sold separately
- Small Format Interchangeable Core cylinder option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately
- Schlage “L” Cam - standard

Door Thickness:
- 1-3/4” - 2-1/2” (45 mm - 64 mm)
- Must specify door thickness if greater than 1-3/4” (45 mm)

Backset: 2-3/4” (70 mm) only
Deadbolt: 1” (25 mm) throw - stainless steel
Strike: 1-1/8” x 3-1/2” (29 mm x 89 mm) no lip - Standard
Functions: 35 Cylinder x Thumbturn, 36 Single Cylinder, 37 Double Cylinder, 38 Thumbturn Only, 39 Thumbturn with Emergency Key (Privacy)

FINISHES
U26D

FEATURES
- Heavy duty commercial, industrial, institutional
- Non-handed
- Conventional mortise cylinder, Small Format Interchangeable Core or Large Format Interchangeable Core option available

Certifications:
- ADA Compliant ANSI A117.1 Accessibility Code

SPECIFICATIONS

Lock Case: 4-5/16” x 3-9/16” x 1” (110 mm x 90 mm x 25 mm)
Armor Front: 1-1/4” x 5-5/8” x 7/32” (32 mm x 143 mm x 5 mm) - Standard
Keys: Two operating keys supplied per lock
Cylinders/Cores:
- Brass - keyed different - Schlage C Keyway
- Cylinder drilled 6-pin, keyed 5-pin - standard
- Other keying options, including keyed 6-pin, available from factory
- Large Format Interchangeable Core cylinder option available
- LFIC core available zero bitted or combined, brass 6-pin cores sold separately
- Small Format Interchangeable Core cylinder option available
- SFIC uncombined or combined, brass 6- or 7-pin cores sold separately
- Schlage “L” Cam - standard

Door Thickness:
- 1-3/4” - 2-1/2” (45 mm - 64 mm)
- Must specify door thickness if greater than 1-3/4” (45 mm)

Backset: 2-3/4” (70 mm) only
Deadbolt: 1” (25 mm) throw - stainless steel
Strike: 1-1/8” x 3-1/2” (29 mm x 89 mm) no lip - Standard
Functions: 35 Cylinder x Thumbturn, 36 Single Cylinder, 37 Double Cylinder, 38 Thumbturn Only, 39 Thumbturn with Emergency Key (Privacy)

FINISHES
U26D

3800 SERIES MORTISE CYLINDERS

3902
Mortise Cylinder
- If cylinder is ordered separately from the mortise lock, please specify Schlage “L” Cam
- Available in Conventional, Small Format Interchangeable Core, and Large Format Interchangeable Core (6-pin only)
- SFIC core sold separately
- LFIC core sold separately
- Conventional cylinder available in 1-1/8” (29 mm) and 1-1/4” (32 mm) length.
- SFIC cylinder available in 1-1/4” (32 mm) and 1-3/8” (35 mm) length
- LFIC cylinder available in 1-1/2” (38 mm) length
- For more cylinder information, please refer to Cylinder, Core, and Keying section.
Keying Options

Keyed function locks are supplied standard with Schlage ‘C’ keyway cylinder, cylinder drilled 6-pin, keyed 5-pin and will be keyed different with two operating keys unless otherwise specified.

- Keyed Alike, 0 Bitted and 1 Bitted cylinders provided 6 pin only
- Master Keyed [must specify quantity of Master keys where applicable, 3961 (5-pin) or 3962 (6-pin)]
- Construction Master Keyed (Schlage C, E & F)
- Keyed to Specific or Existing Number
- Submit master keying form; pages 88-91 or at www.hagerco.com
- Extra Cut Keys (3961 - Cut 5-pin, 3962 - Cut 6-pin)
- Key Markings: 1AA, 2AA etc. (per key)
- Key Markings other than Key Set (per key)
- Cylinder markings
- Bitting Lists are available, ordered separately from Master Keyed order, specify 3998
- All optional keyways below may not be immediately available. Contact customer service for more information on a particular keyway.

Optional Keyways (Conventional Cylinders)

- Arrow AR1
- Corbin 60
- Corbin 77
- Corbin/ Russwin L4
- Kwikset KW1
- Weiser E
- Russwin D1
- Sargent LA
- Schlage E
- Schlage F
- Yale E1R
- Yale E1R (PARA)
- Yale GA

Keys

- 3955
  Key Blank
  5-pin, C keyway

- 3961
  Cut Key
  5-pin, keyed to specific or existing number

- 3956
  Key Blank
  6-pin, C keyway

- 3962
  Cut Key
  6-pin, keyed to specific or existing number
Cylinders

3960
Key-in Lever/Deadlock Cylinder
Includes two operating keys
Specify keyway, tailpiece, and how keyed
Note: Cylinder instructions and ordering guide available on www.hagerco.com

Tailpieces

2-639-7000
Tailpiece 1
Pack of 10 tailpieces for use with 3453L, 3450L, 3480L, 2580L

2-639-7001
Tailpiece 2
Pack of 10 tailpieces for use with 3470L

2-639-7002
Tailpiece 3

2-639-7003
Tailpiece 4
Pack of 10 tailpieces for use with 3470K, 3570K

2-639-7005
Tailpiece 6
Pack of 10 tailpieces for use with 3114DB and 3214DB exterior cylinders

2-639-7006
Tailpiece 7
Pack of 10 tailpieces for use with 3114DB and 3214DB interior cylinders

2-639-7007
Tailpiece 8
Pack of 10 tailpieces for use with 3115DB, 3118DB, 3215DB, 3710DB, 3753DB

2-639-7008
Tailpiece 9
Pack of 10 tailpieces for use with 3653L, 3670L and 3680L

2-639-7018
Tailpiece W
Pack of 10 tailpieces for use with 3473L

2-639-7087
Tailpiece Z
Pack of 10 tailpieces for use with 3570L and 3573L

2-639-7094
Tailpiece X
Pack of 10 tailpieces for use with 3495L

2-639-7192
Tailpiece K
Pack of 10 tailpieces for use with 4700 key-in-lever trim (KE, KN)

2-639-7322
Tailpiece V
Pack of 10 tailpieces for use with 2570L

Rim Cylinder Housing

3901
Rim Cylinder
• Conventional cylinder supplied drilled 6-pin, keyed 5-pin standard
• Furnished with trim ring, mounting plate, and break off screws
• Long tail piece standard
• Supplied with two operating keys

3903
Rim Dummy Cylinder
**CYLINDER, CORE & KEYING - CONVENTIONAL CYLINDERS**

**Rim Cylinder Accessories**

**2-639-7058**
Long Breakoff Tailpiece
2-3/8” (60 mm)

**2-300-0118**
Extra Long Breakoff Screws
2-3/8” (60 mm)

**2-649-0137**
Retaining Cup
Can be used with 45PN, 47PN, and 47RN

**Mortise Cylinder Cams**

**3971**
Yale Cam
Radius .722” (18 mm)

**3972**
Adams Rite Cam
Radius .560 (14 mm)

**3973**
Standard Cloverleaf
Radius .741” (19 mm)

**3974**
Marks Cam
Radius .755” (19 mm)

**3975**
Standard Cam
Radius .723” (18 mm)
For use with Hager exit devices and trim

**3976**
Schlage L Cam
Radius .637” (16 mm)
For use with Hager mortise locks (all functions)

**3977**
Sargent/Yale Cam
Radius .733” (18.6 mm)

**3978**
Corbin/Russwin/Best Cloverleaf
Radius .725” (18.5 mm)

**Mortise Cylinder Housing**

**3902**
Mortise Cylinder
- Conventional cylinder supplied drilled 6-pin, keyed 5-pin standard
- 3975 standard cam attached and 3972 Adams Rite cam shipped loose in the box
- Thread size is 1.150” x 32 UNS
- Cylinder face diameter is 1.360”
- Supplied with two operating keys
- 1-1/8” (29 mm) standard length, 1-1/4” (31 mm), and 1-5/8” (41 mm) for mortise exit devices
- Other lengths may be available with extended lead time
- **Must specify length, cam, keyway, and keying requirements**

**3904**
Mortise Dummy
- 1-1/8” (29 mm) length
- 1-1/4” (31 mm) length

**3905**
Mortise ADA Turn Knob
- 1-1/8” (29 mm) length
- 1-1/4” (31 mm) length
Note: Ships with Schlage “L” Cam; specify if different

**2-639-7058**
Long Breakoff Tailpiece
2-3/8” (60 mm)

**2-300-0118**
Extra Long Breakoff Screws
2-3/8” (60 mm)

**2-649-0137**
Retaining Cup
Can be used with 45PN, 47PN, and 47RN

**Mortise Cylinder Cams**

**3971**
Yale Cam
Radius .722” (18 mm)

**3972**
Adams Rite Cam
Radius .560 (14 mm)

**3973**
Standard Cloverleaf
Radius .741” (19 mm)

**3974**
Marks Cam
Radius .755” (19 mm)

**3975**
Standard Cam
Radius .723” (18 mm)
For use with Hager exit devices and trim

**3976**
Schlage L Cam
Radius .637” (16 mm)
For use with Hager mortise locks (all functions)

**3977**
Sargent/Yale Cam
Radius .733” (18.6 mm)

**3978**
Corbin/Russwin/Best Cloverleaf
Radius .725” (18.5 mm)
Keying Options
Cores are furnished keyed different unless otherwise specified. Other keying options include:
• Keyed Alike
• Construction Cores
• Master keyed (Must specify quantity of master keys, control keys, or additional change keys, 3984.)
• Keyed to specific or existing number
• Key Markings: 1AA, 2AA etc. (per key) - VKC
• Key markings other than key set
• Core markings (Visual or concealed)
• Do not duplicate
• Bitting Lists are available, ordered separately from Master Keyed order, specify 3988
* Construction master keyed not available.

SFIC Keyways (Best) - A, B, C, D, E, F, G, H, J, K, L, M, Q

**SFIC Cores**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>3981-C</td>
<td>Combined Core 6-Pin</td>
<td>Includes two change keys. Finishes include US4 or US26D</td>
</tr>
<tr>
<td>3981-U</td>
<td>Uncombined Core 6-Pin</td>
<td>Includes two key blanks. Finishes include US4 or US26D</td>
</tr>
<tr>
<td>3982-C</td>
<td>Combined Core 7-Pin</td>
<td>Includes two change keys. Finishes include US4 or US26D</td>
</tr>
<tr>
<td>3982-U</td>
<td>Uncombined Core 7-Pin</td>
<td>Includes two key blanks. Finishes include US4 or US26D</td>
</tr>
</tbody>
</table>

**SFIC Construction Cores**
Construction Small Format Interchangeable Cores are available in blue or red and are keyed alike. Will receive full credit, less shipping, of original cost upon return of construction cores with keys.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>3981-Blue or</td>
<td>Construction Core Combinated, 6-pin</td>
<td>Includes two operating keys</td>
</tr>
<tr>
<td>3981-Red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3982-Blue or</td>
<td>Construction Core Combinated, 7-pin</td>
<td>Includes two operating keys</td>
</tr>
<tr>
<td>3982-Red</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SFIC Construction Core Keys**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-639-7168</td>
<td>3984 Control Key (BA IC 6 Blue)</td>
</tr>
<tr>
<td>2-639-7169</td>
<td>3984 Control Key (BA IC 7 Blue)</td>
</tr>
<tr>
<td>2-639-7170</td>
<td>3984 Control Key (BA IC 7 Red)</td>
</tr>
<tr>
<td>2-639-7113</td>
<td>3984 Control Key (BA IC 6 Red)</td>
</tr>
</tbody>
</table>

Note: Two (2) control keys will be shipped with an order unless otherwise specified.
**SFIC Tailpieces**

**2-639-7060**
Pack of 10 tailpieces for use with 2500/3500 Series SFIC lever (6-pin/7-pin combo)

**2-639-7061**
Pack of 10 tailpieces for use with 3400/3500 Series SFIC knob (6-pin/7-pin combo)

**2-639-7090**
Pack of 10 tailpieces for use with 3753 Interconnected Lock SFIC lever (6-pin/7-pin combo)

**2-639-7091**
Pack of 10 tailpieces for use with 3114/3214 SFIC deadbolt (6-pin/7-pin combo)

**2-639-7095**
Pack of 10 tailpieces for use with 3115/3118/3215 and 3710/3753 SFIC deadbolt (6-pin/7-pin combo)

**SFIC Rim Cylinder Housing**

**3901**
**Rim Cylinder**
- Furnished with trim ring, mounting plate, and break off screws
- Long tail piece standard
- Small Format Interchangeable Core housing supplied less core
- Specify 6- or 7-pin

**SFIC Mortise Cylinder Housing**

**3902**
**Mortise Cylinder**
- 2-639-7082 standard cam; 2-639-7083 Adams Rite cam shipped loose in the box
- Thread size is 1.150” x 32 UNS. Cylinder face diameter is 1.360”
- Small Format Interchangeable Core housing supplied less core
- Must specify length and cam, 6-pin 1-1/4”, 7-pin 1-3/8”, 7-pin 1-5/8” (for mortise exit device)

**SFIC Mortise Cylinder Cams**

**2-639-7082**
Standard Yale Cam

**2-639-7083**
Adams Rite Cam

**2-639-7084**
Standard Cloverleaf Cam

**2-639-7085**
Schlage “L” Cam
For use with Hager mortise locks (all functions)

**SFIC Rim Cylinder Accessories**

**2-639-7058**
**Long Breakoff Tailpiece**
2-3/8” (60 mm)

**2-300-0118**
**Extra Long Breakoff Screws**
2-3/8” (60 mm)

**2-649-0137**
**Retaining Cup**
Can be used with 45PN, 47PN, and 47RN
Keying Options
Cores are furnished zero bitted - unless otherwise specified. Other keying options include:
- Keyed alike
- Keyed different
- Master keyed (must specify quantity of master keys, control keys or additional change keys)
- Construction master keyed
- Keyed to specific or existing number
- Key Markings: 1AA, 2AA etc. (per key) - VKC
- Key markings other than key set
- Core markings (visual or concealed)
- Bitting Lists are available, ordered separately from master key order, specify 3998

LFIC Cores (Available in Schlage C Only)

3919
Zero Bitted Core 6-Pin
Includes two key blanks
Finishes include US4 or US26D

Combinated Core 6-Pin
Includes two change keys
Finishes include US4 or US26D

LFIC Keys

3956
Key Blank
Schlage C Keyway, 6-pin only

3962
Cut Key
Schlage C Keyway, 6-pin only

3963
3919 Control Cut Key

2-639-7649
3919 Control Key Blank

LFIC Tailpieces

2-639-7645
50, 53 and 80 functions only

2-639-7646
70 function only

2-639-7647
73 and 95 functions only

LFIC Rim Cylinder Housing

3901
Rim Cylinder
- Furnished with trim ring, mounting plate, and break off screws
- Tail piece supplied standard
- Large Format Interchangeable Core housing supplied less core.
- 6-pin only

LFIC Rim Cylinder Accessories

2-639-7578
Breakoff Tailpiece Assy
2-3/8” (60 mm)

2-300-0175
Breakoff Screws
2-1/8” (54 mm)
**LFIC Mortise Cylinder Housing**

**3902 Mortise Cylinder**
- 2-639-7082 standard cam; 2-639-7083 Adams Rite Cam shipped loose in the box.
- Thread size is 1.150” x 32 UNS.
- Cylinder face diameter is 1.360”.
- Large Format Interchangeable Core housing supplied less core
- **Must specify cam, 1-1/2” length**

**LFIC Mortise Cylinder Cams**

- **2-639-7570 Standard Yale Cam**
- **2-639-7571 Adams Rite Cam**
- **2-639-7572 Schlage “L” Cam**
  For use with Hager mortise locks (all functions)
- **2-639-7573 Corbin Cam**
- **2-639-7574 Sargent/Yale Cam**
CYLINDER, CORE & KEYING - CONVENTIONAL CYLINDERS - HAGER KEYWAY - (7-PIN ONLY)

Keying Options

Keyed function locks are supplied keyed different unless otherwise specified.
- Keyed alike, 0 bitted, 1 bitted
- Master keyed (must specify quantity of Master keys where applicable)
- Construction master keyed
- Keyed to specific or existing number
- Submit master keying form (page 86)
- Extra cut keys (3908 - Cut 7-pin)
- Key markings: 1AA, 2AA etc. (per key)
- Key markings other than key set (per key)
- Cylinder markings (visual or concealed)
- Do not duplicate standard
- Bitting lists are available, ordered separately from Master keyed order, specify 3998

Notes:
- Keys are cut bow to tip
- Must purchase capping block/press and key punch due to 140 pin spacing

Hager Keyway (Conventional Cylinders)

- Hager H1
- Hager H2
- Hager H3

Rim Cylinders

3901 Rim Cylinder
- 140 Pin spacing
- Conventional cylinder supplied 7-pin only
- Furnished with trim ring, mounting plate, and break off screws
- Long tail piece standard
- Supplied with two operating keys

Mortise Cylinders

3902 Mortise Cylinder
- 140 Pin spacing
- Conventional cylinder supplied 7-pin only
- 3975 standard cam attached and 3972 Adams Rite cam shipped loose in the box
- Thread size is 1.150” x 32 UNS
- Cylinder face diameter is 1.360”
- Supplied with two operating keys
- 1-1/8” (29 mm) standard length, 1-1/4” (31 mm) available, 1-5/8” (41 mm) for mortise exit devices
- Must specify length, cam, keyway, and keying requirements

Keys

3907 Key Blank
Hager keyways (H1, H2, H3, H12, H23, H123)

3908 Cut Key
- Hager keyways (H1, H2, H3, H12, H23, H123)
- Specify keying required (masterkey, construction masterkey, control key)
Keying Options
Cores are furnished keyed different unless otherwise specified. Other keying options include:
- Keyed alike
- Master keyed (must specify quantity of master keys, control keys or additional change keys)
- Keyed to specific or existing number
- Key markings: 1AA, 2AA etc. (per key) - VKC
- Key markings other than key set
- Core markings (visual or concealed)
- Do not duplicate standard
- Bitting lists are available, ordered separately from master keyed order, specify 3998
* Construction master keyed not available.
Notes: • Keys are cut bow to tip
• Must purchase capping block/press and key punch due to 140 pin spacing

Keyways (Hager) - H1, H2 and H3 SFIC Cores

3969 Combinated Core 7-Pin
- Includes two change keys
- Finishes include US4 or US26D
- 140 Pin spacing

3909 Uncombinated Core 7-Pin
- Includes two key blanks
- Finishes include US4 or US26D
- 140 Pin spacing

SFIC Keys

3907 SFIC Key Blank
Hager keyways (H1, H2, H3, H12, H23, H123)

SFIC Rim Cylinder Housing
3901 Rim Cylinder
- Furnished with trim ring, mounting plate, and break off screws
- Long tail piece standard
- Small Format Interchangeable
- Core housing supplied less core
- Specify 7-pin

SFIC Mortise Cylinder Housing
3902 Mortise Cylinder
- 2-639-7082 standard cam; 2-639-7083 shipped loose in the box
- Thread size is 1.150” x 32 UNS.
- Cylinder face diameter is 1.360”.
- Small Format Interchangeable
- Core housing supplied less core
- Must specify length and cam, 7-pin 1-3/8”

3908 SFIC Cut Key
- Hager keyways (H1, H2, H3, H12, H23, H123)
- Specify keying required (masterkey, construction masterkey, control key)
2-639-7511
Pin Kit
- Includes top pins, SFIC bottom pins, full size bottom pins and springs
- Does not include SFIC caps

2-639-7517
Construction Balls
- Used for lost ball construction key
- Order in multiples of 1,000

2-639-7519
Retaining Pin Spring
Sold in multiples of 100

2-639-7520
Individual SFIC Caps
Sold in multiples of 500

2-639-7526
Retaining Pin
Secures screw cap on KIK cylinder

2-639-7527
Plug Follower (KIK)

2-639-7529
Decombinating Punch

2-639-7530
Capping Punch

2-639-7531
Decombinating Block (Punch Included)

2-639-7532
Manual Capping Block (Punch Included)
140 spacing

2-639-7534
Cap Saver Press
- Recommended for field pinning uncombined SFIC cores
- 140 spacing

2-639-7535
Key Punch
140 spacing

2-639-7536
HPC 1200 Series Code Card
140 spacing
### Original Manufacturer Nickel Silver Pins (Sold in multiples of 100)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-639-8188</td>
<td>Top Pin #2</td>
<td></td>
</tr>
<tr>
<td>2-639-8189</td>
<td>Top Pin #3</td>
<td></td>
</tr>
<tr>
<td>2-639-8190</td>
<td>Top Pin #4</td>
<td></td>
</tr>
<tr>
<td>2-639-8191</td>
<td>Top Pin #5</td>
<td></td>
</tr>
<tr>
<td>2-639-8192</td>
<td>Top Pin #6</td>
<td></td>
</tr>
<tr>
<td>2-639-8193</td>
<td>Top Pin #7</td>
<td></td>
</tr>
<tr>
<td>2-639-8194</td>
<td>Top Pin #8</td>
<td></td>
</tr>
<tr>
<td>2-639-8195</td>
<td>Top Pin #9</td>
<td></td>
</tr>
<tr>
<td>2-639-8196</td>
<td>Top Pin #10</td>
<td></td>
</tr>
<tr>
<td>2-639-8197</td>
<td>Top Pin #11</td>
<td></td>
</tr>
<tr>
<td>2-639-8198</td>
<td>Top Pin #12</td>
<td></td>
</tr>
<tr>
<td>2-639-8199</td>
<td>Top Pin #13</td>
<td></td>
</tr>
<tr>
<td>2-639-8200</td>
<td>Top Pin #14</td>
<td></td>
</tr>
<tr>
<td>2-639-8201</td>
<td>Top Pin #15</td>
<td></td>
</tr>
<tr>
<td>2-639-8202</td>
<td>Top Pin #16</td>
<td></td>
</tr>
<tr>
<td>2-639-8203</td>
<td>Top Pin #17</td>
<td></td>
</tr>
<tr>
<td>2-639-8204</td>
<td>Top Pin #18</td>
<td></td>
</tr>
<tr>
<td>2-639-8205</td>
<td>Top Pin #19</td>
<td></td>
</tr>
<tr>
<td>2-639-8210</td>
<td>Full Bottom #0</td>
<td></td>
</tr>
<tr>
<td>2-639-8211</td>
<td>Full Bottom #1</td>
<td></td>
</tr>
<tr>
<td>2-639-8212</td>
<td>Full Bottom #2</td>
<td></td>
</tr>
<tr>
<td>2-639-8213</td>
<td>Full Bottom #3</td>
<td></td>
</tr>
<tr>
<td>2-639-8214</td>
<td>Full Bottom #4</td>
<td></td>
</tr>
<tr>
<td>2-639-8215</td>
<td>Full Bottom #5</td>
<td></td>
</tr>
<tr>
<td>2-639-8216</td>
<td>Full Bottom #6</td>
<td></td>
</tr>
<tr>
<td>2-639-8217</td>
<td>Full Bottom #7</td>
<td></td>
</tr>
<tr>
<td>2-639-8218</td>
<td>Full Bottom #8</td>
<td></td>
</tr>
<tr>
<td>2-639-8219</td>
<td>Full Bottom #9</td>
<td></td>
</tr>
<tr>
<td>2-639-8220</td>
<td>SFIC Bottom #0</td>
<td></td>
</tr>
<tr>
<td>2-639-8221</td>
<td>SFIC Bottom #1</td>
<td></td>
</tr>
<tr>
<td>2-639-8222</td>
<td>SFIC Bottom #2</td>
<td></td>
</tr>
<tr>
<td>2-639-8223</td>
<td>SFIC Bottom #3</td>
<td></td>
</tr>
<tr>
<td>2-639-8224</td>
<td>SFIC Bottom #4</td>
<td></td>
</tr>
<tr>
<td>2-639-8225</td>
<td>SFIC Bottom #5</td>
<td></td>
</tr>
<tr>
<td>2-639-8226</td>
<td>SFIC Bottom #6</td>
<td></td>
</tr>
<tr>
<td>2-639-8227</td>
<td>SFIC Bottom #7</td>
<td></td>
</tr>
<tr>
<td>2-639-8228</td>
<td>SFIC Bottom #8</td>
<td></td>
</tr>
<tr>
<td>2-639-8229</td>
<td>SFIC Bottom #9</td>
<td></td>
</tr>
</tbody>
</table>
2 LEVEL SYSTEMS
Simple Master Key System

The master key symbol consists of TWO letters, AA. The change key numbers are added to the master key letters. The numbers come FIRST for a simple master key system, example: 1AA, 2AA, 3AA, etc.

3 LEVEL SYSTEMS
Grand Master Key System

The grand master keyset symbol is assigned ONE letter, starting with A. The master keyset symbols under this grand are assigned TWO letters, the first of which will be the same as the grand; AA, AB, AC, etc. are all masters under the grand A. (Caution: Do not use the letters, I, O, Q or X because of the possible confusion with the numbers 1 & O. X is reserved for identifying cross keying.) Change key numbers come AFTER the letters, example: AA1, AA2, AA3, etc.

For master keyset symbols beyond AZ, insert a number between the letters to designate which pass through the alphabet they represent. A2A through A2Z represent the second pass through the alphabet of masters under the Grand A. A3A through A3Z would be the third pass through the alphabet. Change keys under these masters have the numbers suffixed in the usual way A2A1, A2A2, A2A3, etc.

If a cylinder is to be operated by its change key and the GMK only (No master), the change number is added to the GMK symbol. This is illustrated by the keyset symbol A1 in the schematic shown.

4 LEVEL SYSTEMS
Great Grand Master Key System

The great grand master is assigned the keyset symbol GGM. The rest of the symbols are the same as those in a 3 level system.

The grand master keys under the GGM are assigned the keyset symbol of single letters of the alphabet A, B, C, D, etc., starting with A. The master keyset symbols under this grand are assigned TWO letters, the first of which will be the same as the grand; AA, AB, ..., BA, BB, ..., CA, CB, ..., etc. (Caution: Do not use the letters, I, O, Q or X because of the possible confusion with the numbers 1 & O. X is reserved for identifying cross keying.) Change key numbers come AFTER the letters, example: AA1, AA2, AA3, etc.

For masters beyond AZ, insert a number between the letters to designate which pass through the alphabet they represent. A2A through A2Z represent the second pass through the alphabet of masters under the Grand A. A3A through A3Z would be the third pass through the alphabet. Change keys under these masters have the numbers suffixed in the usual way A2A1, A2A2, A2A3, etc.

If a cylinder is to be operated by its change key and the GGM only (No grandmaster, no master), the change number is added to the GGM keyset symbol. This is illustrated by the keyset symbol GGM1 in the schematic shown.
**SINGLE KEYED DIFFERENT (SKD)** (Example: Narcotics Room, Pharmacies)
When requirements are such that no other key operates the cylinder (master, other change keys, etc.) they are referred to as “single keyed different” and given the keyset symbol SKD. When more than one SKD is required in a facility, they are numbered SKD1, SKD2, SKD3, etc.

**NO MASTER KEY (NMK)**
When keying requirements are such that all higher levels of master keys do not operate the cylinder, the suffix (NMK) is added to the keyset symbol. For example, AA1 (NMK) is operated by the change key AA1 only. Neither the A grand, nor the AA master operate the cylinder. A keyset symbol, AA (NMK) indicates the cylinder to be operated by the AA master only, the A grand does not operate the cylinder.

**SELECTIVE MASTER KEYS**
It is often useful in large keying systems to issue a high level master key to maintenance personnel which allows access across all master and grand master key boundaries of a keying system.

To designate that a lock be operated by a selective master key, suffix the symbol in parentheses to the standard symbol. Example: AA1 (ENG). This must be added every time the selective key is to operate and left off whenever the selective key is NOT to operate. For instance, you may lay out a system in which key AA1 is to operate two different offices. Inside one of them is an electrical cabinet which must be accessible to maintenance personnel carrying the ENG key. That lock must be specified as AA1 (ENG), while the lock for the other office must be specified as AA1.

Selective master key is a convenience feature which decreases the security of the cylinders it operates and limits the expansion and flexibility of the overall keying system. Each selective master key typically eliminates 20-25% of the capacity of the system where it is used, so it should only be specified when absolutely required. It is recommended that no more than one system-wide selective master key be used within the same system.

**CROSS KEYING**
Like selective master keying, cross keying is a convenience feature and will limit the expansion and flexibility of the overall key system. Whenever two or more different change keys such as AA1 and AA2 are both required to operate the same cylinder, the cylinder’s security is reduced. This is called cross keying. When the cross keying occurs under all the same higher levels (MK, GMK, GGMK), such as AA1 and AA2, it is known as controlled cross keying. When you combine keys under different higher levels (MK, GMK, GGMK), such as AA1 and AB1, it is known as uncontrolled cross keying, which you NEVER want to do.

Convenience may reduce cylinder security and hinder the overall key system expansion. Cross keying usually imposes limits on the flexibility and expansion of the overall keying system. This is especially true of uncontrolled cross keying. For these reasons, it is strongly recommended to allow personnel to carry more than one key. Cross keying should be discouraged whenever possible. However, when cross keying is required, it is specified as follows, and should be summarized at the beginning of each order. It cannot normally be added later. Each cross keyed set should also be limited to keys which are all under the same higher level master keys. Prefix the keyset symbol with the letter X (example: XAA3). All keys which are to operate the cylinder are to be listed following the keyset symbol with the phase “to be operated by” (“TBOB”, “OB”, “operated by” are also common phrases/abbreviations used. Example: XAA3, operated by AA1, AA2, AA, and A. Note that X is a cylinder designation only. The change keyset would be AA3.

**NOTE: HAGER WILL NOT DO UNCONTROLLED CROSS KEYING DUE TO THE REDUCED SECURITY IT CAUSES.**
CONSTRUCTION MASTER KEYING
Hager uses the lost ball method for construction keying for conventional cylinders. If you have ordered Small Format Interchangeable Core (SFIC), you will be able to order temporary cores (Blue & Red are stock). Permanent cores will be shipped with permanent keys.

Recommendation:
Use as many keyed alike groups to conserve bitting combinations. Study blueprints and/or master plans for campuses to identify areas where more than one door leads into the same space, and where several different areas are used by the same personnel. These areas should be keyed alike (use the same keyset symbol). This conserves key bitting combinations for future use as well as reduces the need to issue master keys. Remember, key system are much like a rubber band, it only stretches so far. You can stretch is horizontally to create more master keys, or vertically to create more changes under each master, but there is a finite number of combinations available.

Case #1 (Cross Keying)
Cylinder requires its own change key. The illustration depicts part of a small medical building where two doctors share a common receptionist. The receptionist gets the AA3 change key. Each doctor carries a key which operates only one office, but also operates the entrance from the corridor, by cross keying that cylinder to include the following keys to operate it. XAA3, TBOB (To Be Operated By) AA1, AA2, AA and A.

Case #2
The hall door cylinder does not require its own change key. This illustration depicts a section of a floor in a dormitory. Each student’s bedroom change key operates the hall door cylinder. There is no need to construct a change key which operates only the hall door.

In this case, place an X at both the beginning and the end of the keyset symbol and a number between them. Example: X1X, X2X, etc. Again, always include the “TBOB” (to be operated by) phrase with a complete listing of the keyset symbols to operate the cylinder.
Hager Companies

Master Keying Form

Hager order number:________________________________________
Account number:________________________________________
Customer:________________________________________
Customer PO number:________________________________________
Job name:________________________________________
Location:________________________________________

1. System
○ New
○ Existing

If existing, please attach bitting sheet and complete following field:
Original Hager order number:__________________________

2a. System type
○ Conventional keyed 5-pin
○ Conventional keyed 6-pin includes LFIC
○ Conventional keyed 7-pin (H1, H2, H3 only)
○ SFIC keyed 6-pin
○ SFIC keyed 7-pin
○ LFIC keyed 6-pin (Schlage C only)
* Hager Keyway available in 7-pin only (Conventional & Interchangeable Core)

2b. Keyways
○ Arrow AR1
○ Corbin 60
○ Corbin 67
○ Corbin 77
○ Corbin/RW L4
○ Hager H1
○ Hager H2
○ Hager H3
○ Hager H12
○ Hager H23
○ Yale E1R
○ Schlage E
○ Schlage F
○ Yale GA
○ Schlage F
○ Best (Specify Keyway)

3. System level AND key quantity

Level
○ GGGMK
○ GMK
○ MK
○ Construction MK (Lost Ball) (Sch/Hag Conv. Only)
○ Other

Quantity

4a. Key stamping (visual key control)
○ None
○ Key set symbol
○ Door number
○ Bitting number
○ Do not duplicate (standard with interchangeable core & Hager Keyways)
○ Other

Quantity

4b. Cylinder Control
○ None
○ KSS (Key Set Symbol)
○ Concealed
○ DN (Door Number)
○ Visual
○ Other

Quantity

Ship Lock to:

Requested ship date:________________________

Change keys
○ Per core/cylinder
○ Per key symbol

Quantity

Special function
○ Control
○ Maintenance
○ Housekeeping
○ Mechanical
○ Engineering
○ Janitorial
○ SKD
○ Other

Quantity

Please note that visual key control is recommended, otherwise, keys will be tagged with temporary identification.

Please fill out this form completely and fax to 800-782-0149 or email to masterkey@hagerco.com with the document as an attachment.
5. Packing
   - Pack keys with lock/cores
   - Pack keys separate from lock/cores

6. 3998 bitting list
   - Yes
   - No

Ship To (keys separate):

Marking instructions (labels, packaging, etc.):

7. Future expansion (list future MK symbols, approximate number of change key symbols)

8. Contact Information for questions:
   - Name:
   - Title:
   - Phone:
   - Fax:
   - Email:
   - Signature:

   Is a signature required for future keying?   - Yes   - No

   If yes:
   Please note that this document will become part of the permanent keying files for this project. If the requirements for this master keying form change, it is the responsibility of the end user/owner to notify their local factory representative or Hager Companies.

9. Additional information/ Special Instructions
May submit excel file in lieu of this sheet.

<table>
<thead>
<tr>
<th>Total quantity</th>
<th>Product</th>
<th>Stock number</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Door #</th>
<th>Keyset</th>
<th>Hardware set</th>
<th>Operated by</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

More sheets added online.
May submit excel file in lieu of this sheet.

<table>
<thead>
<tr>
<th>Total quantity</th>
<th>Product</th>
<th>Stock number</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Door #</th>
<th>Keyset</th>
<th>Hardware set</th>
<th>Operated by</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

More sheets added online.
Hager Companies offers a comprehensive line of door control products designed and manufactured to meet a wide range of applications and uses. From humble beginnings in 1849 as a forger of wheel rims and hardware for Conestoga wagons, today Hager offers surface mounted and commercial grade closers, electromagnetic holders and overhead door holders and stops in our door controls product line. Hager door closers provide architects, contractors, and building owners a superior product with proven reliability. That makes them a no-risk choice for virtually any building type. Because these heavy duty, Grade 1 door closers are ideal for schools, hospitals, and other high use environments they have been installed in these locations all over the globe.

With Hager, you get a door closer that’s packaged with everything needed for quick installation, regardless of the application. Hager door closers are tri-packed for mounting three ways: parallel arm, regular arm, and top jamb. They are non-handed, packaged with a parallel arm bracket, self-drilling screws and thru-bolts at no extra charge, and adjustable for various door sizes.

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.

Table of Contents

General Information .......................................................... 2

5100 Series ........................................................................ 5
How to Order ................................................................. 6
Applications ..................................................................... 7
Grade 1 Heavy Duty Surface Door Closer ......................... 8
Arms ............................................................................... 9
Accessories ...................................................................... 10

5200 Series ........................................................................ 13
How to Order ................................................................. 14
Applications ..................................................................... 15
Grade 1 Heavy Duty Surface Door Closer ......................... 16
Arms ............................................................................... 17
Accessories ...................................................................... 18

5300 Series ........................................................................ 21
How to Order ................................................................. 22
Applications ..................................................................... 23
Grade 1 Heavy Duty Surface Door Closer ......................... 24
Arms ............................................................................... 25
Accessories ...................................................................... 26

5400 Series ........................................................................ 29
How to Order ................................................................. 30
Applications ..................................................................... 31
Grade 2 Standard Surface Door Closer ............................. 32
Arms ............................................................................... 33
Accessories ...................................................................... 33

Electromagnetic Holders .................................................. 35
Performance Data ................................................................. 36
Grade 1 Heavy Duty Commercial ..................................... 37
Accessories ...................................................................... 39

Overhead Door Holders and Stops ................................. 41
Methods of Installation .......................................................... 42
How to Order ................................................................. 43
6000 Series Grade 2 Standard Duty ................................. 45
6000 Series Accessories .................................................. 46
7000 Series Grade 1 Heavy Duty ................................. 47
7000 Series Accessories .................................................. 48
GENERAL INFORMATION

Surface door closers are easy to install, with only a few holes for the body, the arm and the bracket, 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 height dimension of the top rail is an important consideration when using this application. The closer body is mounted on the top rail of the push side of the door. The forearm is mounted by a parallel arm bracket to the soffit 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 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 push side of the door. 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

<table>
<thead>
<tr>
<th>Minimum Door Width (24&quot;)</th>
<th>24&quot; (610 mm)</th>
<th>30&quot; (762 mm)</th>
<th>36&quot; (914 mm)</th>
<th>42&quot; (1067 mm)</th>
<th>48&quot; (1219 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Arm &amp; Top Jamb</td>
<td>Size 3</td>
<td>Size 4</td>
<td>Size 5</td>
<td>Size 6</td>
<td></td>
</tr>
<tr>
<td>Parallel Arm</td>
<td>Size 3</td>
<td>Size 4</td>
<td>Size 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Interior Door Width

<table>
<thead>
<tr>
<th>Minimum Door Width (24&quot;)</th>
<th>24&quot; (610 mm)</th>
<th>30&quot; (762 mm)</th>
<th>34&quot; (865 mm)</th>
<th>38&quot; (965 mm)</th>
<th>48&quot; (1219 mm)</th>
<th>54&quot; (1372 mm)</th>
<th>60&quot; (1524 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Arm &amp; Top Jamb</td>
<td>Size 1</td>
<td>Size 2</td>
<td>Size 3</td>
<td>Size 4</td>
<td>Size 5</td>
<td>Size 6</td>
<td></td>
</tr>
<tr>
<td>Parallel Arm</td>
<td>Size 1</td>
<td>Size 2</td>
<td>Size 3</td>
<td>Size 4</td>
<td>Size 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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. To maximize hinge life and assist in achieving ADA compliance, Hager recommends the use of anti-friction or ball bearing hinges with our door closer products.

Fire Doors
Fire doors shall have the minimum opening force allowable by the appropriate authority having jurisdiction.

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 the 5100, 5200 and 5300 Series closers. 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, 5200 and 5300 Series closers offer an adjustable spring feature for sizes 1-6. 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, 5200 and 5300 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.

Delays Action
5100 Series Closers are heavy duty door closers constructed of cast iron to be installed on exterior and interior doors that are subject to high use and potential abuse. They are designed and engineered for reliability and superior performance. The commercial applications ideal for these closers include schools, medical facilities, institutions and hospitals as well as office buildings and any entrance door with high foot traffic.

5100 Series Closers have a full rack and pinion operation, with a heat treated steel piston and triple heat treated steel spindle. The closers are non-handed to permit installation on doors of either hand. The sizing is adjustable from size 1 through size 6. These design features make this closer the ideal choice for doors with a maximum weight of 330 lbs.
# 5100 Series - How to Order

<table>
<thead>
<tr>
<th>5100</th>
<th>PAR</th>
<th>1-6</th>
<th>ALM</th>
<th>HD</th>
<th>FC</th>
<th>RH</th>
<th>SX1G</th>
<th>DLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MLT - Multi-Mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAR - Parallel Arm Mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRK - Track Arm Mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5100 - Cast Iron, Grade 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-6 Adjustable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm Options</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HD - Extra Heavy Duty Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HO - Hold Open Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDHO - Extra Heavy Duty Hold Open Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA - Long Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDHOS - Extra Heavy Duty Hold Open Stop Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDHOC - Extra Heavy Duty Hold Open Cushion Stop Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDS - Extra Heavy Duty Stop Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDCS - Extra Heavy Duty Cushion Stop Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOTA - Hold Open/Stop Track Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NHOTA - Non Hold Open Stop Track Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEHOTA - Double Egress HO Stop Track Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DENHOTA - Double Egress Non-HO Stop Track Arm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finish</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALM - Sprayed Aluminum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRZ - Sprayed Bronze</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBZ - Sprayed Dark Bronze</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOL - Sprayed Gold</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BLK - Sprayed Black*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FC - Full Cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MC - Metal Cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fastener Options</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX1G - Sex Bolts for 1-3/8&quot; Door</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX1N - Sex Bolts for 1-3/4&quot; Door</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX2 - Sex Bolts for 2&quot; Door</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX2D - Sex Bolts for 2-1/4&quot; Door</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handing Options</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RH - Right Hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LH - Left Hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(specify when ordering 5108)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLY - Delayed Action</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example of how to order: 5100P14ALMHDHOCs

*Extended lead times for flat black finish and minimum order quantities may apply.
**5100 SERIES - APPLICATIONS**

**REGULAR ARM MOUNT (PULL SIDE)**

- **Opening:** Templating allows up to 120°
- **Hold Open:** Hold open points from 90° up to 120° with hold open arm
- **Frame Face:** 1-1/4” (32 mm) minimum
- **Ceiling Clearance:** 1-1/4” (32 mm) minimum
- **Top Rail:**
  - Less than 3-3/4” (95 mm) requires drop plate, 5109
  - Drop plate requires 2” (51 mm) minimum
- **Top Rail Clearance:** 4” (102 mm) from the top of door

**PARALLEL ARM MOUNT (PUSH SIDE)**

- **Opening:** Templating allows up to 180°
- **Hold Open:** Hold open points from 90° up to 180° with hold open arm
- **Top Rail:**
  - Standard hollow metal 5/8” frame stop
  - Less than 5-1/2” (140 mm) from the stop requires drop plate, 5110
  - Drop plate requires 2” (51 mm) minimum from the stop
- **Top Rail Clearance:** 6-1/4” (159 mm) from the top of door

**TOP JAMB MOUNT (PUSH SIDE)**

- **Opening:** Templating allows up to 120°
- **Hold Open:** Hold open points 85° up to 120° with hold open arm
- **Frame Face:** Less than 3-1/2” (89 mm) requires drop plate, 5115
- **Ceiling Clearance:** Drop plate requires 4” (102 mm) minimum
- **Top Rail:** Requires 1-3/8” (35 mm) minimum
- **Top Rail Clearance:** 1-1/2” (38 mm) from the top of the door
# 5100 SERIES - GRADE 1 HEAVY DUTY SURFACE DOOR CLOSER

## Features
- Ideal for schools, hospitals, and other high-use environments
- Standard package contains 5101 closer body, 5102 closer cover, 5103 main arm assembly, 5104 standard screw pack, 5909 parallel arm bracket, and 5940 SNB screw pack for 1-3/4” (44 mm) doors
- BHMA Certified ANSI A156.4, adjustable sizes 1 to 6
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL listed for up to 3 hours
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated
- Cast iron
- The recommended temperature for prolonged use is between -40º F (-42º C) & 150º F (66º C)
- One piece seamless steel spring tube
- Double heat treated steel, tempered springs
- Adjustable latching and sweep speed valves
- Adjustable backcheck valve - Standard
- Delayed action valve - Optional
- Staked valves - Standard
- Non-handed
- Tri-Pack: Regular, Parallel Arm, Top Jamb Mount - Standard

## Specifications
- 1-3/4” (44 mm) - Standard
- 1-3/8” - 2-1/4” (36 mm - 57 mm) thick door - Optional
- Self-reaming, self-tapping wood and machine screws
- Sex nuts and bolts
- Full rack and pinion operation
- Precision machined, heat treated steel piston
- Triple heat treated steel spindle
- Special templates available upon request by contacting Hager Companies Customer Service

## Finishes
- ALM, BLK, BRZ, DBZ, GOL
- Rust inhibiting primer - Standard
5100 SERIES - ARMS

5103
Main Arm
- Non-handed
- Forged steel
- Mounts regular, parallel arm, or top jamb mount
- Add 5909 bracket for parallel arm mount

5106
Extra Heavy Duty Arm
- Non-handed parallel arm
- Forged steel

5107
Hold Open Arm
- Non-handed
- Forged steel
- Mounts pull side or top jamb with shallow reveal
- Friction hold open function
- Add 5909 bracket for parallel arm mount

5108
Extra Heavy Duty Hold Open
- Handed parallel arm (specify handing when ordering)
- Forged steel
- Provides friction hold open function
- Adjustable at the shoe
- Not for use on fire-rated doors

Track Arm
- Non-handed
- Extruded aluminum track
- Steel arm

Functions:
Non Hold Open Stop Arms
- 2-659-0145 - ALM
- 2-659-0324 - BLK
- 2-659-0144 - BRZ
- 2-659-0143 - DBZ
- 2-659-0142 - GOL

Hold Open Stop Arms
- 2-659-0195 - ALM
- 2-659-0325 - BLK
- 2-659-0136 - BRZ
- 2-659-0135 - DBZ
- 2-659-0134 - GOL

5125
Extra Heavy Duty Stop Arm
- Non-handed parallel arm
- Forged steel
- Auxiliary stop in soffit shoe

5954
Extra Heavy Duty Hold Open Cushion Stop Arm
- Non-handed parallel arm
- Screw-type hold open function
- Contains 5961 arm and 5950 spring cushion
- Not for use on fire-rated doors

5955
Extra Heavy Duty Cushion Stop Arm
- Non-handed parallel arm
- Forged steel
- Contains 5125 arm and 5950 spring cushion

5961
Extra Heavy Duty Hold Open Stop Arm
- Non-handed parallel arm
- Forged steel
- Auxiliary stop in soffit shoe
- Screw-type hold open function
- Not for use on fire-rated doors

Double Egress Non Hold Open Stop Arms
- 2-659-0203 - ALM
- 2-659-0326 - BLK
- 2-659-0204 - BRZ
- 2-659-0205 - DBZ
- 2-659-0206 - GOL

Double Egress Hold Open Stop Arms
- 2-659-0207 - ALM
- 2-659-0327 - BLK
- 2-659-0208 - BRZ
- 2-659-0209 - DBZ
- 2-659-0210 - GOL
### 5101 Closer Body Only
- Cast iron
- Heat treated steel spindle and piston
- Full rack and pinion operation

### 5102 Plastic Cover
- Cover projects 2-1/4" (57 mm) from door face
- High impact non-corrosive full cover
- Secured by two machine screws

### 5109 Drop Plate - Regular Arm Mount
- Required for pull side mount when top rail is less than 3-3/4" (95 mm)
- Plate requires 2” (51 mm) minimum top rail
- Includes screw pack

### 5110 Drop Plate - Parallel Arm Mount
- Required for parallel arm mount when top rail is less than 5-1/2” (140 mm), measured from the stop to the reveal
- Plate requires 2-1/2" (64 mm) minimum top rail
- Includes screw pack

### 5111 Extra Heavy Duty Parallel Arm Support Bracket
- For use with stop arms when reveal is less than 3-1/16” (78 mm)
- Provides anchor for fifth screw

### 5112 Long Rod and Shoe
- Non-handed
- Use for door reveals greater than 3” (76 mm) and up to 5” (127 mm)
- Cast steel
- Use for top jamb application

### 5113 Blade Stop Spacer
- Required to lower parallel arm shoe to clear 1/2” (13 mm) blade stop of aluminum frames
- Includes screw pack

### 5114 Drop Plate - Low Clearance
- For use when ceiling clearance prevents normal top jamb mounting
- For use when overhead door holder prevents normal top jamb mounting
- Includes screw pack

### 5115 Drop Plate - Top Jamb Mount
- Plate requires 1-3/4" (44 mm) minimum frame face
- Required for top jamb when frame face is less than 3-1/2" (89 mm)
- For use with plastic cover
- Includes screw pack

### 5909 Parallel Arm Bracket
- Can be used to convert regular or top jamb arm to parallel arm application
- Includes screw pack

### 5911 Extra Clearance Parallel Arm Bracket
- Allows for up to 2” (51 mm) of clearance to mount additional hardware such as overhead door stops and holders
- Provides needed clearance not achieved with standard soffit plate
- Includes screw pack

### 5950 Spring Cushion
- Non-handed
- Mounts to soffit shoe of 5125, 5961, 5906, and 5907 arms
- For use with extra heavy duty hold open and stop arms for abusive applications

### 5962 Metal Cover
- Cover projects 2-1/4” (56 mm) from door face
- Cast zinc
- Secured by two machine screws
5100 SERIES - SCREW PACKS FOR 5100 SERIES ONLY

5104
Screw Pack - Standard
• Self-drilling wood screws
• Self-drilling machine screws

5940
SNB Screw Pack - Standard
• Sex nuts and bolts for 1-3/4” (44 mm) doors
• Machine screws

5941
SNB Screw Pack - Optional
• Sex nuts and bolts for 1-3/8” (35 mm) doors
• Machine screws

5942
SNB Screw Pack - Optional
• Sex nuts and bolts for 2” (51 mm) doors
• Machine screws

5943
SNB Screw Pack - Optional
• Sex nuts and bolts for 2-1/4” (56 mm) doors
• Machine screws

5946
Tork Security Screw Pack - Optional
• Tamper resistant torx screws with pins
• Sex nuts and bolts for 1-3/4” (44 mm) doors
5200 Series Closers are engineered and designed to offer the ideal combination of appearance and reliability. The 5200 Series Closers are constructed of aluminum alloy to be installed on exterior and interior doors. They are designed and engineered for reliability and superior performance. The commercial applications ideal for these closers include schools, medical facilities, institutions and hospitals as well as office buildings and any entrance door with high foot traffic.

5200 Series Closers have a full rack and pinion operation, with a heat treated steel piston and triple heat treated steel spindle. The closers are non-handed to permit installation on doors of either hand. The sizing is adjustable from size 1 through size 6. These design features make this closer the ideal choice for doors with a maximum weight of 250 lbs.
5200 SERIES - HOW TO ORDER

**Product Group**
5200 - Slim Body Aluminum, Grade 1

**Mount**
- MLT - Multi-Mount
- PAR - Parallel Arm Mount
- TRK - Track Arm Mount

**Size**
1-6 Adjustable

**Arm Options**
- HD - Extra Heavy Duty Arm
- HO - Hold Open Arm
- HDHO - Extra Heavy Duty Hold Open Arm
- LA - Long Arm
- HDHOS - Extra Heavy Duty Hold Open Stop Arm
- HDHOCS - Extra Heavy Duty Hold Open Cushion Stop Arm
- HDS - Extra Heavy Duty Stop Arm
- HDCS - Extra Heavy Duty Cushion Stop Arm
- HOTA - Hold Open/Stop Track Arm
- NHOTA - Non Hold Open Stop Track Arm
- DEHOTA - Double Egress HO Stop Track Arm
- DENHOTA - Double Egress Non-HO Stop Track Arm

**Finish**
- ALM - Sprayed Aluminum
- BRZ - Sprayed Bronze
- DBZ - Sprayed Dark Bronze
- GOL - Sprayed Gold
- BLK - Sprayed Black*

**Covers**
- SLC - Slim Line Cover
- FC - Full Cover
- MC - Metal Cover
- PC - Pinion Cap

**Fastener Options**
- SX1G - Sex Bolts for 1-3/8" Door
- SX1N - Sex Bolts for 1-3/4" Door
- SX2 - Sex Bolts for 2" Door
- SX2D - Sex Bolts for 2-1/4" Door

**Handing Options**
- RH - Right Hand
- LH - Left Hand
(Specify when ordering 5912)

**Miscellaneous**
- DLY - Delayed Action

Example of how to order: 5200P25ALMHDHOCS

*Extended lead times for flat black finish and minimum order quantities may apply.*
5200 SERIES - APPLICATIONS

REGULAR ARM MOUNT (PULL SIDE)

Opening: Templating allows up to 180°
Hold Open: Hold open points 90° up to 180° with hold open arm
Frame Face: 1-3/8" (35 mm)
Ceiling Clearance: • 1-3/4" (45 mm) minimum
• 1-5/8" (41 mm) minimum for hold open arm
Top Rail: • 2-1/2" (64 mm) minimum without drop plate
• 1-5/8" (38 mm) minimum with drop plate, 5918
Top Rail Clearance: 3-1/2" (89 mm) minimum

PARALLEL ARM MOUNT (PUSH SIDE)

Opening: Templating allows up to 180°
Hold Open: Hold open points 90° up to 180° with hold open
Top Rail: • Standard hollow metal 5/8” frame stop
• 5-3/8" (137 mm) minimum
Top Rail Clearance: 6-1/4" (159 mm) minimum

TOP JAMB MOUNT (PUSH SIDE)

Opening: Templating allows up to 180°
Hold Open: Hold open points 90° up to 180° with hold open
Frame Face: • 1-7/8" (48 mm) minimum
• 1-1/8" (29 mm) minimum with drop plate, 5918
Ceiling Clearance: • 2-3/4" (70 mm) minimum
• 1-5/8" (41 mm) minimum with drop plate, 5918
Top Rail: 2" (51 mm) minimum
Top Rail Clearance: • 2-1/4" (57 mm) minimum
• 2-1/2" (64 mm) minimum for hold-open
• 3-3/8" (86 mm) minimum with drop plate, 5918
• 3-5/8" (92 mm) minimum for hold open with drop plate
5200 SERIES - GRADE 1 HEAVY DUTY SURFACE DOOR CLOSER

WARRANTY

Lifetime warranty - 250 lbs. maximum door weight

FEATURES

- Ideal for schools, hospitals, and other high-use environments
- Standard package contains 5201 closer body, 5202 closer cover, 5203 main arm assembly, 5204 standard screw pack, 5900 parallel arm bracket, and 5902 SNB screw pack for 1-3/4” (44 mm) doors

Certification:

- BHMA Certified ANSI A156.4, adjustable sizes 1 to 6
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for up to 3 hours
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

Covers:

- Full plastic cover - Standard
- Full size plated metal cover - Optional

Closer Body:

- Aluminum alloy
- The recommended temperature for prolonged use is between -40º F (-42º C) & 150º F (66º C)

Springs:

- Double heat treated steel, tempered springs

Valves:

- Adjustable latching and sweep speed valves
- Adjustable backcheck valve - Standard
- Delayed action valve - Optional
- Staked valves - Standard

Handing:

- Non-handed

Arms & Brackets:

- Tri-Pack: Regular, Parallel Arm, and Top Jamb Mount - Standard
- 15% power adjustment in standard arm for regular and top jamb mount

SPECIFICATIONS

Door Thickness:

- 1-3/4” (44 mm) - Standard
- 1-3/8” - 2-1/4” (36 mm - 57 mm) thick door - Optional

Fasteners:

- Self-reaming, self-tapping wood and machine screws
- Sex nuts and bolts

Notes:

- Full rack and pinion operation
- Precision machined, heat treated steel piston
- Triple heat treated steel spindle
- Special templates available upon request by contacting Hager Companies Customer Service

FINISHES

- ALM, BLK, BRZ, DBZ, GOL
- Rust inhibiting primer - Standard
### 5200 SERIES - ARMS

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>5203</td>
<td>Main Arm</td>
<td>- Non-handed&lt;br&gt;- Forged steel&lt;br&gt;- Mounts regular, parallel arm, or top jamb mount&lt;br&gt;- Add 5900 bracket for parallel arm mount</td>
</tr>
<tr>
<td>5910</td>
<td>Hold Open Arm</td>
<td>- Non-handed&lt;br&gt;- Forged steel&lt;br&gt;- Mounts pull side or top jamb with shallow reveal&lt;br&gt;- Friction hold open function&lt;br&gt;- Add 5914 Rev1 bracket for parallel arm mount</td>
</tr>
<tr>
<td>5906</td>
<td>Extra Heavy Duty Hold Open Stop Arm</td>
<td>- Non-handed parallel arm&lt;br&gt;- Forged steel&lt;br&gt;- Plunger hold open function&lt;br&gt;- Auxiliary stop in soffit shoe&lt;br&gt;- For use with 5200 and 5300 Series closers</td>
</tr>
<tr>
<td>5907</td>
<td>Extra Heavy Duty Stop Arm</td>
<td>- Non-handed parallel arm&lt;br&gt;- Forged steel&lt;br&gt;- Auxiliary stop in soffit shoe&lt;br&gt;- For use with 5200 and 5300 Series closers</td>
</tr>
<tr>
<td>5956</td>
<td>Extra Heavy Duty Hold Open Cushion Stop Arm</td>
<td>- Non-handed parallel arm&lt;br&gt;- Forged steel&lt;br&gt;- Plunger hold open function&lt;br&gt;- Contains 5906 arm and 5950 spring cushion arm&lt;br&gt;- For use with 5200 and 5300 Series closers</td>
</tr>
</tbody>
</table>

**Track Arm**
- Non-handed<br>- Extruded aluminum track<br>- Steel arm

**Functions:**

**Non Hold Open Stop Arms**
- 2-659-0141 - ALM
- 2-659-0328 - BLK
- 2-659-0140 - BRZ
- 2-659-0139 - DBZ
- 2-659-0138 - GOL

**Hold Open Stop Arms**
- 2-659-0350 - ALM
- 2-659-0329 - BLK
- 2-659-0351 - BRZ
- 2-659-0352 - DBZ
- 2-659-0353 - GOL

**Double Egress Non Hold Open Stop Arms**
- 2-659-0211 - ALM
- 2-659-0330 - BLK
- 2-659-0212 - BRZ
- 2-659-0213 - DBZ
- 2-659-0214 - GOL

**Double Egress Hold Open Stop Arms**
- 2-659-0215 - ALM
- 2-659-0331 - BLK
- 2-659-0216 - BRZ
- 2-659-0217 - DBZ
- 2-659-0218 - GOL
5200 SERIES - ACCESSORIES

5201  Closer Body Only
  • Aluminum alloy
  • Heat treated steel spindle and piston
  • Full rack and pinion operation

5202  Full Plastic Cover
  • Cover projects 2-3/16” (56 mm) from door face
  • High impact non-corrosive full cover
  • Secured by two machine screws

5900  Parallel Arm Bracket
  • Can be used to convert regular or top jamb arms to parallel arm application
  • For use with 5200, 5300 and 5400 Series arms

5908  Long Rod and Shoe
  • Use for reveals greater than 4” (102 mm) and up to 8” (203 mm)
  • Non-handed
  • Cast steel
  • Use for top jamb application
  • For use with 5200, 5300 and 5400 Series arms
  • Includes screw pack

5913  Blade Stop Spacer
  • Required to lower parallel arm shoe to clear 1/2” (13 mm) blade stop of aluminum frames
  • For use with 5200, 5300 and 5400 Series arms
  • Includes screw pack

5914  Hold Open Parallel Arm Bracket
  • Supplied with all standard hold open arms
  • For use with 5200 and 5300 Series arms
  • Includes screw pack

5918  Drop Plate - Top Jamb, Narrow Top Rail
  • For use with slim line cover
  • For use when a narrow top rail prevents mounting directly to door surface
  • For use when low ceiling clearance prevents normal top jamb mounting
  • Includes screw pack

5919  Pinion Cap
  • High-impact, non-corrosive
  • Fits over the pinion and extends 9/16” (14 mm)
  • For use with slim line cover

5920  Slim Line Plastic Cover
  • Cover projects 2-3/16” (56 mm) from the door face
  • High-impact non-corrosive slim line cover
  • Secured by two machine screws
  • Available in plastic only

5921  Drop Plate – Narrow Top Rail
  • For use with a full cover
  • For use when a narrow top rail prevents mounting directly to door surface
  • Includes screw pack

5922  Drop Plate - Top Jamb, Parallel Arm
  • For use with slim line cover
  • For use when low ceiling clearance prevents normal top jamb mounting; with full cover
  • For use when an overhead door holder prevents normal top jamb mounting
  • Includes screw pack
  • Plate requires 3” (76mm) minimum top rail

5923  Drop Plate - Parallel Arm
  • For use with a full cover
  • For use with a parallel arm when narrow top rail prevents mounting directly to the door surface
  • Includes screw pack
  • Plate requires 3” (76mm) minimum top rail.
5200 SERIES - ACCESSORIES

5932
Metal Cover
- Cover projects 2-1/4” (57 mm) from door face
- Cast zinc full cover
- Secured by two machine screws
- Not offered as slim line

5936
Extra Clearance Parallel Arm Bracket
- Allows for up to 2” (51 mm) of clearance to mount additional hardware such as overhead door stops and holders
- Provides needed clearance not achieved with a standard soffit plate

5950
Spring Cushion
- Non-handed
- Mounts to soffit shoe of 5125, 5961, 5906 and 5907 arms
- For use with extra heavy duty hold open and stop arms for abusive applications

SCREW PACKS

5204
Screw Pack - Standard
- Self-drilling wood screws
- Self-drilling machine screws
- For 5200 Series closer

5902
SNB Screw Pack - Standard
- Sex nuts and bolts for 1-3/4” (44 mm) doors
- Machine screws
- For use with 5200, 5300, 5400 Series closers only

5903
SNB Screw Pack - Optional
- Sex nuts and bolts for 1-3/8” (35 mm) doors
- Machine screws
- For use with 5200, 5300, 5400 Series closers only

5904
SNB Screw Pack - Optional
- Sex nuts and bolts for 2” (51 mm) doors
- Machine screws
- For use with 5200, 5300, 5400 Series closers only

5905
SNB Screw Pack - Optional
- Sex nuts and bolts for 2-1/4” (56 mm) doors
- Machine screws
- For use with 5200, 5300, 5400 Series closers only
The 5300 Series Closers offer a compact design for a variety of applications. They are constructed of aluminum alloy to withstand the use and abuse you come to expect of Hager Companies Grade 1 products. The 5300 Series closers provide the flexibility needed to meet the many demands of both commercial and institutional applications, including the ADA barrier-free accessibility requirements. The sizing is adjustable from size 1 through size 6. These design features make this closer the ideal choice for doors with a maximum weight of 250 lbs.
5300 SERIES - HOW TO ORDER

<table>
<thead>
<tr>
<th>5300</th>
<th>TRK</th>
<th>1-6</th>
<th>DBZ</th>
<th>LA</th>
<th>FC</th>
<th>RH</th>
<th>SX1G</th>
<th>DLY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mount</strong></td>
<td>MLT - Multi-Mount</td>
<td>PAR - Parallel Arm Mount</td>
<td>TRK - Track Arm Mount</td>
<td><strong>Finish</strong></td>
<td>ALM - Sprayed Aluminum</td>
<td>BRZ - Sprayed Bronze</td>
<td>DBZ - Sprayed Dark Bronze</td>
<td>GOL - Sprayed Gold</td>
</tr>
<tr>
<td><strong>Product Group</strong></td>
<td>5300 - Aluminum, Grade 1</td>
<td><strong>Size</strong></td>
<td>1-6 Adjustable</td>
<td><strong>Arm Options</strong></td>
<td>HD - Extra Heavy Duty Arm</td>
<td>HO - Hold Open Arm</td>
<td>HDHO - Extra Heavy Duty Hold Open Arm</td>
<td>LA - Long Arm</td>
</tr>
</tbody>
</table>

Example of how to order: 5300P14ALMHDHOC

*Extended lead times for flat black finish and minimum order quantities may apply.*
### 5300 SERIES - APPLICATIONS

#### REGULAR ARM MOUNT (PULL SIDE)
- **Opening:** Templating allows up to 180°
- **Hold Open:** Hold open points 90° up to 180° with hold open arm
- **Frame Face:** 1-3/8” (35 mm) minimum
- **Ceiling Clearance:** • 1-5/8” (41 mm) minimum  
  • 1-5/8” (41 mm) minimum for hold open arm
- **Top Rail:** 2-1/2” (64 mm) minimum with drop plate, 5915
- **Top Rail Clearance:** 4-1/4” (108 mm) minimum from the top of the door

#### PARALLEL ARM MOUNT (PUSH SIDE)
- **Opening:** Templating allows up to 180°
- **Hold Open:** Hold open points 90° up to 180° with hold open
- **Top Rail:** • Standard hollow metal 5/8” frame stop  
  • 4-3/4” (121 mm) minimum  
  • 4” (102 mm) minimum with hold open  
  • 3-1/8” (79 mm) minimum with plate  
  • 2-1/8” (54 mm) minimum with hold open and plate
- **Top Rail Clearance:** 5-3/4” (146 mm) minimum from the top of the door

#### TOP JAMB MOUNT (PUSH SIDE)
- **Opening:** Templating allows up to 180°
- **Hold Open:** Hold open points 90° up to 180° with hold open
- **Frame Face:** 1-3/4” (45 mm) minimum
- **Ceiling Clearance:** • 2-3/4” (70 mm) minimum  
  • 1-3/4” (44 mm) minimum with drop plate, 5918
- **Top Rail:** 1-7/8” (48 mm) minimum
- **Top Rail Clearance:**  
  • 2-1/8” (54 mm) minimum  
  • 2-3/4” (70 mm) minimum with drop plate, 5917  
  • 2-1/4” (57 mm) minimum for hold open with drop plate, 5917  
  • 3-5/8” (92 mm) minimum with drop plate, 5915
5300 SERIES - GRADE 1 HEAVY DUTY SURFACE DOOR CLOSER

**WARRANTY**  
Lifetime warranty - 250 lbs. maximum door weight

**FEATURES**  
- Ideal for schools, hospitals, and other high-use environments
- Standard package contains 5301 closer body, 5302 closer cover, 5902 pinion cap, 5303 main arm assembly, 5304 standard screw pack, 5900 parallel arm bracket, and 5902 SNB screw pack for 1-3/4” (44 mm) door

Certification:  
- BHMA Certified ANSI A156.4, adjustable sizes 1 to 6
- ADA Compliant ANSI A117.1 Accessibility Code
- UL/cUL Listed for up to 3 hours
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

Covers:  
Full plastic cover and pinion cap - Standard

Closer Body:  
- Aluminum alloy
- The recommended temperature for prolonged use is between -40°F (-42°C) & 150°F (66°C)

Springs:  
Double heat treated steel, tempered springs

Valves:  
- Adjustable latching and sweep speed valves
- Adjustable backcheck valve - Standard
- Delayed action valve - Optional
- Staked valves - Standard

Handing:  
Non-handed

Arms & Brackets:  
- Tri-Pack: Regular, Parallel Arm, and Top Jamb Mount - Standard
- 15% power adjustment in standard arm for regular and top jamb mount

**SPECIFICATIONS**

Door Thickness:  
- 1-3/4” (44 mm) - Standard
- 1-3/8” - 2-1/4” (36 mm - 57 mm) thick door - Optional

Fasteners:  
- Self-reaming, self-tapping wood and machine screws
- Sex nuts and bolts

Notes:  
- Full rack and pinion operation
- Precision machined, heat treated steel piston
- Triple heat treated steel spindle
- Special templates available upon request by contacting Hager Companies Customer Service

**FINISHES**  
- ALM, BLK, BRZ, DBZ, GOL
- Rust inhibiting primer - Standard
<table>
<thead>
<tr>
<th><strong>5303</strong></th>
<th><strong>Main Arm</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Non-handed</td>
<td></td>
</tr>
<tr>
<td>- Forged steel</td>
<td></td>
</tr>
<tr>
<td>- Mounts regular, top jamb, or parallel arm mount</td>
<td></td>
</tr>
<tr>
<td>- Add 5900 bracket for parallel arm mount</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5307</strong></th>
<th><strong>Hold Open Arm Assembly</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Non-handed</td>
<td></td>
</tr>
<tr>
<td>- Forged steel</td>
<td></td>
</tr>
<tr>
<td>- Mounts pull side or top jamb with shallow reveal</td>
<td></td>
</tr>
<tr>
<td>- Friction hold open</td>
<td></td>
</tr>
<tr>
<td>- Add 5914 bracket for parallel arm mount</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5911</strong></th>
<th><strong>Extra Heavy Duty Arm Assembly</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Non-handed parallel arm</td>
<td></td>
</tr>
<tr>
<td>- Forged steel</td>
<td></td>
</tr>
<tr>
<td>- For use with 5200 and 5300 Series closers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5912</strong></th>
<th><strong>Extra Heavy Duty Hold Open Arm Assembly</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Handed parallel arm (specify handing when ordering)</td>
<td></td>
</tr>
<tr>
<td>- Forged steel</td>
<td></td>
</tr>
<tr>
<td>- Provides friction hold open function</td>
<td></td>
</tr>
<tr>
<td>- Adjustable at the shoe</td>
<td></td>
</tr>
<tr>
<td>- For use with 5200 and 5300 Series closers</td>
<td></td>
</tr>
<tr>
<td>- Not for use on fire-rated doors</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5307</strong></th>
<th><strong>Extra Heavy Duty Hold Open Stop Arm</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Non-handed parallel arm</td>
<td></td>
</tr>
<tr>
<td>- Forged steel</td>
<td></td>
</tr>
<tr>
<td>- Plunger hold open function</td>
<td></td>
</tr>
<tr>
<td>- Auxiliary stop in soffit shoe</td>
<td></td>
</tr>
<tr>
<td>- For use with 5200 and 5300 Series closers</td>
<td></td>
</tr>
<tr>
<td>- Not for use on fire-rated doors</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5906</strong></th>
<th><strong>Extra Heavy Duty Cushion Stop Arm</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Non-handed parallel arm</td>
<td></td>
</tr>
<tr>
<td>- Forged steel</td>
<td></td>
</tr>
<tr>
<td>- Contains 5906 arm and 5950 spring cushion arm</td>
<td></td>
</tr>
<tr>
<td>- Plunger hold open</td>
<td></td>
</tr>
<tr>
<td>- For use with 5200 and 5300 Series closers</td>
<td></td>
</tr>
<tr>
<td>- Not for use on fire-rated doors</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5907</strong></th>
<th><strong>Extra Heavy Duty Stop Arm</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Non-handed parallel arm</td>
<td></td>
</tr>
<tr>
<td>- For use in abusive environments</td>
<td></td>
</tr>
<tr>
<td>- Auxiliary stop in soffit shoe</td>
<td></td>
</tr>
<tr>
<td>- For use with 5200 and 5300 Series closers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Track Arm</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Non-handed</td>
<td></td>
</tr>
<tr>
<td>- Extruded aluminum track</td>
<td></td>
</tr>
<tr>
<td>- Steel arm</td>
<td></td>
</tr>
</tbody>
</table>

**Functions:**

**Non Hold Open Stop Arms**
- 2-659-0141 - ALM
- 2-659-0328 - BLK
- 2-659-0140 - BRZ
- 2-659-0139 - DBZ
- 2-659-0138 - GOL

**Hold Open Stop Arms**
- 2-659-0350 - ALM
- 2-659-0329 - BLK
- 2-659-0351 - BRZ
- 2-659-0352 - DBZ
- 2-659-0353 - GOL
<table>
<thead>
<tr>
<th><strong>5300 SERIES - ACCESSORIES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5301</strong> Closer Body Only</td>
</tr>
<tr>
<td>• Aluminum alloy</td>
</tr>
<tr>
<td>• Heat treated steel spindle and piston</td>
</tr>
<tr>
<td>• Full rack and pinion operation</td>
</tr>
<tr>
<td><strong>5302</strong> Full Plastic Cover</td>
</tr>
<tr>
<td>• Cover projects 2-3/16” (56 mm) from door face</td>
</tr>
<tr>
<td>• High impact non-corrosive full cover - Standard</td>
</tr>
<tr>
<td>• Secured by two machine screws</td>
</tr>
<tr>
<td>• Available in plastic only</td>
</tr>
<tr>
<td><strong>5900</strong> Parallel Arm Bracket</td>
</tr>
<tr>
<td>• Used to convert regular or top jamb arms to parallel arm application</td>
</tr>
<tr>
<td>• For use with 5300 and 5400 Series closer arms</td>
</tr>
<tr>
<td>• Includes screw pack</td>
</tr>
<tr>
<td><strong>5901</strong> Pinion Cap</td>
</tr>
<tr>
<td>• High-impact, non-corrosive</td>
</tr>
<tr>
<td>• Supplied standard in 5300 and 5400 Series closers</td>
</tr>
<tr>
<td>• Fits over the pinion and extends 1” (25 mm)</td>
</tr>
<tr>
<td><strong>5908</strong> Long Rod and Shoe</td>
</tr>
<tr>
<td>• Use for reveals greater than 4” (102 mm) and up to 8” (203 mm)</td>
</tr>
<tr>
<td>• Non-handed</td>
</tr>
<tr>
<td>• Cast steel</td>
</tr>
<tr>
<td>• Use for top jamb application</td>
</tr>
<tr>
<td>• For use with 5300 and 5400 Series closer arms</td>
</tr>
<tr>
<td><strong>5913</strong> Blade Stop Spacer</td>
</tr>
<tr>
<td>• Required to lower parallel arm shoe to clear 1/2” (13 mm) blade stop of aluminum frames</td>
</tr>
<tr>
<td>• For use with 5300 and 5400 Series closer arms</td>
</tr>
<tr>
<td>• Includes screw pack</td>
</tr>
<tr>
<td><strong>5936</strong> Extra Clearance Parallel Arm Bracket</td>
</tr>
<tr>
<td>• Allows for up to 2” (13 mm) of clearance to mount additional hardware such as overhead door stops and holders</td>
</tr>
<tr>
<td>• Provides needed clearance not achieved with a standard soffit plate</td>
</tr>
<tr>
<td>• Includes screw pack</td>
</tr>
<tr>
<td><strong>5950</strong> Spring Cushion</td>
</tr>
<tr>
<td>• Non-handed</td>
</tr>
<tr>
<td>• Mounts to soffit shoe of 5125, 5961, 5906 and 5907 arms</td>
</tr>
<tr>
<td>• For use with extra heavy duty hold open and stop arms for abusive applications</td>
</tr>
<tr>
<td><strong>5914</strong> Hold Open Parallel Arm Bracket</td>
</tr>
<tr>
<td>• Supplied with all standard hold open arms</td>
</tr>
<tr>
<td>• For use with 5200 and 5300 Series closers only</td>
</tr>
<tr>
<td>• Includes screw pack</td>
</tr>
<tr>
<td><strong>5915</strong> Drop Plate - Narrow Rail Overhead Holder</td>
</tr>
<tr>
<td>• For use when an overhead door holder prevents normal top jamb mounting</td>
</tr>
<tr>
<td>• For use when a narrow rail prevents the closer from being mounted directly to the door</td>
</tr>
<tr>
<td>• For use with parallel arm and no cover</td>
</tr>
<tr>
<td>• For use when low ceiling clearance prevents normal top jamb mounting</td>
</tr>
<tr>
<td>• Includes screw pack</td>
</tr>
<tr>
<td>• Plate requires 3” (76mm) minimum top rail</td>
</tr>
<tr>
<td><strong>5916</strong> Drop Plate - Narrow Rail Parallel Arm</td>
</tr>
<tr>
<td>• For use when a narrow rail prevents the closer from being mounted directly to the door</td>
</tr>
<tr>
<td>• For use with parallel arm and full plastic cover</td>
</tr>
<tr>
<td>• Includes screw pack</td>
</tr>
<tr>
<td>• Plate requires 3” (76mm) minimum top rail</td>
</tr>
<tr>
<td><strong>5917</strong></td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td><strong>SNB Screw Pack - Standard</strong></td>
</tr>
<tr>
<td><strong>Machine screws</strong></td>
</tr>
<tr>
<td><strong>Includes screw pack</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5304</strong></th>
<th><strong>Screw Pack - Standard</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-drilling wood screws</strong></td>
<td>• For 5300 Series closer only</td>
</tr>
<tr>
<td><strong>Self-drilling machine screws</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5902</strong></th>
<th><strong>SNB Screw Pack - Standard</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex nuts and bolts for 1-3/4” (44 mm) doors</strong></td>
<td>• For use with 5200, 5300, 5400 Series closers only</td>
</tr>
<tr>
<td><strong>Machine screws</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5903</strong></th>
<th><strong>SNB Screw Pack - Optional</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex nuts and bolts for 1-3/8” (35 mm) doors</strong></td>
<td>• For use with 5200, 5300, 5400 Series closers only</td>
</tr>
<tr>
<td><strong>Machine screws</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5904</strong></th>
<th><strong>SNB Screw Pack - Optional</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex nuts and bolts for 2” (51 mm) doors</strong></td>
<td>• For use with 5200, 5300, 5400 Series closers only</td>
</tr>
<tr>
<td><strong>Machine screws</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5905</strong></th>
<th><strong>SNB Screw Pack - Optional</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex nuts and bolts for 2-1/4” (56 mm) doors</strong></td>
<td>• For use with 5200, 5300, 5400 Series closers only</td>
</tr>
<tr>
<td><strong>Machine screws</strong></td>
<td></td>
</tr>
</tbody>
</table>
5400 Series Closers are ideal for light duty commercial applications. 5400 Series Closers have a heat treated steel piston and triple heat treated steel spindle. The closers are non-handed to permit installation on doors of either hand. These closers have fixed spring sizes. The maximum door weight for each of these closers is dependent on the size selected. Size 2 - 80 lbs, Size 3 - 135 lbs, Size 4 - 175 lbs and Size 5 - 200 lbs.
5400 Series closers are sized 2, 3, 4 & 5. Must know size when placing order.

**DOOR CLOSER SIZING CHART**

**Exterior (and Vestibule) Door Width**

<table>
<thead>
<tr>
<th>Minimum Door Width (24&quot;)</th>
<th>24&quot;</th>
<th>30&quot;</th>
<th>36&quot;</th>
<th>42&quot;</th>
<th>48&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>(610 mm)</td>
<td>(762 mm)</td>
<td>(914 mm)</td>
<td>(1067 mm)</td>
<td>(1219 mm)</td>
<td></td>
</tr>
<tr>
<td>Regular Arm &amp; Top Jamb</td>
<td>Size 3</td>
<td>Size 4</td>
<td>Size 5</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Parallel Arm</td>
<td>Size 3</td>
<td>Size 4</td>
<td>Size 5</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**Interior Door Width**

<table>
<thead>
<tr>
<th>Minimum Door Width (24&quot;)</th>
<th>24&quot;</th>
<th>30&quot;</th>
<th>34&quot;</th>
<th>38&quot;</th>
<th>48&quot;</th>
<th>54&quot;</th>
<th>60&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>(610 mm)</td>
<td>(762 mm)</td>
<td>(865 mm)</td>
<td>(965 mm)</td>
<td>(1219 mm)</td>
<td>(1372 mm)</td>
<td>(1524 mm)</td>
<td></td>
</tr>
<tr>
<td>Regular Arm &amp; Top Jamb</td>
<td>-</td>
<td>Size 2</td>
<td>Size 3</td>
<td>Size 4</td>
<td>Size 5</td>
<td>Size 6</td>
<td></td>
</tr>
<tr>
<td>Parallel Arm</td>
<td>-</td>
<td>Size 2</td>
<td>Size 3</td>
<td>Size 4</td>
<td>Size 5</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

*Example of how to order: 5400M02ALM0PC
*Extended lead times for flat black finish and minimum order quantities may apply.
**5400 SERIES - APPLICATIONS**

**REGULAR ARM MOUNT**

<table>
<thead>
<tr>
<th>Opening:</th>
<th>Templating allows up to 180°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Face:</td>
<td>1-1/2” (38 mm) minimum</td>
</tr>
<tr>
<td>Ceiling Clearance:</td>
<td>1-3/4” (44 mm) minimum</td>
</tr>
<tr>
<td>Top Rail:</td>
<td>2-1/4” (57 mm) minimum</td>
</tr>
<tr>
<td>Top Rail Clearance:</td>
<td>3-1/2” (89 mm) minimum</td>
</tr>
</tbody>
</table>

**PARALLEL ARM MOUNT**

<table>
<thead>
<tr>
<th>Opening:</th>
<th>Templating allows up to 180°</th>
</tr>
</thead>
</table>
| Top Rail: | • 5/8” (16 mm) frame stop  
• 4-3/4” (121 mm) minimum |
| Top Rail Clearance: | 5-3/4” (146 mm) minimum |

**TOP JAMB MOUNT**

<table>
<thead>
<tr>
<th>Opening:</th>
<th>Templating allows up to 180°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Face:</td>
<td>1-3/4” (45 mm) minimum</td>
</tr>
<tr>
<td>Ceiling Clearance:</td>
<td>2-3/4” (70 mm) minimum</td>
</tr>
<tr>
<td>Top Rail:</td>
<td>1-7/8” (48 mm) minimum</td>
</tr>
<tr>
<td>Top Rail Clearance:</td>
<td>2-1/8” (54 mm) minimum</td>
</tr>
</tbody>
</table>
5400 SERIES - GRADE 2 STANDARD DUTY SURFACE DOOR CLOSER

WARRANTY
Five-year warranty - maximum door weight size:
- 2 - 80 lbs
- 3 - 135 lbs
- 4 - 175 lbs
- 5 - 200 lbs

FEATURES
- Ideal for light duty commercial applications
- Standard package contains 5401 closer body, 5901 pinion cap, 5403 main arm assembly, 5404 standard screw pack, 5900 parallel arm bracket, and 5902 SNB screw pack for 1-3/4” (44 mm) door

Certification:
- BHMA Certified ANSI A156.4, Sizes 2, 3, 4, 5 - Must specify
- UL/cUL Listed for up to 3 hours
- UL10C Positive Pressure Rated
- UL10B Neutral Pressure Rated

Covers:
- No Cover - Standard

Closer Body:
- Aluminum alloy
- The recommended temperature for prolonged use is between -40º F (-42º C) & 150º F (66º C)

Springs:
- Double heat treated steel, tempered springs

Valves:
- Adjustable latching and sweep speed valves
- Adjustable backcheck valve - Optional
- Staked valves - Standard

Handing:
- Non-handed

Arms & Brackets:
- Tri-Pack: Regular, Parallel Arm, and Top Jamb Mount - Standard
- 15% power adjustment in standard arm for regular and top jamb mount

SPECIFICATIONS
Door Thickness:
- 1-3/4” (44 mm) - Standard
- 1-3/8” - 2-1/4” (36 mm - 57 mm) thick door - Optional

Fasteners:
- Self-reaming, self-tapping wood and machine screws
- Sex nuts and bolts

Notes:
- Precision machined, heat treated steel piston
- Triple heat treated steel spindle
- Special templates available upon request by contacting Hager Companies Customer Service

FINISHES
- ALM, BLK, BRZ, DBZ, GOL
- Rust inhibiting primer - Standard
5400 SERIES - ARMS & ACCESSORIES

5403 Main Arm
- Non-handed
- Forged steel
- Mounts regular, parallel arm, or top jamb mount
- Add 5900 bracket for parallel arm mount

5401 Closer Body Only
- Aluminum alloy
- Full rack and pinion operation
- Triple heat treated steel spindle
- Sizes 2, 3, 4, and 5 available

5900 Parallel Arm Bracket
- Used to convert regular or top jamb arms to parallel arm application
- Supplied standard closers
- For use with 5200, 5300 and 5400 Series closer arms
- Includes screw pack

5901 Pinion Cap
- High-impact, non-corrosive
- Fits over the pinion and extends 1” (25 mm)
- Supplied standard

5913 Blade Stop Spacer
- Required to lower parallel arm shoe to clear 1/2” (13 mm) blade stop of aluminum frames
- For use with 5300 and 5400 Series arms
- Includes screw pack

5404 Screw Pack - Standard
- Self-drilling wood screws
- Self-drilling machine screws
- For 5400 Series closer only

5902 SNB Screw Pack - Standard
- Sex nuts and bolts for 1-3/4” (44 mm) doors
- Machine screws
- For use with 5200, 5300, 5400 Series closers only

5903 SNB Screw Pack - Optional
- Sex nuts and bolts for 1-3/8” (35 mm) doors
- Machine screws
- For use with 5200, 5300, 5400 Series closers only

5904 SNB Screw Pack - Optional
- Sex nuts and bolts for 2” (51 mm) doors
- Machine screws
- For use with 5200, 5300, 5400 Series closers only

5905 SNB Screw Pack - Optional
- Sex nuts and bolts for 2-1/4” (56 mm) doors
- Machine screws
- For use with 5200, 5300, 5400 Series closers only
Hager Companies offers a line of electromagnetic door holders with built-in protection and low residual magnetism so they release easily even in applications meeting ADA requirements with minimal spring force door closers. These features make the electromagnetic holders a great solution for both safety and convenience and are ideal solutions for applications in hotels, hospitals and nursing homes.

Hager electromagnetic holders are designed for virtually any remote door release application and are ideal for holding doors open until released by a fire alarm or switching device. When deactivated the electromagnetic holders help to control the spread of fire and smoke by the simultaneous release of doors from an open to a closed position. The electromagnetic holders can be utilized independently or with the smoke detector systems.

The electromagnetic holders include a door mounted armature and a floor or wall mounted electromagnet. The features of this hardware include: dual voltage capability, very low current draw for energy efficiency, silent operation and an adjustable catch plate.
ELECTROMAGNETIC DOOR HOLDERS - PERFORMANCE DATA

<table>
<thead>
<tr>
<th>MODEL</th>
<th>VOLTAGE</th>
<th>DC/mA</th>
<th>AC/mA</th>
<th>TERMINALS</th>
<th>LB.</th>
<th>KG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1224</td>
<td>12V</td>
<td>40</td>
<td>38</td>
<td>C&amp;L</td>
<td>30</td>
<td>13.6</td>
</tr>
<tr>
<td></td>
<td>24V</td>
<td>40</td>
<td>36</td>
<td>C&amp;H</td>
<td>30</td>
<td>13.6</td>
</tr>
<tr>
<td>24120</td>
<td>24V</td>
<td>20</td>
<td>19</td>
<td>C&amp;L</td>
<td>40</td>
<td>18.1</td>
</tr>
<tr>
<td></td>
<td>120V</td>
<td>20</td>
<td>20</td>
<td>C&amp;H</td>
<td>35</td>
<td>15.8</td>
</tr>
<tr>
<td>24220</td>
<td>24V</td>
<td>20</td>
<td>19</td>
<td>C&amp;L</td>
<td>20</td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td>220V</td>
<td>15</td>
<td></td>
<td>C&amp;H</td>
<td>22</td>
<td>9.8</td>
</tr>
</tbody>
</table>

*High Holding Force/Special Applications:
To obtain the performance values in the above table, apply high listed voltage to low voltage terminals (C&L).
NOTE: This configuration can only be applied to models 1224 and 24120.

DUAL VOLTAGE (REAR VIEW SHOWN)

EXTENSION ROD/ADJUSTABLE EXTENSION ROD

To calculate extension rod length needed, use the formula below based on style holder being used.

Flush mount: Measure distance from door to wall when held at desired opening. Subtract 3" (76 mm) to obtain extension rod length needed.

Recessed mount: Measure distance from door to wall when held at desired opening. Subtract 2-3/8" (60 mm) to obtain extension rod length needed.

Surface mount: Measure distance from door to wall when held at desired opening. Subtract 4-5/8" (117 mm) to obtain extension rod length needed.

See example below using flush mount.
ELECTROMAGNETIC DOOR HOLDERS - GRADE 1 HEAVY DUTY COMMERCIAL

WARRANTY
One-year warranty

FEATURES
- Ideal for hospitals, hotels, schools, and other commercial buildings
- Designed for use with self-closing fire and smoke barrier doors
- Low current draw
- Fail safe: when electrical current is interrupted, doors release to close automatically

Certification:
- UL/ULC listed
- Meets ANSI 156.15 for C00011
- California State Fire Marshall listed (CSFM)
- City of New York MEA approved
- Factory Mutual

Body: Zinc alloy

Voltages: Standard dual voltage AC or DC inputs of 12 & 24V, 24 & 120V, 24 & 220V models

Holding Force: Typical holding force of 25-40 pounds; performance value can be increased to 110 pounds on special applications

Mount: Single or double coil floor, surface, flush, and recessed mount

SPECIFICATIONS
Total Projection:
- Recessed mount: 2-11/32” (60 mm)
- Flush mount: 3-1/16” (78 mm)
- Surface mount: 4-5/8” (117 mm)
- Floor mount (single door): 5” (127 mm)
- Floor mount (double door): 9-5/8” (244 mm)

Fasteners: Hardware package, mounting bracket

Notes:
- Optional aluminum extension and misalignment rods available
- Drill fixture available
- Replacement armature disc and armature plate assemblies available
- Adhesive template included

FINISHES
US3, LS, L2
ELECTROMAGNETIC DOOR HOLDERS - 380 SERIES HOLDERS

380F
Flush Mount

380G
Floor Mount (Single Door)

380H
Floor Mount (Double Door)

380R
Recessed Mount

380S
Surface Mount
**ELECTROMAGNETIC DOOR HOLDERS - ACCESSORIES**

**381A**
*Adjustable Extension Rod*
Available extension lengths 1-1/2” (38 mm), 2” (51 mm), 4” (102 mm)

---

**381B**
*Surface Back Box*
2-25/32” x 4-7/8” x 1-1/2” (71 mm x 124 mm x 38 mm)
Supplied with 380G, 380H, 380S

---

**381C**
*Armature Plate*
Replacement for the 381S armature plate assembly

---

**381D**
*Drilling Fixture*
Attach to the door for quick and accurate hole locations

---

**381E**
*Extension Rod*
Available extension lengths 1/2” (13 mm), 1” (25 mm), 1-1/2” (38 mm), 2” (51 mm), 3” (76 mm), 4” (102 mm)

---

**381F**
*Mounting Hardware Package*
Includes screws, nuts, concrete anchors, and drill bit

---

**381G**
*Armature Plate Assembly*
Swivel design allows armature plate to move in all directions to assist with slight misalignment issues

---

**381H**
*Extension Wrenches*
Used to tighten extension rods to catch plate assembly
Because Hager Companies is committed to providing our customers with a full line of door hardware, we offer both a heavy duty and standard duty option in our overhead door holders and stops product line. They are mounted at the top of the door to eliminate tripping hazards and vandalism that are typical of floor or wall mounted stops. The purpose of the overhead door holders is to absorb the abusive shock with a heavy duty spring. They evenly distribute the load and impact along the entire track of the unit. Overhead door holders and stops are compatible with a variety of door closers and are ideal for meeting the demands of high traffic areas.

Hager Companies overhead door holders and stops have been engineered and designed to meet the requirements of many door applications. The streamlined channel design along with the adjustment arm accommodates various door sizes and applications. The adjustable arms simplify the selection by combining door width ranges into only two sizes of overhead door holders and stops. This feature makes installation simple and minimally impacts a customer’s inventory.
OVERHEAD DOOR HOLDERS AND STOPS - METHODS OF INSTALLATION

Concealed Mounted
The installation of concealed overhead door holders and stops requires that the jamb bracket be mortised flush with the bottom of the jamb. The arm and channel must be mortised into the door so the arm is flush with the top of the door. Concealing the overhead door holders and stops in the top of the door creates a more attractive architectural look.

Single Acting Door
A cutout made for the arm on the stop side of the single acting door.

Double Acting Door
Double acting doors require a cutout for the arm on both sides of the door.

Surface Mounted
Surface mounted overhead door holder and stop installation requires the jamb bracket be surface mounted on the stop of the frame. The channel is also surface mounted on the face of the door. Hollow metal doors and jambs must be reinforced to provide necessary strength for the holder specified.

Door and Frame Reinforcement
Hollow metal frames must be properly reinforced with 3/16” (5 mm) thick plates/channels that are at least 12” (305 mm) long. Hollow metal doors must be properly reinforced with 3/16” (5 mm) plates that are at least 2-1/2” (64 mm) wide over the length of the device. Templates and installation instructions are available online at www.hagerco.com.

Selecting Degree of Hold Open or Stop
Overhead door holders and stops are designed to function effectively from 85° to 110°. The recommended minimum degree of hold open would be set at 95° to put the door lever, pull, and panic hardware beyond the flow of traffic.

When selecting the degree of hold open for doors opening against a wall or back to back, there is approximately 5° to 7° of spring engagement beyond the hold open or initial stop point, this is the dead stop.

For dead stop templating, the degree of opening should be set 5° to 7° less than the point of required dead stop to accommodate the full compression of the shock absorber.
Selected Steps:

1. Determine the required grade needed
2. Determine the required function
3. Determine if a surface or concealed mount is required
4. Finally select one of two sizes to fit the opening

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 - Stop Only</td>
<td>Shock absorbing spring stops the door</td>
</tr>
<tr>
<td>17 - Hold Open</td>
<td>Select hold open with easy to adjust tension - may be turned on or off, and includes the stop function</td>
</tr>
<tr>
<td>15 - Friction</td>
<td>Multi-point friction hold open adjustable for resistance to door movement</td>
</tr>
</tbody>
</table>

7000 Series: Grade 1- Heavy Duty Overhead Holders and Stops

Available Functions
- Stop
- Hold Open
- Friction

Mounting Types
- Concealed
- Surface

Size Options
- Size 1 - 24” to 40”
- Size 2 - 41” to 55”

6000 Series: Grade 2- Standard Duty Overhead Holders and Stops

Available Functions
- Stop
- Hold Open
- Friction

Mounting Types
- Concealed
- Surface

Size Options
- Size 1 - 18” to 33” (Concealed Mounted) 20” to 33” (Surface Mounted)
- Size 2 - 33” to 51”

Note: It is recommended to utilize overhead door holders and stops on doors furnished with door closers, they are not intended to stop the door and should not be expected to perform the functions of a door stop.
## OVERHEAD DOOR HOLDERS AND STOPS - HOW TO ORDER

### Functions

**16 - Stop Only**

Concealed Mounted: ANSI CO1541  
Surface Mounted: ANSI CO2541  

The stop only function provides a reliable method of door control. A shock absorbing spring stops the door. It is UL Listed for fire-rated components.

**UL Classification**

The stop-only models are classified by Underwriters Laboratories (UL) as Miscellaneous Fire Door Accessories. This classification applies to the use on either hollow metal fire doors or wood fire doors of any rating. The accessories have been investigated to determine that when properly installed with accordance to the manufacturer’s instructions, they do not adversely affect the fire-rating of the fire door or fire door frames.

**17 - Hold Open**

Concealed Mounted: ANSI CO1511  
Surface Mounted: ANSI CO2511  

The hold open function provides a selective hold open function with easy to adjust tension. It may be turned on or off and includes the stop only function. It is not for use on fire-rated openings.

**15 - Friction**

Concealed Mounted: ANSI CO4531  
Surface Mounted: ANSI CO5531  

The multi-point friction hold open function mechanism is adjustable for resistance to door movement. It is not for use on fire-rated openings.

### Product Group

<table>
<thead>
<tr>
<th>Product Group</th>
<th>60 - Standard Duty Overhead Door Holders and Stops</th>
<th>70 - Heavy Duty Overhead Door Holders and Stops</th>
</tr>
</thead>
</table>

### Component Type

<table>
<thead>
<tr>
<th>15 - Friction</th>
<th>16 - Stop Only</th>
<th>17 - Hold Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON - Concealed</td>
<td>CON - Concealed</td>
<td>CON - Concealed</td>
</tr>
</tbody>
</table>

### Size

<table>
<thead>
<tr>
<th>SZ1 - Size 1</th>
<th>SZ2 - Size 2</th>
</tr>
</thead>
</table>

### Mount

<table>
<thead>
<tr>
<th>CON - Concealed</th>
<th>SRF - Surface</th>
</tr>
</thead>
</table>

### Finish

<table>
<thead>
<tr>
<th>US3 - Bright Brass</th>
<th>US10B - Satin Bronze</th>
<th>US32D - Satin Stainless</th>
</tr>
</thead>
</table>

### Fastener Options

<table>
<thead>
<tr>
<th>SX1G - SX1G</th>
<th>SX1N - SX1N</th>
<th>SX2 - SX2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SX1G - Sexbolts for 1-3/8” (mm) door</td>
<td>SX1N - Sexbolts for 1-3/4” (mm) door</td>
<td>SX2 - Sexbolts for 2” (mm) door</td>
</tr>
<tr>
<td>SX2D - Sexbolts for 2-1/4” (mm) door</td>
<td>SX2D - Sexbolts for 2-1/4” (mm) door</td>
<td>SX2D - Sexbolts for 2-1/4” (mm) door</td>
</tr>
</tbody>
</table>

### How to Order

<table>
<thead>
<tr>
<th>SX1GUS32DSZ160</th>
<th>SX1GUS32DSZ160</th>
<th>SX1GUS32DSZ160</th>
</tr>
</thead>
<tbody>
<tr>
<td>SX1GUS32DSZ160</td>
<td>SX1GUS32DSZ160</td>
<td>SX1GUS32DSZ160</td>
</tr>
</tbody>
</table>
OVERHEAD DOOR HOLDERS AND STOPS - 6000 SERIES GRADE 2 STANDARD DUTY

WARRANTY

Five-year warranty

FEATURES

- Standard screw pack
- For use on exterior and interior doors
- Ideal for office buildings and other standard duty commercial applications

Certification:

- BHMA Certified ANSI A156.8
- UL/cUL Listed for up to 3 hours (stop only)
- UL10C Positive Pressure Rated (stop only)
- UL10B Neutral Pressure Rated (stop only)

Materials:

- Steel
- Stainless steel

Mounting Style:

- Concealed
- Surface

Doors:

- Single acting doors for concealed and surface mounted
- Double acting doors for concealed mounted only

Functions:

- Stop Only
- Hold Open
- Friction

Handing: Non-handed

Openings: Degree of opening is fully adjustable and can be adapted to changing needs between 85° to 110°

SPECIFICATIONS

Door Thickness:

- 1-3/4” (44 mm) thick door - Standard
- 1- 3/8”- 2-1/4” (36-57 mm) thick door - Optional

Fasteners: Standard screw packet included for wood or metal door and frame applications

Notes:

- Adjustable arms provide easy installation
- Slide track design
- Adjustable in the field
- Heavy shock absorber spring provides 5° to 7° compression before deadstop
- Special templating upon request

FINISHES

- US10B and US3 (For steel)
- US32D (For stainless steel)

SIZE SELECTION

<table>
<thead>
<tr>
<th>Size</th>
<th>Door Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>6000 SZ1</td>
<td>18”- 33” (Concealed Mounted) 20”- 33” (Surface Mounted)</td>
</tr>
<tr>
<td>6000 SZ2</td>
<td>33”- 51”</td>
</tr>
</tbody>
</table>
**OVERHEAD DOOR HOLDERS AND STOPS - 6000 SERIES**

### ACCESSORIES

**2-659-0101 | 2-659-0102 | 2-659-0103**  
**Surface Mounted End Cap and Spring Replacement Kit**  
- Channel end caps  
- Replacement spring  
- 2-659-0101 is US26D, 2-659-0102 is US10B, 2-659-0103 is US3

**2-659-0104**  
**Concealed Mounted End Cap and Spring Replacement Kit**  
- Channel end caps  
- Replacement spring

**2-659-0105**  
**Hold Open Replacement Kit**  
- Hold open assembly

**2-659-0106**  
**Friction Replacement Kit**  
- Friction assembly

### SCREWPACKS

**2-659-0098 | 2-659-0099 | 2-659-0100**  
**Screwpack - Standard**  
- Machine screws  
- Wood screws  
- Sex nuts and bolts for 1-3/4” (44 mm)  
- Arm sets screws  
- Allen wrench  
- 2-659-0098 is US26D, 2-659-0099 is US10B, 2-659-0100 is US3

**2-659-0101 | 2-659-0102 | 2-659-0103**  
**Surface Mounted End Cap and Spring Replacement Kit**  
- Channel end caps  
- Replacement spring  
- 2-659-0101 is US26D, 2-659-0102 is US10B, 2-659-0103 is US3

**2-659-0104**  
**Concealed Mounted End Cap and Spring Replacement Kit**  
- Channel end caps  
- Replacement spring

**2-659-0105**  
**Hold Open Replacement Kit**  
- Hold open assembly

**2-659-0106**  
**Friction Replacement Kit**  
- Friction assembly

**2-659-0107 | 2-659-0108 | 2-659-0109**  
**SNB Screw Pack - Optional**  
- Sex nuts and bolts for 1-3/8” (35 mm) doors  
- Machine screws  
- For use with surface mounted overhead door holders and stops  
- 2-659-0107 is US26D, 2-659-0108 is US10B, 2-659-0109 is US3

**2-659-0104 | 2-659-0105 | 2-659-0106**  
**SNB Screw Pack - Optional**  
- Sex nuts and bolts for 2” (51 mm) doors  
- Machine screws  
- For use with surface mounted overhead door holders and stops  
- 2-659-0110 is US26D, 2-659-0111 is US10B, 2-659-0112 is US3

**2-659-0104 | 2-659-0105 | 2-659-0106**  
**SNB Screw Pack - Optional**  
- Sex nuts and bolts for 2-1/4” (57 mm) doors  
- Machine screws  
- For use with surface mounted overhead door holders and stops  
- 2-659-0113 is US26D, 2-659-0114 is US10B, 2-659-0115 is US3
OVERHEAD DOOR HOLDERS AND STOPS - 7000 SERIES GRADE 1 HEAVY DUTY

WARRANTY

Five-year warranty

FEATURES

- Standard screw pack
- For use on exterior and interior doors
- Ideal for hospitals, schools, and other high traffic environments

Certification:
- BHMA Certified ANSI A156.8
- UL/cUL Listed for up to 3 hours (stop only)
- UL10C Positive Pressure Rated (stop only)
- UL10B Neutral Pressure Rated (stop only)

Materials:
- Steel
- Stainless steel

Mounting Style:
- Concealed
- Surface

Doors:
- Single acting doors for concealed and surface mounted
- Double acting doors for concealed mounted only

Functions:
- Stop Only
- Hold Open
- Friction

Handing: Non-handed

Openings: Degree of opening is fully adjustable and can be adapted to changing needs between 85° to 110°

SPECIFICATIONS

Door Thickness:
- 1-3/4” (44 mm) thick door - Standard
- 1- 3/8”- 2-1/4” (36-57 mm) thick door - Optional

Fasteners: Standard screw packet included for wood or metal door and frame applications

Notes:
- Adjustable arms provide easy installation
- Slide track design
- Adjustable in the field
- Heavy shock absorber spring provides 5° to 7° compression before deadstop
- Special templating upon request

FINISHES

- US10B and US3 (For steel)
- US32D (For stainless steel)

SIZE SELECTION

<table>
<thead>
<tr>
<th>Door Sizes</th>
<th>Size</th>
<th>Door Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>7000 SZ1</td>
<td>24”- 40”</td>
<td></td>
</tr>
<tr>
<td>7000 SZ2</td>
<td>41”- 55”</td>
<td></td>
</tr>
</tbody>
</table>
ACCESSORIES

2-659-0119 | 2-659-0120 | 2-659-0121
Surface Mounted End Cap and Spring Replacement Kit
• Channel end caps
• Replacement spring
• 2-659-0119 is US26D, 2-659-0120 is US10B, 2-659-0121 is US3

2-659-0122
Concealed Mounted End Cap and Spring Replacement Kit
• Channel end caps
• Replacement spring

2-659-0123
Hold Open Replacement Kit
• Hold open assembly

2-659-0124
Friction Replacement Kit
• Friction assembly

SCREWPACKS

2-659-0116 | 2-659-0117 | 2-659-0118
Screwpack - Standard
• Machine screws
• Wood screws
• Sex nuts and bolts for 1-3/4” (44 mm)
• Arm set screws
• Allen wrench
• 2-659-0116 is US26D, 2-659-0117 is US10B, 2-659-0118 is US3

2-659-0125 | 2-659-0126 | 2-659-0127
SNB Screw Pack - Optional
• Sex nuts and bolts for 1-3/8” (35 mm) doors
• Machine screws
• For use with surface mounted overhead door holders and stops
• 2-659-0125 is US26D, 2-659-0126 is US10B, 2-659-0127 is US3

2-659-0128 | 2-659-0129 | 2-659-0130
SNB Screw Pack - Optional
• Sex nuts and bolts for 2” (51 mm) doors
• Machine screws
• For use with surface mounted overhead door holders and stops
• 2-659-0128 is US26D, 2-659-0129 is US10B, 2-659-0130 is US3

2-659-0131 | 2-659-0132 | 2-659-0133
SNB Screw Pack - Optional
• Sex nuts and bolts for 2-1/4” (57 mm) doors
• Machine screws
• For use with surface mounted overhead door holders and stops
• 2-659-0132 is US10B, 2-659-0133 is US3
Hager Companies offers a range of electrified door hardware to help you meet customer expectations while also meeting building codes and ensuring life safety. Hager’s complete electrified solutions are proven designs with versatile applications and simplified installation.

Hager’s line of electric strikes fit any application. All of our strikes have compact designs, are non-handed, and can be field selectable to fail safe or fail secure configurations allowing for universal installations and simpler inventory management.

Table of Contents

Component Selection .................................................... 3

Locking Devices .......................................................... 5
Electric Strikes ............................................................. 6
Delayed Egress ............................................................ 9
Magnetic Locks ......................................................... 13-21

Access Controls .......................................................... 23
Key Switches ............................................................. 24, 27
Keypads ................................................................. 25-26

Egress Devices ............................................................ 29
2972/2972 IET Exit Switch ........................................... 30
2973 Code Compliant Exit Switch ................................. 31
2-679-0611/12 PIR Egress Sensor ................................ 32
2977 Piezoelectric Exit Switch .................................... 33
2978 Touchless Exit Switch ......................................... 34
4801 Non-Latching Pressure Sense Push Bar ................. 35
2-679-0708 Emergency Door Release ............................ 36
Electric Power Transfer Devices .................................. 37
Door Position Sensors .................................................. 39
Power Supply & Door Controllers ................................. 41

Low Energy Power Operators ............................... 51
Component Selection ................................................... 53
8400 Series ............................................................... 60
8300 Series ............................................................. 67
Actuators ............................................................... 79
Pedestrian Presence Sensors ..................................... 89
Accessories .......................................................... 93
COMPONENT SELECTION

1 **Locking Devices (Pages 5-21)**
   - Electric Strike
   - Delayed Egress
   - Electrified Lockset
   - Exit Device
   - Frame Actuator Lockset
   - Magnetic Lock

2 **Access Controls (Pages 23-27)**
   Standalone or Network
   - Keyswitch
   - Digital Keypad
   - Card Reader

3 **Egress Devices (Pages 29-36)**
   - Exit Switch
   - PIR Egress Sensor
   - Exit Sense Bar
   - Emergency Door Release

4 **Electric Power Transfer Devices (Pages 37-38)**
   Required With Locksets & Exit Devices
   - Electric Power Hinge
   - Power Transfer Loop
   - Concealed Power Transfer
   - Electrified Roton

5 **Door Position Sensors (Pages 39-40)**

6 **Power Supply & Door Controllers (Pages 41-49)**
   - 2901 Power Supply
     - Designed to operate exit devices equipped with electric latch retraction (ELR)
   - 2902 Power Supply
     - Designed to operate exit devices equipped with electric latch retraction with day/night mode feature (ELR)
   - 2903 Power Supply
     - Provides power for Fail Safe or Fail Secure locking devices
     - 24 V output; 2 AMP capacity
     - Filtered/regulated
   - 2904 Power Supply
     - Provides power and control for openings with an electrified locking device and automatic door operator
     - 24 V output; 2 AMP capacity
     - Filtered/regulated
   - 2908 Power Supply
     - Modular
     - Provides power for Fail Safe or Fail Secure locking devices
     - 12/24 V output; 1 AMP capacity
     - Filtered/regulated
   - 2909 Power Supply
     - Modular
     - Provides power for Fail Safe or Fail Secure locking devices
     - 12/24 V output; 2 AMP capacity
     - Filtered/regulated
Hager offers a comprehensive product line of electronic locking devices ranging from strikes, delayed egress systems, and magnetic locks.

Electric door strikes allows for a range of functionality for any access control system. Ranging from an exterior door such as an employee entrance or an interior door such as a stairwell, Hager's electric strikes have a variety of universal features as well as factory configurations to accommodate a range of locksets, doors, frames, applications, and building codes.

Delayed egress systems are ideal for security, safety, and loss prevention applications. Many of Hager’s delayed egress systems are installed in public facilities such as airports to control pedestrian traffic. Other Hager units are installed in brick and mortar retail stores to prevent theft while other installations include assisted living facilities to protect patients and childcare facilities to protect children.

Typically used on exit doors, when unauthorized egress is initiated when in the locked mode. The system delays egress through the door for 15 or 30 seconds (where approved). Meanwhile, the person exiting must wait while personnel or security respond. The door unlocks after 15 seconds has elapsed, permitting egress. A signal from the fire life safety system will release the lock for uninhibited egress in an emergency. Typical installations include airports, convention halls, wholesale stores, retail stores, long term care, drug and alcohol rehab, psychiatric care, infant nurseries, museums, art galleries, warehouses, and technological facilities.

Hager’s magnetic locks are designed to be used on interior doors, perimeter exit doors, and entrances that require fail safe emergency release. Hager’s magnetic locks have no moving parts and provides positive and instantaneous release, whether caused by a signal from the fire command center, remote control or access control.
## LOCKING DEVICES - 2925 ELECTRIC STRIKE

### MODELS

- **2925**

  4-7/8” (124 mm) faceplate for aluminum, wood, and hollow metal frames

### WARRANTY

- One-year warranty

### APPLICATION

- Cylindrical locksets with up to 5/8” (15mm) throw latch bolts
- Access controlled ingress for fail secure or fail safe openings (field selectable)
- Economy option provides great performance and value

**Latch:**

- 1/2” (13 mm) [5/8” (16 mm) with 1/8” (3 mm) door gap]

### FEATURES

**Components:**

- Quick and easy installation with low profile 1-1/4” (32 mm) backset
- All stainless steel parts with durable diecast body for corrosion resistance
- Compact low profile design with internally mounted solenoid and factory supplied mounting tabs
- Non-handed (reversible)
- Latch status output (standard)

### ELECTRICAL SPECIFICATIONS

**Input:**

- Current/Voltage: 200/100 mA @ 12/24VDC (Field selectable)

**Monitoring:**

- Latch Status (Std): SPDT, DRY 3A @ 30VDC

### MECHANICAL SPECIFICATIONS

**Dimensions:**

- 1-1/4” (32 mm) W x 4-7/8” (124 mm) H x 1-1/4” (32 mm) D

### ACCESSORIES

**BUZZ**

- Part no. 2-679-0028
- Plug-In Buzzer 12/24VDC
- Indicates fail secure strike is energized and unlocked

**RECT**

- Part no. 2-679-0029
- Converts AC to DC
- Wire leads

### FINISHES

- US32D
### MODELS
- **2928-SC**
- **2928-RC**
- **2928-6R**
- **2928-7R**

### FEATURES
**Components:**
- Quick and easy installation with low profile 1-3/16” backset
- Latch position status (standard)
- Keeper locked/unlocked status (standard)
- Keeper open/closed and status (optional)
- Compact low profile design with internally mounted solenoid and factory supplied mounting tabs
- Non-handed (reversible)
- 1/4” (6 mm) horizontal alignment adjustment
- All stainless steel parts with durable diecast body for corrosion resistance
- Fewer moving parts for maximum life
- Stainless steel is standard with square corner faceplates
- Aluminum standard with radius corner faceplate
- Plug in tail connectors

### CERTIFICATION
- ANSI A156.31, Grade 2

### APPLICATION
- Cylindrical and mortise locksets with up to 3/4” (19 mm) throw latch bolts with 1/8” door gap
- Access controlled ingress for fail secure or fail safe openings (field selectable)
- Field selectable voltage - 12/24V, AC/DC
- Ideal for medium traffic openings

### Latch:
- 1/2” (13 mm)
- 5/8” (16 mm) with 1/8” (3 mm) door gap
- 3/4” (19 mm)

### OPTIONS
- **KOC:** Keeper/open closed status

### ELECTRICAL SPECIFICATIONS
**Inputs:**
- Current/Voltage
  - 200/100 mA @ 12/24VDC
  - 140/70 mA @ 12/24VAC

**Monitoring:**
- **Latch Status (Std.)**
  - SPDT, Dry 3 A @ 30VDC
- **Keeper Locked Status (Std.)**
  - SPDT, Dry 3 A @ 30VDC
- **Keeper Open Status (Opt.)**
  - SPDT, Dry 3 A @ 30VDC

### MECHANICAL SPECIFICATIONS
**Dimensions:**
1-1/4” (32 mm) W x 4-7/8” (124 mm) H x 1-3/16” (30 mm) D

### ACCESSORIES
**BUZZ**
- Part no. 2-679-0028
- Plug-In Buzzer 12/24VDC
- Indicates fail secure strike is energized and unlocked

### FINISHES
- **US32D** (2928-SC only)
- **ALM** (standard with 2928-RC, 2928-6R, 2928-7R)
LOCKING DEVICES - 2930 UNIVERSAL APPLICATION ELECTRIC STRIKE

MODELS
2930-CYL
2930-MOR
2930-MDB

WARRANTY
One-year warranty

APPLICATION
- For use with Grade 1 cylindrical locksets
- For use with Hager mortise locks
- For use with Hager mortise locks with deadbolt

FEATURES
Components:
- Retrofits existing ANSI 4-7/8" (124 mm) strike prep - no centerline relocation
- Fail secure standard; field reversible to fail safe (no disassembly)
- Up to 3/4" (919 mm) latch bolt and 1" (25 mm) deadbolt
- Non-handed (reversible)
- 1/8" (3 mm) horizontal alignment adjustment
- Factory tested 2,500 lbs.
- Exceeded 1,000,000 cycles
- UL tested 1,500 lbs.
- 70 ft-lb dynamic strength
- Internally mounted solenoid, no heat in keeper
- Tamper resistant
- All stainless steel parts with durable diecast body for corrosion resistance
- Plug in tail connectors

Certification:
- ANSI A156.31 compliant, Grade 1
- UL - 1034 Burglary Resistant (interior use application)
- BP - 10254
- IL10C.3H Fire-Rated, 4’ x 8’ door
- NFPA 252
- CAN 4-5104 (Fail Secure Only)

ELECTRICAL & MECHANICAL SPECIFICATIONS
Input:
- Current/Voltage 600/300 mA @ 12/24V DC

Monitoring:
- LBM (Opt.) SPDT, Dry 5 A @ 30V DC
- DSM (Opt.) SPDT, Dry 5 A @ 30V DC
- DBM (Opt.) SPDT, Dry 5 A @ 30V DC (Handed)

ACCESSORIES
BUZZ
- Part no. 2-679-0028
- Plug-In Buzzer 12/24 VDC
- Indicates fail secure strike is energized and unlocked

RECT
- Part no. 2-679-0029
- Converts AC to DC
- Wire leads

FINISHES

OPTIONS
LBM
- Latch Bolt Monitor
- Door closed/latched or open/unlatched status
- Access control anti-tailgate/timer reset signal

DSM
- Door Secure Monitor (DSM)
- Door secure and unlocked monitoring
- Mantraps, interlocks, airlocks

DBM
- Deadbolt Monitoring (DBM - Handed)
- Signals deadbolt projected or retracted
- Occupied signal rooms/bathrooms
- Manual lockout of access control by deadbolt

NOTES
- Fire-Rated:
- Not approved for fail safe operation on fire-rated doors
- CYL, MOR with monitoring are non-handed
- DBM with monitoring is handed

- CYL, MOR with monitoring are non-handed
- DBM with monitoring is handed
MODELS
4501 OBDE/ 4601 OBDE

WARRANTY
One-year warranty

APPLICATION
• Control pedestrian traffic
  - Airport & Public Facility Security and Safety
  - Loss Prevention
• Wandering Patient and Infant Protection (Compatible with Hugs® and other patient tracking systems)
  - Intended for single or double doors that require panic hardware

FEATURES
Components
• 15 (or optional 30) second egress delay
• 1 or 2 second nuisance delay
• Built-in function keypad provides alarm and lock reset, 1 to 30 second bypass, sustained bypass, and additional key switch
• Control inputs include 1 to 30 second request-to-exit and access bypass with anti-tailgate and alarm reset
• Field selectable trigger modes from exit device (N/O or N/C)
• Field selectable automatic or manual power up after emergency release or power loss

Built-In
Annunciation:
• Armed mode
• Nuisance mode
• Irreversible egress mode
• Release mode
• Digital countdown display
• Field selectable voice notification or tone
• Field selectable male voice with security message or female voice with safety message

Monitoring
Outputs:
• Armed status
• Egress initiation status
• Released status

Power Up Modes: Field selectable automatic or manual power up after emergency release or power loss

Code Compliance:
• Use of manual power up complies with California Building Code (OSHPD) requirements
• International Fire Code (IFC) 1008.1.8.6 Delayed Egress Locks
• International Building Code (IBC) 1008.1.8.6 Delayed Egress Locks
• NFPA 101, Life Safety Code 7.2.1.6.1 Delayed Egress Lock
• NFPA 1 Uniform Fire Code
• California Building Code (CBC) 1008.1.8.6 Special Egress Control Devices

Note:
• Requires 3902 Mortise Cylinder, sold separately (Conventional Core Only, 1-1/8” length recommended)
• Exit Device cannot be cut down once the OnBoard Delayed Egress modification has been made to the device
• Requires Mortise Cylinder, sold separately

ELECTRICAL SPECIFICATIONS
Inputs:
Voltage Input:
• Single 430mA @ 24VDC
• Tandem 680mA @ 24VDC

Reset Input: N/O, Dry input
REX Input: N/C, Dry input
Trigger: N/C, Dry input
LOCKING DEVICES - ON BOARD DELAYED EGRESS

Monitoring Outputs:
- Alarm relay - 1 amp @ 30VDC SPDT, Dry
- Door security relay - 1 amp @30VDC SPDT, Dry

MONITORING
- Alarm Output: SPDT Dry, 1A @ 30 VDC, Dry
- Locked Output: SPDT Dry, 1A @ 30 VDC, Dry

CONTROL INPUTS:
- Field selectable 1-30 second request to exit with anti-tailgate and door prep alarm
- Bypass
- Reset
- Remote trigger (for pairs of doors)
- BPS (required for door forced, prop and anti-tailgate)

FINISHES:
- US3
- US4
- US10
- US10B
- US26
- US26D
- US32D

- ON BOARD DELAYED EGRESS
### MODELS
- 4501 DE/4601 DE: Delayed Egress Exit Device
- 2-679-0630: Delayed Egress Wall Mount Controller
  - Must be ordered separately

### WARRANTY
One-year warranty

### APPLICATION
- Control pedestrian traffic
  - Airport & Public Facility Security and Safety
  - Loss Prevention
- Wandering Patient and Infant Protection (Compatible with Hugs® and other patient tracking systems)
- Intended for single or double doors that require panic hardware

### FEATURES
Components:
- Alternating 85 db tone and voice message (75 db @ 3 feet)
  - Voice and digital display provides informative annunciation for people without prior knowledge, including the blind and hearing impaired
  - Voice provides warning or safety message, countdown and time of door release
  - Digital countdown display indicated if the door was opened after lock release
- 15 or 30 second egress delay
- 1 or 2 second nuisance delay
- Built-in function keypad provides alarm and lock reset, 1 to 30 second bypass, sustained bypass, and additional key switch
- Control inputs include 1 to 30 second request-to-exit and access bypass with anti-tailgate and alarm reset
- Field selectable trigger modes from exit device (N/O or N/C)
- Field selectable automatic or manual power up after emergency release or power loss

Built-In Annunciation:
- Armed mode
- Nuisance mode
- Irreversible egress mode
- Release mode
- Digital countdown display
- Field selectable voice notification or tone
- Field selectable male voice with security message or female voice with safety message

Monitoring Outputs:
- Armed status
- Egress initiation status
- Released status

Power Up Modes: Field selectable automatic or manual power up after emergency release or power loss

Code Compliance:
- Use of manual power up complies with California Building Code (OSHPD) requirements
- International Fire Code (IFC) 1008.1.8.6 Delayed Egress Locks
- International Building Code (IBC) 1008.1.8.6 Delayed Egress Locks
- NFPA 101, Life Safety Code 7.2.1.6.1 Delayed Egress Lock
- NFPA 1 Uniform Fire Code
- California Building Code (CBC) 1008.1.8.6 Special Egress Control Devices

### ELECTRICAL SPECIFICATIONS
**Inputs:**
- Voltage Input: Single 430mA @ 24VDC
- Tandem 680mA @ 24VDC

- Reset Input: N/O, Dry input
- REX Input: N/C, Dry input
- Trigger: N/C, Dry input
## LOCKING DEVICES - DELAYED EGRESS

### Monitoring Outputs:
- Alarm output - 1 amp @ 30VDC SPDT, Dry
- Locked output - 1 amp @30VDC SPDT, Dry

### Monitoring
- **Alarm Output:** SPDT Dry, 1A @ 30 VDC, Dry
- **Locked Output:** SPDT Dry, 1A @ 30 VDC, Dry

### Mechanical Specifications

<table>
<thead>
<tr>
<th>Controller</th>
<th>Dimensions: 6-1/2” (165 mm) W x 4-1/2” (114 mm) H x 1-1/2” (38 mm) D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controller Mounting:</td>
<td>Recessed or Surface Mount</td>
</tr>
</tbody>
</table>

### Accessories
- 2-679-0641 3-gang interior surface mount box
- 2-679-0642 Shroud for surface mount box

### Finishes
- Controller:
  - Aluminum anodized (standard)
  - Dark Bronze anodized
  - Black anodized

### Notes
- SVR exits must include rod covers
- Door position switch (DPS) is recommended for higher security. Contact Hager Tech Support for additional information.
LOCKING DEVICES - 2958 INTEGRATED DELAYED EGRESS LOCK

MODELS
2958  Single magnetic lock with 1650 lbs. holding force (748 kg)
2958T Tandem magnetic lock with 1650 lbs. holding force (748 kg)

WARRANTY
One-year warranty

APPLICATION
- Control pedestrian traffic
  - Airport & Public Facility Security and Safety
  - Loss Prevention
- Wandering Patient and Infant Protection (Compatible with Hugs® and other patient tracking systems)
- Intended for single doors with latching or non-latching hardware
- Tandem model intended for use with pairs of doors with latching or non-latching hardware where activating the lock unlocks both doors

FEATURES
Components:
- Field selectable voice and tone or tone only (75 db @ 3 feet)
  - Voice and digital display provides informative annunciation for people without prior knowledge, including the blind and hearing impaired
  - Voice provides warning or safety message, countdown and time of door release
  - Digital countdown display indicated if the door was opened after lock release
- Choice of 15 second exit and 1 second nuisance delay or field selectable 15 or 30 second exit delay and 1 or 2 second nuisance delay
- Field selectable security or safety message
- Field selectable activation
- Field selectable automatic or manual relock upon power up after emergency release
- Integrated 3 position key switch
  - Provides lock and alarm reset Manual power up sustained bypass, time bypass, adjustment for 1, 15, 20 or 30 seconds
- Field selectable door prop alarm
  - Alarm sounds when the door has been left open after selected bypass time has elapsed
- Anti-tailgate feature
- Alternating 85db tone and voice message

Control Inputs:
- Remote access control and REX input, field adjustable for 1, 15, 20, or 30 seconds
- Remote reset input
- Manual power-up input
- Emergency release input
- Anti-tailgate input

Monitoring Outputs:
- Door secure and unlocked output
- Delayed egress activation alarm output

Certifications: ANSI certified, ANSI Grade 1

Code Compliance:
- International Building Code (IBC) 1008.1.8.6 Delayed Egress Locks
- International Fire Code (IFC) 1008.1.8.6 Delayed Egress Locks
- NFPA 101, Life Safety Code 7.2.1.6.1 Delayed Egress Lock
- California Building Code (CBC) 1008.1.8.6 Special Egress Control Devices
- BOCA, National Building Code 1017.4.1.2 Special Locking Arrangements
- Chicago Building Code 10 (13-160-269) Electromagnetic Locking Devices
  - Certificate of approval available

2016 www.hagerco.com
# LOCKING DEVICES - 2958 INTEGRATED DELAYED EGRESS LOCK

## OPTIONS

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPS</td>
<td>Door Position Switch</td>
</tr>
<tr>
<td>MBS</td>
<td>Magnetic Bond Sensor</td>
</tr>
<tr>
<td>ATS</td>
<td>Anti-Tamper Switch</td>
</tr>
</tbody>
</table>

## RESET & CONTROL

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS</td>
<td>Built-in reset push switch, available with NFPA (NA) only</td>
</tr>
<tr>
<td>NS</td>
<td>Less key switch or push switch</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Auto Sensing 12 to 24VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current:</td>
<td></td>
</tr>
<tr>
<td>2958</td>
<td>830mA @ 12VDC</td>
</tr>
<tr>
<td></td>
<td>450mA @ 24VDC</td>
</tr>
<tr>
<td>2958T</td>
<td>1500mA @ 12VDC</td>
</tr>
<tr>
<td></td>
<td>850mA @ 24VDC</td>
</tr>
<tr>
<td>Reset Input</td>
<td>N/O, Dry input</td>
</tr>
<tr>
<td>REX Input</td>
<td>N/O, Dry input</td>
</tr>
<tr>
<td>Trigger Input</td>
<td>N/O, Dry input</td>
</tr>
<tr>
<td>Fire Alarm Input</td>
<td>N/O, Dry input</td>
</tr>
</tbody>
</table>

## MONITORING

<table>
<thead>
<tr>
<th>Output Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm Output</td>
<td>SPDT Dry, 1A @ 30VDC</td>
</tr>
<tr>
<td>Lock Secure</td>
<td>SPDT Dry, 1A @ 30VDC</td>
</tr>
<tr>
<td>Unlocked</td>
<td>SPDT Dry, 1A @ 30VDC</td>
</tr>
<tr>
<td>Door Position Switch</td>
<td>SPDT Dry, 250mA @ 30VDC</td>
</tr>
<tr>
<td>Magnetic Bond Sensor</td>
<td>SPDT Dry, 250 mA @ 30VDC</td>
</tr>
<tr>
<td>Anti-Tamper Switch</td>
<td>SPDT Dry, 1A @ 30VDC</td>
</tr>
</tbody>
</table>

## MECHANICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2958</td>
<td>11” (279 mm) W x 2-3/4” (70 mm) H x 2-5/8” (67 mm) D</td>
</tr>
<tr>
<td>2958T Master</td>
<td>11” (279 mm) W x 2-3/4” (70 mm) H x 2-5/8” (67 mm) D</td>
</tr>
<tr>
<td>2958T Slave</td>
<td>11” (279 mm) W x 2-3/4” (70 mm) H x 2-5/8” (67 mm) D</td>
</tr>
<tr>
<td>Armature</td>
<td>7-3/8” (187 mm) W x 2-3/8” (60 mm) H x 9/16” (14 mm) D</td>
</tr>
</tbody>
</table>

## FINISHES

<table>
<thead>
<tr>
<th>Finish</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALM</td>
<td>Aluminum anodized (standard)</td>
</tr>
<tr>
<td>DBZ</td>
<td>Dark bronze anodized</td>
</tr>
<tr>
<td>BLK</td>
<td>Black anodized</td>
</tr>
</tbody>
</table>

## NOTES

Local Approval: All installations must be approved by the Authority Having Jurisdiction (AHJ)
# LOCKING DEVICES - 2941 MAGNETIC LOCK

## WARRANTY
One-year warranty

## MODELS
<table>
<thead>
<tr>
<th>Model</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>2941</td>
<td>600 lbs. holding force (272 kg)</td>
</tr>
</tbody>
</table>

## APPLICATION
For interior door traffic control where physical attack is not a concern

## FEATURES
**Components:**
- Designed for system integrators, distributors, installers, and building owners presently using low cost import or private label brand access control hardware
- Interlocking quick mount assembly
- Provides superior, less obtrusive appearance compared to stainless steel epoxy sealed magnetic locks
- Full monitoring is standard
- Door status, lock status and bi-color LED included
- Adjustable mounting bracket with choice of self-drilling and tapping mounting screws or machine screws
- Wire access chamber with terminal block
- Printed circuit board with voltage and current spike protection
- Instant release anti-residual magnetism circuit

**Certification:**
ANSI/BHMA A156.23 Grade 1, Compliant

## ELECTRICAL SPECIFICATIONS
**Input:**
- Current/Voltage: 500mA/250mA @ 12/24VDC (field selectable)

**MONITORING**
- **Lock Status:** SPDT, Dry 2mA @ 30VDC
- **Door Status:** SPDT, Dry 500mA @ 30VDC

## ACCESSORIES
- 2-679-0101 Top Jamb Kit
- 2-679-0103 Glass Armature Mounting Kit
- 2-679-0106 Angle Bracket (cut to fit 2941)
- 2-679-0107 Stop Filler Plate (field cut for 2941)
- 2-679-0108 Stop Filler Plate (field cut for 2941)

## MECHANICAL SPECIFICATIONS
- **Lock Dimensions:** 9-7/8” (251 mm) W x 2” (51 mm) H x 1” (25 mm) D
- **Armature Dimensions:** 7-5/16” (186 mm) W x 1-1/2” (38 mm) H x 1/2” (13 mm) D

## FINISHES
- Aluminum anodized
**LOCKING DEVICES - 2942 MAGNETIC LOCK**

### MODELS

| 2942  | 1200 lbs. holding force (545 kg) |

### WARRANTY

- One-year warranty

### APPLICATION

- For perimeter and interior door security and access control

### FEATURES

**Components:**
- Designed for system integrators, distributors, installers, and building owners presently using low cost import or private label brand access control hardware
- Interlocking quick mount assembly
- Provides superior, less obtrusive appearance compared to stainless steel epoxy sealed magnetic locks
- Full monitoring is standard
- Door status, lock status and bi-color LED included
- Adjustable mounting bracket with choice of self-drilling and tapping mounting screws or machine screws
- Wire access chamber with terminal block
- Printed circuit board with voltage and current spike protection
- Instant release anti-residual magnetism circuit

**Certification:**
- ANSI/BHMA A156.23 Grade 1, Compliant

### ELECTRICAL SPECIFICATIONS

**Input:**
- Current/Voltage: 500mA/250mA @ 12/24VDC (field selectable)

**MONITORING**
- Lock Status: SPDT, Dry 2mA @ 30VDC
- Door Status: SPDT, Dry 500mA @ 30VDC

### ACCESSORIES

| 2-679-0100 | Top Jamb Kit |
| 2-679-0102 | Glass Armature Mounting Kit |
| 2-679-0106 | Angle Bracket |
| 2-679-0107 | Stop Filler Plate |
| 2-679-0108 | Stop Filler Plate |

### MECHANICAL SPECIFICATIONS

**Lock Dimensions:**
- 10-1/2” (267 mm) W x 2-7/8” (73 mm) H x 1-5/8” (41 mm) D

**Armature Dimensions:**
- 7-5/16” (186 mm) W x 2-3/8” (60 mm) H x 1/2” (13 mm) D

### FINISHES

- Aluminum anodized
LOCKING DEVICES - 2941 AND 2942 ACCESSORIES

TOP JAMB MOUNTING KITS FOR INSWING DOORS

2-679-0100
Top jamb kit for use with 2942

2-679-0101
Top jamb kit for use with 2941

GLASS DOOR ARMATURE MOUNTING KITS

2-679-0102
Glass door kit for use with 2942

2-679-0103
Glass door kit for use with 2941

ANGLE BRACKETS

Used for the extension of a narrow frame header mounting surface, the bracket provides additional surface area for proper lock mounting.

2-679-0106
Angle bracket for use with 2942
cut for use with 2941
10-1/2” (l) x 1-1/2” (h) x 3/4” (d)
[266 (l) x 12 (h) x 19 (d) mm]

TOP FILLER PLATES
Used where the frame stop does not provide enough mounting surface area for proper lock mounting.

2-679-0107
Stop filler plate for use with 2942
Cut for use with 2941
1/2” (h) x 10-1/2” (l) x 3/4” (d)
[12 (h) x 266 (l) x 19 (d) mm]

2-679-0108
Stop filler plate for use with 2942
Cut for use with 2941
3/4” (h) x 10-1/2” (l) x 3/4” (d)
[19 (h) x 266 (l) x 19 (d) mm]

2-679-0109
Stop filler plate for use with 2942
Cut for use with 2941
3/4” (h) x 10-1/2” (l) x 1-1/2” (d)
[19 (h) x 266 (l) x 12 (d) mm]
# Locking Devices - 2950 Magnetic Lock

## Models
- **2951**: Single magnetic lock with 1650 lbs. holding force (748 kg)
- **2952**: Double magnetic lock with 1650 lbs. holding force (748 kg)
- **2953**: Single magnetic lock with 1200 lbs. holding force (545 kg)
- **2954**: Double magnetic lock with 1200 lbs. holding force (545 kg)

## Warranty
- Lifetime warranty

## Application
- For perimeter and interior door security and access control

## Features
- **Components:**
  - Modular design
  - Modular upgrade kits
  - Field upgradeable without removal
  - Uniform design and installation
  - Identical housing, template, and accessories
  - Quick mount assembly
  - Compatible with any access control system
  - Secure wiring and mounting screws with interlocking mounting plate

- **Certification:** ANSI/BHMA A156.23 Grade 1 Compliant

## Options
- **Time**: Built-in field adjustments 0-30 seconds re-lock delay
- **DPS**: Door Position Switch indicates door open and door closed
- **ATS**: Anti Tamper Switch indicates access cover removal
- **MBS**: Magnetic Board Sensor indicates locked and unlocked, low holding power, tampering and obstruction between armature and magnetic core

### Electrical Specifications
**Input:**
- **Current/Voltage**
  - **2951**: Auto Sensing 670mA/350mA @ 12/24 VDC
  - **2952**: Auto Sensing 1.34A/700mA @ 12/24VDC
  - **2953**: Auto Sensing 250mA/125mA @ 12/24VDC
  - **2954**: Auto Sensing 500mA/250mA @ 12/24VDC

**Monitoring**
- **Time**: SPDT, Dry 20mA @ 30VDC
- **DPS**: SPDT, Dry 20mA @ 30VDC
- **ATS**: SPDT, Dry 20mA @ 30VDC
- **MBS**: SPDT, Dry 20mA @ 30VDC

## Accessories
- **2-679-0109**: Timer Input Module
- **2-679-0110**: Door Position Sensor
- **2-679-0111**: Magnetic Bond Sensor
- **2-679-0112**: Anti-Tamper Switch

## Mechanical Specifications
- **2951 & 2953**: 11” (279 mm) W x 2-3/4” (70 mm) H x 1-9/16” (40 mm) D
- **2952 & 2954**: 22” (559 mm) W x 2-3/4” (70 mm) H x 1-9/16” (40 mm) D

## Finishes
- **ALM**: Aluminum anodized (standard)
- **DBZ**: Dark bronze anodized

---

### Mounting Kits
- Top Jamb Kit
- Glass Door Kit
- Universal Header Bracket
- Spacer Bracket
- Armature Mounting Plate with and without Sensor Door Coordinator Lock Mounting Kit
- Filler Plates
- Angle Brackets
- See Mounting Kits Reference File for complete list of all mounting kits and part number
LOCKING DEVICES - 2950 SERIES ACCESSORIES

MODULAR KITS

2-679-0109
Timer Input Module
Built-in field adjustable 0-30 seconds re-lock delay

2-679-0110
Door Position Sensor
Indicates door open and door closed

2-679-0111
Magnetic Bond Sensor
Indicates locked and unlocked, low holding power, tampering and obstruction between armature and magnetic core

2-679-0112
Anti-Tamper Switch
Indicates access cover removal.

TOP JAMB MOUNTING KITS FOR INSWING DOORS

2-679-0120
Top jamb kit for use with 2951 and 2953
ALM

2-679-0130
Top jamb kit for use with 2952 and 2954
ALM

GLASS DOOR ARMATURE MOUNTING KITS

2-679-0160
Glass door kit for use with 2951 and 2953
ALM
Note: For 2952 and 2954, order two (2) glass door armature mounting kits.

UNIVERSAL HEADER BRACKET
Used in lieu of angle brackets, a universal header bracket provides a faster mounting solution, saving time and labor costs. Reduce potential for missized and misaligned mounting holes, broken taps, removal of broken taps. Combined with interlocking easy mount assembly, save up to a half day's labor with the installation of 12 locks.

- Solid 1” (25 mm) bar provides higher security and superior aesthetics
- Machined wire chase provides concealed and secure wiring
- Multiple pre-drilled and tapped mounting holes to accommodate the use of several different locks on either 4” (102 mm) or 4-1/2” (114 mm) aluminum frames

2-679-0180
For use with 2951 and 2953
1 x 1 x 11 in (25 x 25 x 279 mm)
ALM

2-679-0190
For use with 2952 and 2954
1 x 1 x 22 in (25 x 25 x 559 mm)
ALM

2-679-0191
For use with 2952 and 2954
1 x 1 x 22 in (25 x 25 x 559 mm)
DBZ
LOCKING DEVICES - 2950 SERIES ACCESSORIES

SPACER BRACKETS

- Aluminum frames with blade stop - lowers magnetic lock below blade stop. Concrete filled hollow metal frames - provides multiple points for concealed wire entry.
- Pre-drilled and tapped specifically for 2951 and 2952 magnetic locks
- Machined wire chase provides multiple points for concealed wire entry from concrete filled frames
- ALM (aluminum) finish

2-679-0200
Bracket for 2951 and 2953
1/2 x 1-1/2 x 11 in (13 x 38 x 279 mm)

2-679-0201
Bracket for 2952 and 2954
1/2 x 1-1/2 x 22 in (13 x 38 x 559 mm)

ARMATURE MOUNTING PLATE

Armature mounting plates provide a solution for mounting magnetic locks to the top rail of aluminum, glass, wood, and hollow metal doors that do not permit the use of thru bolts.

2-679-0204
Armature mounting plate

2-679-0205
Armature mounting plate with sensor

Note: For 2952 and 2954, order two (2) armature mounting plates.

FILLER PLATES

Filler plates are for extension of the stop to provide a proper mounting surface on the underside of the header. Available in Aluminum (ALM) or Dark Bronze (DBZ) finish. Contact Hager Tech Support for part numbers for additional finishes (including BRZ, BLK, US3, US4, US26, and US26D).

For 11” (279 mm) Single Magnetic Lock Models (2951/2953)

2-679-0281
ALM
1/8 x 1-1/4 in (3 x 32 mm)

2-679-0283
DBZ
1/8 x 1-1/4 in (3 x 32 mm)

2-679-02891
ALM
1/4 x 1-1/4 in (6 x 32 mm)

2-679-0293
DBZ
1/4 x 1-1/4 in (6 x 32 mm)

2-679-0311
ALM
1/2 x 1-1/4 in (13 x 32 mm)

2-679-0313
DBZ
1/2 x 1-1/4 in (13 x 32 mm)

2-679-0321
ALM
5/8 x 1-1/4 in (16 x 32 mm)

2-679-0323
DBZ
5/8 x 1-1/4 in (16 x 32 mm)

For 22” (559 mm) Double Magnetic Lock Models (2952/2954)

2-679-0381
ALM
1/8 x 1-1/4 in (3 x 32 mm)

2-679-0383
DBZ
1/8 x 1-1/4 in (3 x 32 mm)

2-679-0391
ALM
1/4 x 1-1/4 in (6 x 32 mm)

2-679-0393
DBZ
1/4 x 1-1/4 in (6 x 32 mm)

2-679-0411
ALM
1/2 x 1-1/4 in (13 x 32 mm)

2-679-0413
DBZ
1/2 x 1-1/4 in (13 x 32 mm)

2-679-0421
ALM
5/8 x 1-1/4 in (16 x 32 mm)

2-679-0423
DBZ
5/8 x 1-1/4 in (16 x 32 mm)
ANGLE BRACKETS
Angle brackets are used as extensions on shallow door frames to provide adequate mounting surface. Available in Aluminum (ALM) or Dark Bronze (DBZ) finish. Contact Hager Tech Support for part numbers for additional finishes (including BRZ, BLK, US3, US4, US26, and US26D).

For 11” (279 mm) Single Magnetic Lock Models (2951/2953)

2-679-0491
ALM
1-1/2 x 1-1/2 in (38 x 38 mm)

2-679-0493
DBZ
1-1/2 x 1-1/2 in (38 x 38 mm)

2-679-0501
ALM
2 x 1-1/2 in (51 x 38 mm)

2-679-0503
DBZ
2 x 1-1/2 in (51 x 38 mm)

For 22” (mm) Double Magnetic Lock Models (2952/2954)

2-679-0571
ALM
1-1/2 x 1-1/2 in (38 x 38 mm)

2-679-0573
DBZ
1-1/2 x 1-1/2 in (38 x 38 mm)

2-679-0581
ALM
2 x 1-1/2 in (51 x 38 mm)

2-679-0583
DBZ
2 x 1-1/2 in (51 x 38 mm)
LOCKING DEVICES - 2961 SERIES MAGNETIC SHEAR LOCK

MODELS
2961 Single magnetic shear lock with 2000 lbs. holding force (907 kg)

WARRANTY
One-year warranty

APPLICATION
For commercial grade hollow metal and wood doors and frames and Herculite doors with top rails

FEATURES
- Concealed, high security, Fail Safe locking mechanism
- Incorporates floating armature assembly and special alloy steel locking tabs on both lock and armature assemblies
- May be adjusted both vertically and laterally to compensate for wide door gaps and warped or misaligned doors

Components:
- 2,000 lbs (907 kg) holding force without current inrush or high operating temperature
- 8” x 1-1/2” (203 mm x 38 mm) lock
- Integrated electronics
- 1-5/8” (41 mm) depth for 1-3/4” - 2” (44 mm - 51 mm) frames
- Armature supplied with lock (specify type required - ITC, FTC, or HTC)
- Door static sensor ensures door is at rest and aligned, before the magnet is permitted to energize (eliminates the potential for lock misalignment)
- Lateral adjustment of shear tabs to compensate for warped or misaligned doors, permitting accurate locking
- Vertical adjustment of both the armature and the adjustable delay relock sensor compensates for wide door gaps
- Unique floating action for easy armature lift when the magnet is energized and provides ability to overcome wide door gaps
- Alloy shear tabs ensure continued high holding force
- No profiling of the soft armature steel that may be prone to wear and reduced holding force
- Advanced electronic circuitry that incorporates door static, positioning and timed relock sensor and automatic voltage sensing for 12/24 VDC input
- Noise dampeners reduce the noise associated with locking and unlocking

OPTIONS
MBS • Bond sensor indicates proper armature contact or reduced holding power due to improper armature contact or tampering
  • SPDT 0.25 amp

DPS • Door position switch indicates door open or closed
  • SPDT 0.25 amp maximum

HTR Herculite top rail armature adjustment bracket for leading edge adjustments

ELECTRICAL SPECIFICATIONS
Input:
Voltage: Auto Sensing 650/350 mA @ 12/24 VDC

MONITORING
DPS SPDT, Dry 20mA @ 30VDC
MBS SPDT, Dry 20mA @ 30VDC

ACCESSORIES
2-679-0600 Wood door reinforcement box (sold separately)

ARMATURES
ITC Armature Standard mounting armature kit for aluminum and hollow metal doors with 7/8” to 1-1/8” deep top channels, wood doors, and factory prepared hollow metal flush edge doors

FTC Armature Mounting kit for field prepared horizontal mounting in hollow metal doors with flush edge

HTC Armature Mounting kit for 1-15/16” deep Herculite channels

MECHANICAL SPECIFICATIONS
Lock Dimensions: 8” (203 mm) W x 1-1/2” (38 mm) H x 1-5/8” (41 mm) D

Armature Dimensions: 8” (203 mm) W x 1-1/2” (38 mm) H x 7/8” (48 mm) D

FINISHES
ALM Aluminum anodized (standard)
## LOCKING DEVICES - 2965 MAGNETIC SHEAR LOCK

### MODELS
2965  
Single magnetic shear lock with 2700 lbs. holding force (1225 kg)

### WARRANTY
One-year warranty

### APPLICATION
For commercial grade hollow metal and wood doors and frames and Herculite doors with top rails

### FEATURES
- Concealed, high security, Fail Safe locking mechanism
- Incorporates floating armature assembly and special alloy steel locking tabs on both lock and armature assemblies
- May be adjusted both vertically and laterally to compensate for wide door gaps and warped or misaligned doors
- Components:
  - 2,700 lbs (1225 kg) holding force without current inrush or high operating temperature
  - 10-7/16” x 1-1/2” (265 mm x 38 mm) lock
  - Integrated electronics
  - 1-5/8” (41 mm) depth for 1-3/4” - 2” (44 mm - 51 mm) frames
  - Armature supplied with lock (specify type required - ITC, FTC, or HTC)
  - Door static sensor ensures door is at rest and aligned, before the magnet is permitted to energize (eliminates the potential for lock misalignment)
  - Lateral adjustment of shear tabs to compensate for warped or misaligned doors, permitting accurate locking
  - Vertical adjustment of both the armature and the adjustable delay relock sensor compensates for wide door gaps
  - Unique floating action for easy armature lift when the magnet is energized and provides ability to overcome wide door gaps
  - Alloy shear tabs ensure continued high holding force
  - No profiling of the soft armature steel that may be prone to wear and reduced holding force
  - Advanced electronic circuitry that incorporates door static, positioning and timed relock sensor and automatic voltage sensing for 12/24 VDC input
  - Noise dampeners reduce the noise associated with locking and unlocking

### OPTIONS
**MBS**
- Bond sensor indicates proper armature contact or reduced holding power due to improper armature contact or tampering
- SPDT 0.25 amp

**DPS**
- Door position switch indicates door open or closed
- SPDT 0.25 amp maximum

**HTR**
Herculite top rail armature adjustment bracket for leading edge adjustments

### ELECTRICAL SPECIFICATIONS
<table>
<thead>
<tr>
<th>Input</th>
<th>Voltage: Auto Sensing 800/400 mA @ 12/24 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MONITORING</strong></td>
<td></td>
</tr>
</tbody>
</table>
  MBS  
  DPS  
  SPDT, Dry 250mA @ 30VDC  
  SPDT, Dry 250mA @ 30VDC |
| **ACCESSORIES** |  
  2-679-0601  
  Wood door reinforcement box (sold separately) |

### MECHANICAL SPECIFICATIONS
| Lock Dimensions: | 10-7/16” (265 mm) W x 1-1/2” (38 mm)  
  H x 1-5/8” (41 mm) D |
|------------------|----------------|
| Armature Dimensions: | 11” (279 mm) W x 1-1/2” (38 mm)  
  H x 7/8” (48 mm) D |

### FINISHES
| ALM | Aluminum anodized (standard) |

### ARMATURES
- **ITC Armature**
  Standard mounting armature kit for aluminum and hollow metal doors with 7/8” to 1-1/8” deep top channels, wood doors, and factory prepared hollow metal flush edge doors
- **FTC Armature**
  Mounting kit for field prepared horizontal mounting in hollow metal doors with flush edge
- **HTC Armature**
  Mounting kit for 1-15/16” deep Herculite channels

2016 www.hagerco.com
As the demand for access controls continue to grow, Hager Companies offers proven, reliable, and innovative solutions. While access control keypad devices are fairly definitive, customer requirements and building codes can vary. Hager Companies keypad product line offers solutions for these differing demands and requirements.

Key switches are ideal for a range of electrified openings such as an auditorium or gate operation that you might find near a hotel pool. With many different types of applications, key switches are an economical and viable devices in many installations.

Hager’s line of heavy duty keypads has an array of ideal installations. The 2915 is perfect for secure areas such as a records archive room or server room. The 2916 and 2916P are ideal for outdoor installations such as college dormitories, apartment buildings, remote buildings, and office buildings.

Hager Companies provides proven and reliable products for the ever growing access control market. For more information, please visit the Hager Companies website at www.hagerco.com
# ACCESS CONTROLS - 29KS KEY SWITCH

<table>
<thead>
<tr>
<th>MODELS</th>
<th>Key switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>29KS</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WARRANTY</th>
<th>One-year warranty</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Access control</td>
</tr>
<tr>
<td>• Automatic gate operation</td>
</tr>
<tr>
<td>• Alarm shunt</td>
</tr>
<tr>
<td>• Alarm reset</td>
</tr>
<tr>
<td>• Machine operation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provides an economical method of providing authorized control for a variety of applications</td>
</tr>
<tr>
<td>• Choice of several contact configurations ensures compatibility with virtually any system</td>
</tr>
<tr>
<td>• Compatible with U.S. standard 1.125” and 1.25” mortise key cylinders and interchangeable core cylinders (not included)</td>
</tr>
<tr>
<td>• Compatibility with a new or existing facility mechanical key system is maintained</td>
</tr>
<tr>
<td>• Standard switch assemblies are single gang box mounted</td>
</tr>
</tbody>
</table>

Components:
- Single gang, wall mounted, recessed key cylinder
- Tamper resistant, recessed cylinder
- Tamper resistant spanner screws
- Heavy duty all steel assembly
- 20 gauge stainless steel faceplate
- Large actuator for positive and consistent activation
- Compatible with 1.125” or 1.25” mortise cylinder (non included)

Functions:
- ASD | Alternate Action (on/off) SPDT
- MSD | Momentary SPDT
- ADD | Alternate Action (on/off) DPDT
- MDD | Momentary DPDT

<table>
<thead>
<tr>
<th>ELECTRICAL SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage:</td>
</tr>
<tr>
<td>• 6 amp @ 30 VDC</td>
</tr>
<tr>
<td>• 7”, 22 gauge wire leads</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEDG</td>
</tr>
<tr>
<td>LEDR</td>
</tr>
<tr>
<td>2LED</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CYLINDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>3902</td>
</tr>
<tr>
<td>3978</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MECHANICAL SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions:</td>
</tr>
<tr>
<td>2-7/8” (73 mm) W x 4-1/2” (114 mm) H x 20 Gauge (0.912 mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FINISHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>US32D</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Single switch assembly requires cloverleaf cam</td>
</tr>
<tr>
<td>• Dual switch assembly requires standard cam</td>
</tr>
</tbody>
</table>
# ACCESS CONTROLS - 2915 HEAVY DUTY KEYPAD

## MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2915</td>
<td>Heavy Duty Keypad</td>
</tr>
</tbody>
</table>

## WARRANTY

- One-year warranty

## APPLICATION

- Single gang indoor keypad
- Designed to control access of a single entry point for facilities with up to 500 users
- Each user assigned a personal identification number (PIN)

## FEATURES

### Components:

- Blue backlit, moisture-resistant keypad
- 3/32” (2 mm) thick stainless steel faceplate
- 1/4” (6 mm) wall extrusion depth
- 500 users, 4-6 digit PIN codes
- 4 outputs, 2 relay and 2 solid status outputs timed or latching (on/off)
- Assign entry PINs to relays 1 and/or 2
- LED status: access, lockout
- Tactile audible key press, select volume
- Timed anti-passback
- Keypad tamper lockout
- Code activated timed entry PIN disable
- Request-to-exit/Enter input, egress keypad input
- Choice of door sense/relay inhibit input functions (forced entry, door ajar, inhibit relay 1 or 2, auto relock when door closes)
- Choice of 2 solid status output functions (alarm shunt, forced entry, door ajar, tamper lockout, keypad active)

## ELECTRICAL SPECIFICATIONS

### Inputs:

- **Voltage:** Auto Sensing 12 to 24 VAC/DC
- **Current:** 30mA typical, 150 mA maximum
- **Operating Temperature:** -20° to 130°F (-30° to 54°C)
- **Operating Humidity:** 5 - 95% (non-condensing)

### Outputs:

- **Relay 1:** Form “C”, 5 amps @ 28VDC
- **Relay 2:** Form “C”, 2 amps @ 28VDC
- **Switch to common outputs 3 & 4:** 100 mA @ 30VDC

## MECHANICAL SPECIFICATIONS

- **Dimensions:** 3” (76 mm) W x 4-3/4” (121 mm) H x 1-1/2” (38 mm) D

---

2016

www.hagerco.com
# ACCESS CONTROLS

## MODELS
- 2916: Heavy Duty Keypad
- 2916P: Heavy Duty Keypad

## WARRANTY
- One-year warranty

## APPLICATION
- Surface mount indoor/outdoor keypad
- Designed to control access of a single entry point for facilities with up to 500 users
- Each user assigned a personal identification number (PIN)

## FEATURES
### Components:
- Heavy cast vandal resistant housing
- Heavy cast metal blue backlit keys
- 500 users, 4-6 digit PIN codes
- 4 outputs, 2 relay and 2 solid status outputs timed or latching (on/off)
- Assign entry PINs to relays 1 and/or 2
- LED status: access, lockout
- Tactile audible key press, select volume
- Timed anti-passback
- Keypad tamper lockout
- Code activated timed entry PIN disable
- Request-to-exit/Enter input, egress keypad input
- Choice of door sense/relay inhibit input functions (forced entry, door ajar, inhibit relay 1 or 2, auto relock when door closes)

## ELECTRICAL SPECIFICATIONS
### Inputs:
- **Voltage:** Auto Sensing 12 to 24VAC/DC
- **Current:** 30mA typical, 150mA maximum
- **Operating Temperature:** -20° to 130°F (-30° to 54°C)
- **Operating Humidity:** 5 - 95% (non-condensing)

### Outputs
- **Relay 1** Form "C", 5 amps @ 28VDC
- **Relay 2** Form "C", 2 amps @ 28VDC
- Switch to common outputs 3 & 4, 100mA @ 30VDC

## MECHANICAL SPECIFICATIONS
- **Dimensions:** 3” (76 mm) W x 5-3/4” (146 mm) H x 1-7/16” (37 mm) D

## ACCESSORIES
- 2-679-0669: Protective Shroud

## FINISHES
- US32D
## ACCESS CONTROLS - 2-679-0708 UNDER DESK PUSH SWITCH

<table>
<thead>
<tr>
<th>MODELS</th>
<th>2-679-0708 Under Desk Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>WARRANTY</td>
<td>One-year warranty</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>Enables the remote control of doors equipped with electric locks and access controls</td>
</tr>
<tr>
<td>FEATURES</td>
<td>Components: Mounts to the underside of a desk for remote door control</td>
</tr>
<tr>
<td>ELECTRICAL SPECIFICATIONS</td>
<td>Momentary push switch</td>
</tr>
<tr>
<td>MECHANICAL SPECIFICATIONS</td>
<td>Dimensions: 1” (25 mm) W x 2-1/4” (57 mm) H x 2-1/2” (63 mm) D</td>
</tr>
</tbody>
</table>
29EA
Door Prop Alarm
Key Switches

DESCRIPTION
• Provides audible alarm when a door is accessed or left open
• Installs in single gang or double gang enclosures
• Compatible with U.S. standard 1.125” and 1.25” mortise key cylinders and interchangeable core cylinders (Sold Separately)

FUNCTIONS
• N - No Key Switch
• M - Mortise Cylinder Switch (Sold Separately)
• K - Key Switch

FEATURES
• Audible sirens with adjustable timer settings
• Bypass status indicator light
• Vandal-resistant aluminum construction with security screws
• Optional key switch or mortise cylinder
• Adjustable Timed Delay
• Exit Alarm on Door Opening
• Automatic or Manual Alarm Reset
• Output Relays
• Integral Bi-color LED Status Indicator
• Compact Universal Mounting
• 85dB Piezo Buzzer Alarm

ELECTRICAL SPECIFICATIONS
Inputs:
Voltage: 12 or 24 VDC
Trigger Input: Dry, N/O or N/C (Selectable by on board jumper), Door Contact (Sold Separately)
Remote Reset/Bypass Input: Dry, N/O or N/C. Reset by momentarily shorting the input when alarmed. Bypass by shorting & holding the input when secure.

OUTPUTS
Alarm Output: Form C, 2A @ 30VDC max
Auxiliary Output: Form C, 2A @ 30VDC max. Follows Door Contact input, or Alarm output (fieldselectable)
LED Indicators: Green - Normal Operation
Red - Alarm Activated

CYLINDER
3902 - 1-1/8” recommended (order separately)
HS4 - HG02 GEO Mortise Cylinder
Just as important as access controls are egress controls. With fail secure openings, egress controls send a signal to unlock the locking device. With low energy automatic operators, knowing acts are needed to send signals to the power operator. These are all essential functions to an electrified opening. Hager Companies provides a wide range of egress controls that will satisfy your customers while being easy to install.
# Egress Devices - 2972 Exit Switch

## Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2972-M</td>
<td>Momentary SPDT Exit Switch</td>
</tr>
<tr>
<td>2972-T</td>
<td>Integrated electric timer (adjustable 1-60 seconds) exit switch</td>
</tr>
</tbody>
</table>

## Warranty

One-year warranty

## Application

- 2” (50 mm) illuminated switch button for easy activation
- High impact resistant material stands up to abuse
- “Push to Exit” sign complies with NFPA requirements
- Blue illuminate button designed for access and egress applications for the disabled

## Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEDG</td>
<td>One (1) green LED</td>
</tr>
<tr>
<td>LEDR</td>
<td>One (1) red LED</td>
</tr>
<tr>
<td>2LED</td>
<td>One (1) green and one (1) red LED</td>
</tr>
<tr>
<td>BLU</td>
<td>Disabled access button</td>
</tr>
</tbody>
</table>

## Electrical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>2972M</td>
<td>SPDT, 5A @ 30 VDC</td>
</tr>
<tr>
<td>2972T</td>
<td>SPDT, 2A @ 12/24VDC</td>
</tr>
<tr>
<td>Wire Leads</td>
<td>6” (152 mm) - 20 gauge</td>
</tr>
</tbody>
</table>

## Mechanical Specifications

1 Gang

Dimensions: 2-7/8” (73 mm) W x 4-1/2” (114 mm) H

## Finishes

US32D
# EGRESS DEVICES - 2973 CODE COMPLIANT EXIT SWITCH

## MODELS
2973  
Code Compliant Exit Switch with integrated timer (fixed 30 seconds)

## WARRANTY
One-year warranty

## APPLICATION
- Code compliant manual releasing devices and sensors
- Switch and sensor used together comply with manual releasing device and sensor device requirements for access controlled egress doors

Certification:
- 2006 IBC 1008.1.3.4
- 2012 IBC 1008.1.9.8
- NFPA 7.2.1.6.2
- IFC 1008.1.3.4
- California Fire Code

## OPTIONS
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEDG</td>
<td>One (1) green LED</td>
</tr>
<tr>
<td>LEDR</td>
<td>One (1) red LED</td>
</tr>
<tr>
<td>2LED</td>
<td>One (1) green and one (1) red LED</td>
</tr>
</tbody>
</table>

## ELECTRICAL SPECIFICATIONS
- **Output:** SPDT, 5A @ 30 VDC
- **Wire Leads:** 6” (152 mm) - 20 gauge

## MECHANICAL SPECIFICATIONS
- **1 Gang**
- **Dimensions:** 2-7/8” (73 mm) W x 4-1/2” (114 mm) H

## FINISHES
- US32D
**MODELS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0611</td>
<td>White PIR egress sensor</td>
</tr>
<tr>
<td>2-679-0612</td>
<td>Black PIR egress sensor</td>
</tr>
</tbody>
</table>

**WARRANTY**

- One-year warranty

**APPLICATION**

- Access control system unit
- Unlocks doors automatically when persons approaching door are detected
- Compiles with national fire and building code requirements for access controlled egress doors
- Code compliant Fail Safe mode releases locks when power to PIR sensor is interrupted

Certification:

- UL Listed 294

**ELECTRICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Input</th>
<th>12 or 24 VAC/DC @ 26 mA max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>2 SPDT dry, 2 amp @ 30VDC</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20° to 120°F (-30° to 49°C)</td>
</tr>
</tbody>
</table>

**MECHANICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>1-1/2” (38 mm) W x 6-1/4” (159 mm) H x 1-1/2 (38 mm) D</th>
</tr>
</thead>
</table>
## EGRESS DEVICES - 2977 PIEZOELECTRIC EXIT SWITCH

<table>
<thead>
<tr>
<th>MODELS</th>
<th>Stainless Steel Piezoelectric Request-to-Exit Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>WARRANTY</td>
<td>One-year warranty</td>
</tr>
</tbody>
</table>
| APPLICATION  | • Designed for indoor, outdoor, commercial, and industrial egress applications  
• Ideal for harsh or high traffic conditions |
| FEATURES     | Components:                                           |
|              | • Vandal and weather resistant                        |
|              | - 3/32" (2 mm) stainless steel vandal resistant faceplate |
|              | • No moving parts                                     |
|              | • Selectable bi-color illumination status (Relay OFF - red or green)  
(Relay ON - red or green) |
|              | • Adjustable timer output, 1-30 seconds               |
|              | • Superior performance in virtually any environment   |
|              | • Can be used to control an automatic door, electromechanical lock, strike, or magnetic lock |
|              | • May be tied into the remote bypass (request-to-exit) input of an access control system |
|              | • Can be used to shunt an alarm system to allow egress from a secure area |

### ELECTRICAL SPECIFICATIONS

- **Input:** 12/24 AC/DC
- **Current:**  
  - Idle - 30 mA  
  - Active - 150 mA
- **Output:** SPDT dry contact, 3 amp @ 30 VDC
- **Operating Temperature:** -40° to 160°F (-40° to 71°C)
- **Relay:**  
  - 100,000 cycles @ 3 A 30 VDC life expectancy  
  - 200,000 cycles @ 1.5 A 30 VDC life expectancy

### MECHANICAL SPECIFICATIONS

- **Button Switch:** 1 billion cycle life expectancy
- **Dimensions:** 3” (76 mm) W x 4-3/4” (121 mm) H
- **FINISHES:** US32D
# EGRESS DEVICES - 2978 TOUCHLESS EXIT SWITCH

## MODELS

| 2978  | Touchless Exit Switch |

## WARRANTY

| One-year warranty |

## APPLICATION

- Designed to control electric locks/strikes, magnetic locks, or automatic door operators
- No touch wave-to-exit switch
- Active with wave of the hand
- For sanitary entry/exit applications

## FEATURES

**Components:**
- Bi-color status illumination
- Quick connect screwless terminal block for easy installation
- No moving parts
- Uses infrared sensor technology

## ELECTRICAL SPECIFICATIONS

**Current:**
- 30 mA standby; 70 mA Active @ 12 VDC
- 15 mA standby; 35 mA Active @ 24 VDC

**Output:**
- DPDT, 3 amp dry contact

**Activation Time:**
- 1 second or as long as sensor is triggered

**LED Color:**
- Standby - red; Active - green

**Range:**
- 4" (10 cm)

## MECHANICAL SPECIFICATIONS

**Dimensions:**
- 2-3/4" (70 mm) W x 4-1/2" (114 mm) H

## FINISHES

| US32D |
**MODELS**

4801

The Sure Exit is a non-latching, heavy duty, request-to-exit push bar that will activate the 2958 & 2958T when slight pressure is applied to the bar.

**WARRANTY**

One-year warranty

**FEATURES**

Components:
- Magnetic lock release
- Access control request-to-exit
- Delayed egress trigger
- Alarm shunt
- CCTV or alarm activation
- Tri-Failsafe
  - *a third redundant micro switch is automatically activated to release the door if both sensors or electronics fail*
- No moving parts, quick, and quiet operation
- Human touch not required
- Sensor calibration not required
- Field installed green sign with 1” letters
- Heavy duty construction
- Narrow, low profile
- Two outputs
  - *two dry contacts for lock release, request-to-exit, alarm shunt, alarm activation, CCTV activation*
- Armored power loop
  - *18” flex stainless conduit*

**ELECTRICAL SPECIFICATIONS**

Voltage Input: 12/24 VDC ±10%
- *no field adjustment*

Current Input: 20 mA @ rest, 115 mA active

Output: Two, SPDT Dry, 3 Amp @ 28 VDC

Operating Temperature: 0° to 150° F (-18° to 66° C)

**MECHANICAL SPECIFICATIONS**

Activation Force:
- 5 lbs. (2.2 kg)
  - Field adjustable up to 15 lbs. (6.8 kg)

Dimensions: 2-3/8” (60 mm) W x 36” (914 mm) H x 1-7/8” (48 mm) D

**OPTIONS**

- 42” (1,067 mm) wide doors
- 48” (1,219 mm) wide doors

**FINISHES**

ALM | Aluminum anodized
BLK | Black anodized

**NOTES**

Length: Bars may be field cut
# EGRESS DEVICES - 2-679-0650 EMERGENCY DOOR RELEASE

## MODELS
2-679-0650  
Break glass emergency door release 3V-28 VDC, 18 mA with siren (blue)

## WARRANTY
One-year warranty

## APPLICATION
- Breakable glass emergency door release with siren
- Ideal for immediate unlocking of doors that are equipped with fail safe electric locks and may influence approval of an electronic lock system
- Built-in alarm may be used as a local door annunciator

## FEATURES
**Components:**
- Remote monitoring
- CCTV activation or alarm activation
- Single gang box mounted
- Two replacement glass plates included

## ELECTRICAL SPECIFICATIONS
**Output:**  
DPDT dry contact, 10 amp @ 28VDC

## MECHANICAL SPECIFICATIONS
**Dimensions:**  
5-1/2” (140 mm) W x 3-1/2” (90 mm) H x 1-3/8” (35 mm) D
Electrified cylindrical locks, mortise locks, and exit devices all require power provided to them. The most effective way to do this is to run power through the middle of the door. With Hager, you can select the hinge type that you need and that your customer wants and know that all of those products can be electrified. Stay with the proven name in hinges – Hager. Since 1849, Hager has been manufacturing hinges in the U.S. and as we continue to build on our rich history, we will continue to bring our customers reliability, value, and peace of mind. Whether you need electrified conventional hinges, electrified geared Roton hinges, concealed power transfers or a transfer loop, knowing that you chose Hager as your preferred hinge brand will prove to be a wise decision.
ELECTRIC POWER TRANSFER DEVICES - HEAVY DUTY

2-679-0620
Concealed Mortise Mount Power Transfer Loop

- Frame mortised steel dust box with flexible steel loop and chrome finish
- Recommended for use with hollow metal frames
- UL Listed
- 11-1/2 (h) x 1 (w) x 3/4 in (d)
  (292 (h) x 25 (w) x 19 (d) mm)

- Provides a concealed and secure means of transferring electric lock and exit device power and signal wires from the frame to the door
- Completely concealed when the door is closed
- Ideal for heavy traffic and applications requiring higher security to inhibit tampering and abuse

MODELS

2 conductor
Two (2) 18 ga. wires, 5 amp @ 12/24 V AC/DC

2-679-0621
Aluminum powder coat (US28 equivalent)

2-679-0622
Dark brown powder coat (US10B equivalent)

10 conductor
Ten (10) 24 ga. wires, 1 amp @ 12/24 V AC/DC

2-679-0623
Aluminum powder coat (US28 equivalent)

2-679-0624
Dark brown powder coat (US10B equivalent)

FEATURES
- Power control, input for electric locks and exit devices, locked, latched, mantrap, forced entry, open status signal wiring
- Mortise door and frame installation
- PTM is completely concealed when the door is closed
- All metal design with stainless steel tubular wire transfer and heavy cast housing with steel back boxes provide weather and tamper resistance when door is open or closed
- Fasteners for wood, steel, and aluminum doors and frames included
- UL Listed Miscellaneous Fire Door Accessories
- UL 10C Listed for up to 3-hours on fire-rated doors and frames
- Classified according to Uniform Building Code (UBC) Standard 7-2, Fire Test of Door Assemblies (1997)

COMPATIBLE OPENINGS
- 1-3/4” (44 mm) thick doors
- 0-180° opening swing with up to 3/4” (19 mm) offset pivots
- 0-180° opening swing with up to 5” wide butt hinges
- 0-130° opening swing with up to 5-1/2” (140 mm) wide butt hinges
- 0-130° opening swing with up to 6” (152 mm) wide butt hinges
- Not compatible with center hung doors, swing clear hinges, pocket pivots, butt hinges larger than 6” (152 mm), and 1-1/2” (38 mm) offset pivots

DIMENSIONS
9” (h) x 1-1/4” (w) x 1-5/8” (d)
229 mm (h) x 32 mm (w) x 41 mm (d)
Door Position Sensors

Monitoring the position of the door is crucial security. Hager Companies offers a mortise style door position sensor for new installations. We also offer a drill-in style to make retrofitting an opening quick and easy.
### DOOR POSITION SENSORS

#### MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0625</td>
<td>Concealed Magnetic Contact Switch</td>
</tr>
<tr>
<td>2-679-0626</td>
<td>Magnetic Switch</td>
</tr>
</tbody>
</table>

#### WARRANTY

- One-year warranty

#### APPLICATION

- Installed in the mortise of a hollow metal or aluminum frame and wood, hollow metal or aluminum door
- Ideal for door status monitoring
- Easily installed in hollow metal and aluminum doors and frames

#### ELECTRICAL SPECIFICATIONS

- **Contact:** SPDT, 50mA @ 30 VDC

#### MECHANICAL SPECIFICATIONS

- **Gap:** 0.125” (3 mm)
- **Faceplate:**
  - 4.875” (h) x 1.25” (w) x 0.125” (d)
  - 123.83 mm (h) x 31.75 mm (w) x 3.18 mm (d)
The functionality of power supplies differ based on the electrified components and their intended use. In order to have an optimized and properly operational electrified opening, the power supply should fit the opening, not the other way around. Hager offers different power supply solutions for different types of openings.

The 2901 and 2902 are specifically designed to operate electric latch retraction exit devices.

The 2903 is designed to optimize the functionality of Fail Safe or Fail Secure locking devices that interface with the building’s alarm controls, card readers, keypads, and other access control systems.

The 2904 is designed to optimize openings that include a locking device and automatic door operator.

The 2908 and 2909 are modular designs that provide functionality for any type of opening whether it is an electric latch retraction exit device, locking devices that interface with other access controls, door operators with sequencing locking devices, or combination of all of those or just something completely different.
POWER SUPPLY & DOOR CONTROLLERS - 2911

MODELS
2911  6A Modular Power Supply

WARRANTY
One-year warranty

DESCRIPTION
- Modular design allows customization of each power supply
- Equipped with a high performance transformer and highly reliable electronic components
- Filtering and output voltage regulation provides protection and ensures the longevity of all system components

FEATURES
Components:
- Output filtering stabilizes the DC output voltage and eliminates AC line noise
- Regulator maintains output voltage at 12 or 24 VDC regardless of load changes and battery charging
- Fire alarm input that provides simultaneous release of all Fail Safe/Fail Secure locks and door holders in case of an emergency
- Field selectable output that provides 12 VDC or 24 VDC
- Circuit breaker protected AC input voltage - secondary output is PTC protected
- LED status indicators Separate PTC protected charging output
- Optional dual 12 VDC or 24 VDC outputs

ELECTRICAL SPECIFICATIONS
Input:
- 800mA @ 115 VAC, 50/60Hz
- 230 VAC optional
Output:
- 12/24 VDC, 2A
- Class 2
Battery Charger: 13.5/27 VDC, 500 mA

LED INDICATORS
Amber: AC and DC voltages are OK
Green: No DC output
Red: No AC input, powered by batteries

MECHANICAL SPECIFICATIONS
Dimensions:
- 12” x 12” x 4”, 18 GA (305 x 305 x 102 mm)
- 20 gauge steel

ACCESSORIES
ELR
- 2-679-0661 - 5 Amp hour battery backup
- 2-679-0662 - 12 VDC output regulator module
- 2-679-0664 - Universal Relay Module
- 2-679-0703 - Sequencer Module
- 2-679-0704 - Access Control Module
- 2-679-0705 - 16 Amp Power Boost Module
- 2-679-0706 - Power Supply Monitor Module
### MODELS

| 2910 | 4A Modular Power Supply |

### WARRANTY

| One-year warranty |

### DESCRIPTION

- Modular design allows customization of each power supply
- Equipped with a high performance transformer and highly reliable electronic components
- Filtering and output voltage regulation provides protection and ensures the longevity of all system components

### FEATURES

**Components:**
- Output filtering stabilizes the DC output voltage and eliminates AC line noise
- Regulator maintains output voltage at 12 or 24 VDC regardless of load changes and battery charging
- Fire alarm input that provides simultaneous release of all Fail Safe/Fail Secure locks and door holders in case of an emergency
- Field selectable output that provides 12 VDC or 24 VDC
- Circuit breaker protected AC input voltage - secondary output is PTC protected
- LED status indicators Separate PTC protected charging output
- Optional dual 12 VDC or 24 VDC outputs

### ELECTRICAL SPECIFICATIONS

**Input:**
- 800mA @ 115 VAC, 50/60Hz
- 230 VAC optional

**Output:**
- 12/24 VDC, 2A
- Class 2

**Battery Charger:**
- 13.5/27 VDC, 500 mA

### LED INDICATORS

- **Amber:** AC and DC voltages are OK
- **Green:** No DC output
- **Red:** No AC input, powered by batteries

### MECHANICAL SPECIFICATIONS

**Dimensions:**
- 12” x 12” x 4”, 18 GA (305 x 305 x 102 mm)
- 20 gauge steel

### ACCESSORIES

**ELR**
- 2-679-0661 - 5 Amp hour battery backup
- 2-679-0662 - 12 VDC output regulator module
- 2-679-0664 - Universal Relay Module
- 2-679-0703 - Sequencer Module
- 2-679-0704 - Access Control Module
- 2-679-0705 - 16 Amp Power Boost Module
- 2-679-0706 - Power Supply Monitor Module
# POWER SUPPLY & DOOR CONTROLLERS - 2909

## Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2909</td>
<td>2A Modular Access Control Power Supply</td>
</tr>
</tbody>
</table>

## Warranty

- One-year warranty

## Application

- Modular design allows customization of each power supply
- Regulated modular access control power supply
- Equipped with a high performance transformer and highly reliable electronic components
- Filtering and output voltage regulation provide protection and ensure the longevity of all system components

## Features

### Components:

- Output filtering stabilizes the DC output voltage and eliminates AC line noise
- Regulator maintains output voltage at 12 or 24 VDC regardless of load changes and battery charging
- Fire alarm input that provides simultaneous release of all Fail Safe/Fail Secure locks and door holders in case of an emergency
- Provides simultaneous release of all Fail Safe/Fail Secure locks and door holder in case of emergency
- Circuit breaker protected AC input voltage - secondary output is PTC protected
- LED status indicators separate PTC protected charging output
- Optional dual 12 VDC or 24 VDC outputs

## Electrical Specifications

### Input:

- 800mA @ 115 VAC, 50/60Hz
- 230 VAC optional

### Output:

- 12/24 VDC, 2A
  - field selectable
- Class 2

### Battery Charger:

- 13.5/27 VDC, 500 mA

## LED Indicators

- Amber: AC and DC voltages are OK
- Green: No DC output
- Red: No AC input, powered by batteries

## Mechanical Specifications

- Dimensions: 4” (102 mm) W x 12” (305 mm) H x 12” (305 mm) D
- 12 gauge steel

## Notes

- Not suitable for use with solenoid actuated Electric Latch Retraction (ELR) exit devices
- Suitable for motor driven ELR exit devices
MODELS
2908  1A Modular Access Control Power Supply

WARRANTY
One-year warranty

APPLICATION
• Modular design allows customization of each power supply
• Regulated modular access control power supply
• Equipped with a high performance transformer and highly reliable electronic components
• Filtering and output voltage regulation provide protection and ensure the longevity of all system components

FEATURES
Components:
• Fire alarm input - Provides simultaneous release of all Fail Safe/Fail Secure locks and door holder in case of emergency
• Circuit breaker protected AC input voltage - secondary output and battery backup status
• Separate PTC protected charging output
• Optional dual 12 VDC or 24 VDC outputs
• Standard California compliant manual release

ELECTRICAL SPECIFICATIONS
Input:
• 600mA @ 115 VAC, 50/60Hz
• 230 VAC optional

Output:
• 12/24 VDC, 1A
  - Field selectable

Battery Charger:
• 13.5/27 VDC, 500 mA

MECHANICAL SPECIFICATIONS
Dimensions:
• 4” (102 mm) W x 12” (305 mm) H x 12” (305 mm) D
• 12 gauge steel

ACCESSORIES
2-679-0661 • 5 Amp hour battery backup
  - Uses a separate, protected output for charging - includes a low battery disconnect that protects the battery from potential damage during extended battery powered situations
  - When multiple batteries are used, install in parallel to increase current, or install in series to increase voltage. For more information, please contact Hager Tech Support.

2-679-0662 • 12 VDC Output Regulator Module
  - Enables dual 12V and 24V output

2-679-0664 • Universal Relay Module
  - Multiple field selectable operational modes for up to two door stations

NOTES
ELR
• Not suitable for use with solenoid actuated Electric Latch Retraction (ELR) exit devices
• Suitable for motor driven ELR exit devices
### POWER SUPPLY & DOOR CONTROLLERS - 2908 & 2909 MODULES

<table>
<thead>
<tr>
<th>MODELS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0661</td>
<td>5 Amp hour battery backup</td>
</tr>
<tr>
<td>WARRANTY</td>
<td>One-year warranty</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>Allows continued operation of your access controlled opening upon power failure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MODELS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0662</td>
<td>12 VDC Output Regulator Module</td>
</tr>
<tr>
<td>WARRANTY</td>
<td>One-year warranty</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>Allows for dual voltage output applications where openings require a 12VDC and 24VDC</td>
</tr>
</tbody>
</table>

#### ELECTRICAL SPECIFICATIONS

**Input:**
- 24 VDC

**Output:**
- 500A @12 VDC

<table>
<thead>
<tr>
<th>MODELS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0664</td>
<td>Universal Relay Module</td>
</tr>
<tr>
<td>WARRANTY</td>
<td>One-year warranty</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>• Conventional Relay (CR)</td>
</tr>
<tr>
<td></td>
<td>• Dual Conventional Relay (2x CR)</td>
</tr>
<tr>
<td></td>
<td>• Time Delay Relay (TD) (1-60sec)</td>
</tr>
<tr>
<td></td>
<td>• Dual Time Delay Relay (2x TD) (1-60sec)</td>
</tr>
<tr>
<td></td>
<td>• Latching Relay (LR) - Separate Latch and Release Inputs</td>
</tr>
<tr>
<td></td>
<td>• Dual Latching Relay (2x LR) Pulse on Pulse off</td>
</tr>
<tr>
<td></td>
<td>• Time Delay x Latching Relay</td>
</tr>
<tr>
<td></td>
<td>• Interlock A (Air Lock)</td>
</tr>
<tr>
<td></td>
<td>• Interlock B (2 Modules Required)</td>
</tr>
</tbody>
</table>

**ELECTRICAL SPECIFICATIONS**

**Input:**
- 120/175mA @ 12/24 VDC

**Output:**
- 2 each field selectable wet or dry
- Wet: 120/175mA@ 12/24 VDC
- Dry: SPDT, Dry 10A @ 30 VDC

<table>
<thead>
<tr>
<th>MODELS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0703</td>
<td>Electric Latch Retraction Sequencer Module</td>
</tr>
<tr>
<td>WARRANTY</td>
<td>One-year warranty</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>Allow for sequencing of electrified hardware on openings with Auto Operator</td>
</tr>
</tbody>
</table>

**ELECTRICAL SPECIFICATIONS**

**Input:**
- 12 VDC or 24 VDC (+/- 10%) - 140 mA max

**Exit & Operator Contacts:**
- N/C or N/O, field selectable 10 AMP @ 30 VDC (Resistive)

**Access Control Inputs:**
- N/O Dry Contact
<table>
<thead>
<tr>
<th>MODELS</th>
<th>ACCESS CONTROL MODULE</th>
<th>WARRANTY</th>
<th>ONE-YEAR WARRANTY</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0704</td>
<td></td>
<td></td>
<td></td>
<td>Installer friendly relay board used to control and monitor openings</td>
</tr>
<tr>
<td>ELECTRICAL SPECIFICATIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input:</td>
<td>• 75mA@ 12/24 VDC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 3 - N/C Normally Closed Inputs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 3 - N/O Normally Open Inputs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output:</td>
<td>• 5 Amp (Resistive) fail safe lock output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 5 Amp (Resistive) fail secure lock output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Lock status: SPDT (Form C) dry contact</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MODELS</th>
<th>16 AMP POWER BOOST MODULE</th>
<th>WARRANTY</th>
<th>ONE-YEAR WARRANTY</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0705</td>
<td></td>
<td></td>
<td></td>
<td>Used for electric latch retraction exit devices that require 24 VDC with 16 amp inrush</td>
</tr>
<tr>
<td>ELECTRICAL SPECIFICATIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input:</td>
<td>• 85mA @ 24 VDC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dry N/O trigger input ONLY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output:</td>
<td>• 16A surge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1A continuous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note:</td>
<td>Works with Hager 2909 Power Supply</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MODELS</th>
<th>POWER SUPPLY MONITOR MODULE</th>
<th>WARRANTY</th>
<th>ONE-YEAR WARRANTY</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0706</td>
<td></td>
<td></td>
<td></td>
<td>Provides outputs to monitor Hager 2909 power supply status and A/C power and DC output/battery status</td>
</tr>
<tr>
<td>ELECTRICAL SPECIFICATIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 2 SPDT 1 amp repay outputs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• On/off status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note:</td>
<td>Works with Hager 2909 Power Supply ONLY</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## POWER SUPPLY & DOOR CONTROLLERS - 2904

### MODELS

| 2904 | MLR & Auto Operator Access Control Power Supply |

### WARRANTY

- One-year warranty

### APPLICATION

- Provides power and control for openings with an electrified locking device and automatic door operator

### FEATURES

**Components:**
- Filtered and regulated 24 VDC output
- 2A load capacity
- Class 2 rated outputs
- Overload, over voltage, and short circuit protection
- Automatically accepts 120 or 240 VAC input
- Built in fail safe or fail secure locking device controller
- Built in dry contact output for automatic door operator input
- Auxiliary 24 VDC constant voltage output (1 amp max output)
- Separate input for activation switch on entry and exit side of opening
- Fire alarm input
- Adjustable time delay

### ELECTRICAL SPECIFICATIONS

**Input:**
- 900mA @ 120 VAC, 60Hz
- 600mA @ 240 VAC, 50/60Hz

**Output:**
- 24 VDC, 2A

### MECHANICAL SPECIFICATIONS

**Dimensions:**
- 4-1/4” (108 mm) W x 10-1/4” (260 mm) H x 10-1/4” (260 mm) D

### NOTES

- ELR
  - Not suitable for use with solenoid actuated Electric Latch Retraction (ELR) exit devices
  - Suitable for motor driven ELR exit devices
POWER SUPPLY & DOOR CONTROLLERS - 2903

MODELS
2903  Access Control & Locking Device Power Supply

WARRANTY
One-year warranty

APPLICATION
For use with Fail Safe and Fail Secure locking devices that interface with building alarm controls, card readers, keypads, and other door controls

FEATURES
Components:
• Filtered and regulated 24 VDC output
• 2A load capacity
• Class 2 rated outputs
• Overload, over voltage, and short circuit protection
• Automatically accepts 120 or 240 VAC input
• Built in fail safe or fail secure locking device controller
• Surge suppression on fail safe and fail secure outputs
• Interface relay isolates locking device outputs from control switch
• Adjustable time delay

ELECTRICAL SPECIFICATIONS
Input:
• 900mA @ 120 VAC, 60Hz
• 600mA @ 240 VAC, 50/60Hz

Output: 24 VDC, 2A

MECHANICAL SPECIFICATIONS
Dimensions: 4-1/4” (108 mm) W x 10-1/4” (260 mm) H x 10-1/4” (260 mm) D

NOTES
ELR
• Not suitable for use with solenoid actuated Electric Latch Retraction (ELR) exit devices
• Suitable for motor driven ELR exit devices
POWER SUPPLY & DOOR CONTROLLERS - 2902

MODELS
2902  Electric Latch Retraction Controller & Power Supply with Day/Night Mode

WARRANTY
One-year warranty

APPLICATION
For use with Hager’s 4500 Series Electric Latch Retraction (ELR) exit devices in a day/night mode of operation

FEATURES
Components:
- Auxiliary 12 and 24 VDC outputs
- Built-in dry contact output for automatic door operator input
- Adjustable time delay
- Fire alarm input
- Operator day/night mode of operation

ELECTRICAL SPECIFICATIONS
Input: 750mA @ 120 VAC; 60Hz
Output:
- 250mA @ 12.6-16.5 VDC; Unregulated & Unfiltered
- 250mA @ 26.7-28.0 VDC; Unregulated & Unfiltered

MECHANICAL SPECIFICATIONS
Dimensions: 4-1/4” (108 mm) W x 10-1/4” (260 mm) H x 10-1/4” (260 mm) D
### MODELS

| 2901 | Electric Latch Retraction Controller & Power Supply |

### WARRANTY

One-Year Warranty

### APPLICATION

For use with Hager’s 4500 Series Electric Latch Retraction (ELR) exit devices

### FEATURES

Components:
- Auxiliary 12 and 24 VDC outputs
- Built-in– dry contact output for automatic door operator input
- Adjustable time delay
- Fire alarm input
- Single or dual system latch retraction

### ELECTRICAL SPECIFICATIONS

**Input:**
- 750mA @ 120 VAC; 60Hz

**Output:**
- 250mA @ 12.6-16.5 VDC; Unregulated & Unfiltered
- 250mA @ 26.7-28.0 VDC; Unregulated & Unfiltered

### MECHANICAL SPECIFICATIONS

**Dimensions:**
- 4-1/4” (108 mm) W x 10-1/4” (260 mm) H x 10-1/4” (260 mm) D
As more and more buildings are becoming ADA compliant, more options need to be made available. Hager’s low energy operators allow you to do just that without a long list of part numbers to keep track of. Instead, Hager’s low energy operators are customizable so that you can meet your customer’s requirements and expectations each and every time.

The 8400 Series is Hager’s premium low energy operator that reduces installation costs by being designed in a unique way that allows for one person installation and each unit includes an on-board programmer so that the installer programs one unit and then uses a flash drive to set up the other units in the same way with the same functionality.
Low Energy Power Operators

**8400 Series - (Pages 54-61)**
- Premium Low Energy Power Operator
- Single Operator
- Paired Operator
- Double Egress Operator
- Single Operator Paired with Mechanical Closer

**8300 Series - (Pages 67-69)**
- Low Energy Power Operator
- Single Operator
- Double Egress Operator

---

Parts & Accessories

**8400 Series - (Pages 63-65)**
- Track Arm
- Standard Arm
- Standard Arm - Double Egress
- Track Arm - Double Egress
- Replacement Spindle

**8300 Series (Pages 71-73)**
- Standard Arm
- Standard Arm - Double Egress
- Track Arms

---

Actuators (Pages 75-84)

- 4.5” Square Actuator
- 6” Square Actuator
- 4.5” Round Actuator
- 6” Round Actuator
- 1.5” x 4.75” Jamb Actuator
- 36” Low Profile Actuator
- 4.75” Vestibule Actuator
- Bollard Posts

---

Accessories (Pages 85-87)

- 433 MHz Receiver
- 3-Volt Wireless Transmitter
- 9-Volt Wireless Transmitter
- Wireless, One Button Transmitter
- Programmable Relay and Door Sequencer
Hager Companies 8400 Series Low Energy Power Operator meets ANSI/BHMA A156.19 standards for power assist and low energy operators and is designed to meet the requirements of door openings that occasionally have the need for an automatic opening. These devices can be used on single and double doors including double egress applications. This door opening solution provides a consistent closing and opening of the door, which is especially beneficial in situations that require compliance with the Americans with Disabilities Act (ADA). The use of Hager's Low Energy Power Operator provides easy access for not only people with disabilities, but also allows for manual operation of the door when necessary.

The 8400 Series is designed for ease of installation, allowing it to be installed by a single person. It also provides a quiet, smooth operation preventing any unwanted noise in the opening and surrounding area. The use of a digital display makes programming the operator uncomplicated and provides a resourceful tool for maintaining the device and assessing its status.

In addition to the Low Energy Power Operator, Hager offers a full range of actuators to be used in conjunction with the operator. The switches available for activation of the operator come in a variety of sizes and options, including wireless and hard wired. Hager also offers an option that exceeds the California Building Code, Section 1117B.6 by providing a push plate that meets height, reach range, and operation requirements for those with disabilities.

**Note:** Optional arm shoe drop plate is available for applications with a top rail less than 5". See page 9 for additional information.
8400 SERIES LOW ENERGY POWER OPERATOR - STANDARD APPLICATIONS

SINGLE OPERATOR

HOLLOW METAL TOP JAMB PUSH 35MM SPINDLE

HOLLOW METAL PULL SIDE 20MM SPINDLE

NOTE: Optional arm shoe drop plate is available for applications with a top rail less than 5 3/4". See page 8 for additional information.

* Adjust to 1" if door has a 5/8" web depth.
8400 SERIES LOW ENERGY POWER OPERATOR - STANDARD APPLICATIONS

PAIRED OPERATOR

DOUBLE EGRESS OPERATOR
SINGLE OPERATOR PAIRED WITH MECHANICAL CLOSER

OPERATOR HANDING IDENTIFICATION

Note: Specify leaf to receive operator.
1. Adjusting screw for spring tension
2. Output shafts for arms & stop
3. Drive unit
4. Closing spring
5. Multifunction push button/control
6. Terminal blocks for I/O
7. Microprocessor control
8. Motor drive circuit board
9. Slide switch S1 (rotating direction)
10. Power supply
11. Fuse (2.0A, 5 x 20mm, Slo-Blo)
12. Power supply circuit board
13. Onboard programmer
14. On/Off/Open rocker switch
15. Status LED and reset push button
8400 SERIES  LOW ENERGY POWER OPERATOR - HOW TO ORDER

8400 SERIES

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Product Group
84 - Low Energy Power Operator

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer

Application*
A - Push Side of Door
B - Pull Side of Door

Handing
RHR/LH - Left Hand
LHR/RH - Right Hand

Type
18 - Single Operator
19 - Pair - Simultaneous
20 - Pair - Independent
21 - Pair - Double Egress - Simultaneous
22 - Pair - Double Egress - Independent
23 - Single Operator Paired with 5100 Series Mechanical Closer
8400 SERIES LOW ENERGY POWER OPERATOR

MODELS

8418  Single Operator (handed)

8419  Simultaneous Pair (2 units, 1 controller, doors operate at the same time) For use with Hager mortise locks with deadbolt

8420  Independent Pair (2 units, 2 controller, doors operate independently from each other)

8421  Double Egress Simultaneous Pair (2 units, 1 controller, doors swing in opposite directions at same time)

8422  Double Egress Independent Pair (2 units, 2 controller, doors swing in opposite directions at different times)

8423  Single operator paired with 5100 Series closer for inactive door (handed)

WARRANTY

Two-year warranty

APPLICATION

• For use on fire-rated and non-fire-rated outswing or inswing doors
• Built-in adjustable door stop for protection against wind or abusive environments
• Operates as a manual closer with or without power

FEATURES

Application
Features:

• Single person installation
• Pre-drilled mounting holes for ease of installation
• Three Operating Modes (On/Off/Hold Open)
• Designed for single doors from 36” to 48” (914 mm to 1,219 mm)
• Designed for double doors from 60” to 96” (1,524 mm to 2,438 mm)
• On-board power supply

Operational
Functionality:

• Built-in adjustable door stop for protection against wind or abusive environments
• Interfaces with electric door hardware
• Operates as a mechanical closer if power is disconnected
• Obstacle recognition upon opening and closing
• Blow open function for smoke ventilation

Programmable
Functionality:

• Boost on Close (selectable On/Off)
• Power Assist Close
• Power Boost Close - motor assist under wind and stack pressure
• Motor Hold Close
• Power Open and Hold - for smoke evacuation
• Adjustable Opening Force Limitation
• Adjustable Opening and Closing Speeds
• Adjustable Opening Angle
• Adjustable Hold Open Time for Door Activators (1 sec to continuous)
• Sequential Operation (push to open/push to close operation)
• Built-In Stop - Manual swing to 180°/ Power swing to 100°
• Fire Alarm input shunts swing activations until FACP is manually reset
• Internal LCD display
• Memory is flash upgradeable

Certification:

• ANSI A156.19 compliant
• UL/cUL Listed for up to 3-hours
• UL10C Listed for Positive Pressure Rating
• ADA compliant
## 8400 SERIES LOW ENERGY POWER OPERATOR

### ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Power Requirements:</th>
<th>115 VAC 60 HZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Draw:</td>
<td>3A</td>
</tr>
<tr>
<td>Auxiliary Output Voltage:</td>
<td>500mA @ 24 VDC</td>
</tr>
<tr>
<td>Fuse Type:</td>
<td>2.0A, 5 x 20mm, Slo-Blo</td>
</tr>
<tr>
<td>Electric Lock Relay Type:</td>
<td>Form “C” SPDT</td>
</tr>
<tr>
<td>Lock Relay Rating:</td>
<td>5.0A @ 28 VDC</td>
</tr>
<tr>
<td>Operating Temperature:</td>
<td>-40° to 140° F (-40° to 160° C) ambient operating temperature in all climatic conditions</td>
</tr>
</tbody>
</table>

### MECHANICAL SPECIFICATIONS

| Dimensions: | 5” H x 4-1/2” W x door width +3” L (127 mm x 114 mm) |
| Reveal:     | Up to 12” standard |
| Spring Adjustment: | 5 lbs to 20 lbs closing force |
| Max Degree of Swing: | 180° |
| On/Off/Hold Open Switch: | Standard |
| Swing Direction: | Inswing/Outswing |
| Adjustable Swing Degree: | 80° to 180° |

### FINISHES

| ALM | Aluminum anodized (standard) |
| DBZ | Dark bronze anodized |

### NOTES

- Must specify push or pull side mount
- Specify handing
In this section, you can find the various arms and spindles for the 8400 Series operator.
ACCESSORIES

2-659-0151 | 2-659-0152
Track Arm
• 20 mm spindle
• For use on pull side of the door
• 2-659-0151 is ALM, 2-659-0152 is DBZ

2-659-0153 | 2-659-0154
Standard Arm
• 35 mm spindle
• For use on push side of the door
• 2-659-0153 is ALM, 2-659-0154 is DBZ

2-659-0220 | 2-659-0221
Standard Arm - Double Egress
• 50 mm spindle
• For use on push side of the door
• 2-659-0220 is ALM, 2-659-0221 is DBZ

2-659-0222 | 2-659-0223
Track Arm - Double Egress
• 20 mm spindle
• Offset adaptor
• For use on pull side of the door
• 2-659-0222 is ALM, 2-659-0223 is DBZ

2-659-0224 | 2-659-0225
Replacement Spindle
• 20 mm
• For use with delayed egress or track arm assembly
• 2-659-0224 is ALM, 2-659-0225 is DBZ

2-659-0226 | 2-659-0227
Replacement Spindle
• 35 mm
• For use with standard single and standard pair applications
• 2-659-0226 is ALM, 2-659-0227 is DBZ

2-659-0228 | 2-659-0229
Replacement Spindle
• 50 mm
• For use with push side standard arm - double egress only
• 2-659-0228 is ALM, 2-659-0229 is DBZ
ACCESSORIES

2-659-0230 | 2-659-0231
Drop Plate
• For use with low ceiling clearance
• 2-659-0230 is ALM, 2-659-0231 is DBZ

2-659-0232 | 2-659-0233
Cover for Single Operator
• 36” length - contact Hager Tech Support for special sizes
• Powder coated
• Anodized aluminum
• 2-659-0232 is ALM, 2-659-0233 is DBZ

2-659-0234 | 2-659-0235
Cover for Dual Operators
• 72” length - contact Hager Tech Support for special sizes or 8423 cover
• Powder coated
• Anodized aluminum
• 2-659-0234 is ALM, 2-659-0235 is DBZ

2-659-0236
Power Supply
• On-board replacement
• Power requirements: 115 VAC 60 Hz
• Output Voltage: 24 VDC 500mA

Note: For additional replacement parts contact Hager Tech Support.
The 8300 Series is Hager’s most versatile low energy power operator. The 8300 was designed for easy installation and programming, along with quiet operations and features that make it an ideal choice for ADA openings.
# 8300 SERIES LOW ENERGY POWER OPERATOR - HOW TO ORDER

## 8300 SERIES

**Model**
- 18 - Single Operator
- 19 - Simultaneous Pair
- 21 - Double Egress Simultaneous Pair

**Arm**
- A - Push
- B - Pull

**Length**
- 36” - Single
- 42” - Single
- 44” - Single
- 48” - Single
- 72” - Double
- 84” - Double
- 88” - Double
- 96” - Double

**Finish**
- ALM - Aluminum
- DBZ - Dark Bronze (arms are BLK)

**Specials are available:**
- BLK
- Wood Grain

*Note: actual size is 3” additional width*
8300 SERIES LOW ENERGY POWER OPERATOR

MODELS
8318  Single Operator
8319  Simultaneous Pair
8321  Double Egress Simultaneous Pair

WARRANTY  Two-year warranty

APPLICATION  • For use on interior and exterior fire-rated outswing or inswing doors

FEATURES
Application Features:
• Non-Handed
• Three Operating Modes (On/Off/Hold Open)
• Designed for doors up to 48” wide (1219 mm) single, 96” wide (2438 mm) double
• Designed for doors up to 350 lbs. (125 Kg)

Operational Functionality:
• Power Open Spring Close
• Microprocessor controlled for ultra-flat reactions

Certification:
• ANSI A156.19 compliant
• Complies with all U.S. and Canadian ADA requirements for low energy operators
• Appropriate door signage included with each operator
• ANSI/UL 325 listed for both United States and Canada
• ADA compliant
• UL/cUL Listed for up to 3-hours
• UL10C Listed for Positive Pressure Rating

ELECTRICAL SPECIFICATIONS
Power Requirements: 115 VAC 60 HZ
Current Draw: 0.4 A to 1.2 A (Max)
Onboard Power Supply: 24 VDC 1 A
Electric Lock Relay Type: Form “C” SPDT
Lock Relay Rating: 5.0A @ 28 VDC
Fused Protection: 3.5A Fuse
## 8300 SERIES LOW ENERGY POWER OPERATOR

### MECHANICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>5” h x 4-1/2”d x Door Opening Width + 3”</td>
</tr>
<tr>
<td>Opening Force</td>
<td>&lt; 15 lbs. - Exceeds all ADA Requirements</td>
</tr>
<tr>
<td>Closing Force</td>
<td>&gt; 8 lbs</td>
</tr>
<tr>
<td>Max Degree of Swing</td>
<td>140° (assisted)</td>
</tr>
<tr>
<td>On/Off/Hold Open Switch</td>
<td>Standard</td>
</tr>
<tr>
<td>On/Off Power Switch</td>
<td>Standard</td>
</tr>
<tr>
<td>Swing Direction</td>
<td>Inswing/Outswing</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-4°F to +131°F</td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>NEMA 3R (IP23) Protection against spray water (i.e. rainstorm)</td>
</tr>
</tbody>
</table>

### OPERATING PARAMETERS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustable Opening/Closing Speeds</td>
<td>Yes, Exceeds all ADA Requirements</td>
</tr>
<tr>
<td>Adjustable Swing Degree</td>
<td>80° to 140°</td>
</tr>
<tr>
<td>Adjustable Latch Check Speed</td>
<td>Yes</td>
</tr>
<tr>
<td>Built-in-Stop</td>
<td>Manual swing to 180° / Power swing to 140°</td>
</tr>
<tr>
<td>Hold Open Time</td>
<td>5 Second Minimum (per ADA) to Continuous</td>
</tr>
<tr>
<td>Fire Alarm Input</td>
<td>FA input shunts swing activations until FACP is manually reset</td>
</tr>
<tr>
<td>Obstruction Stop</td>
<td>Unit will stop cycle if an obstacle is detected in the swing path</td>
</tr>
<tr>
<td>Auto Reverse</td>
<td>If the unit detects an obstacle, the door will travel in the opposite path</td>
</tr>
<tr>
<td>Push to Start (“Push ‘n Go”)</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>* Safety Sensors required</td>
</tr>
</tbody>
</table>

### FINISHES

<table>
<thead>
<tr>
<th>Finish</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALM</td>
<td>Aluminum anodized (standard)</td>
</tr>
<tr>
<td>DBZ</td>
<td>Dark Bronze anodized (ships with Black (BLK) arms)</td>
</tr>
</tbody>
</table>
In this section, you can find the various arms and spindles for the 8300 Series operator.
## 8300 Series Parts & Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0901</td>
<td>8300 - 20MM Replacement Spindle</td>
</tr>
<tr>
<td>2-679-0902</td>
<td>8300 - 35MM Replacement Spindle</td>
</tr>
<tr>
<td>2-679-0903</td>
<td>8300 - 50MM Replacement Spindle</td>
</tr>
<tr>
<td>2-679-0904</td>
<td>8300 - 80MM Replacement Spindle</td>
</tr>
<tr>
<td>2-679-0896</td>
<td>8300 - Standard Arm W/ 35MM Spindle (Push) ALM</td>
</tr>
<tr>
<td>2-679-0897</td>
<td>8300 - Standard Arm W/ 35MM Spindle (Push) BLK</td>
</tr>
<tr>
<td>2-679-0898</td>
<td>8300 - Track Arm W/ 20MM Spindle (Pull) ALM</td>
</tr>
<tr>
<td>2-679-0899</td>
<td>8300 - Track Arm W/ 20MM Spindle (Pull) BLK</td>
</tr>
<tr>
<td>2-679-0900</td>
<td>8300 - DBL Egress Arm W/ 20MM Spindle (Pull) ALM</td>
</tr>
<tr>
<td>2-679-0905</td>
<td>8300 - Standard Arm Extension ALM</td>
</tr>
<tr>
<td>2-679-0906</td>
<td>8300 - Standard Arm Extension BLK</td>
</tr>
<tr>
<td>2-679-0907</td>
<td>8300 - KP EVO Programming Device</td>
</tr>
</tbody>
</table>
Actuators are what allow the “knowing act” of a low energy operator. Hager offers various styles and types of actuators that will appeal to every installation. The typical 4.5” and 6” square or round actuators are available along with Hager’s line of jamb operators. For more unique installations or installations with wheelchair traffic, refer to the low profile actuators that can be activated in a 36” range from ground up.
# LOW ENERGY POWER OPERATOR ACTUATORS - TOUCHLESS ACTUATORS

## MODELS
- 2-659-0303: 6” round with text & handicap logo
- 2-659-0304: 6” round with handicap logo only
- 2-659-0307: 6” round with text only
- 2-659-0305: 4.75” square with text & handicap logo
- 2-659-0306: 4.75” square with handicap logo only
- 2-659-0308: 4.75” square with text only

## WARRANTY
- One-year warranty

## APPLICATION
- For use with ADA low energy power operators
- Employs capacitance technology similar to smart devices to operate low energy doors
- Ideal installations include medical facilities, assisted living facilities, offices, clean rooms, and schools

## FEATURES
- Touchless design reduces the spread of bacteria and germs
- LED illumination increases plate visibility
- Stainless steel faceplate provides durability while also reducing visible deterioration caused by abrasive cleaning agents
- Beveled edges
- Various design options
- Adjustable detection zone
- Audible alert (selectable On/Off)

 Certification: NEMA rated

## SPECIFICATIONS
- **Finish:** US32D with text and/or blue logo
- **Faceplate:** 16 gauge, 304 stainless steel
- **Backplate:** Illuminated Mounting Ring
- **Input:** 30 mA @ 12 to 24 VAC/VDC
- **Operating Temperature:** -20°F to 120°F (-30°C to 49°C)
- **Fasteners:** 6-32 x 3/4” mounting screws
### MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-659-0172</td>
<td>4.5” square with text &amp; handicap logo</td>
</tr>
<tr>
<td>2-659-0173</td>
<td>4.5” square with handicap logo only</td>
</tr>
</tbody>
</table>

### WARRANTY

One-year warranty

### APPLICATION

- For use with ADA low energy power operators
- Ideal installations include medical facilities, assisted living facilities, offices, clean rooms, and schools

### FEATURES

- Hard wired (standard) with wireless option
- Embossed graphics ensures durability
- Stainless steel faceplate provides durability while also reducing visible deterioration caused by abrasive cleaning agents
- Beveled edges

**Note:** for wireless version, must order receiver and transmitter separately

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finish</td>
<td>US32D with text and/or blue logo</td>
</tr>
<tr>
<td>Faceplate</td>
<td>16 gauge, 304 stainless steel</td>
</tr>
<tr>
<td>Backplate</td>
<td>1/8” thick aluminum</td>
</tr>
<tr>
<td>Cherry Switch</td>
<td>Single-pole, 15A/COM/NO/NC contacts</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20° to 120°F (-30° to 49°C)</td>
</tr>
<tr>
<td>Fasteners</td>
<td>6 - 32” x 1” and 8 - 32” x 1” Allen head mounting screws</td>
</tr>
</tbody>
</table>

### OPTIONS

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-659-0174</td>
<td>Surface Mount Box for 4.5” Square Actuator</td>
</tr>
<tr>
<td></td>
<td>- Provides adequate space for wireless transmitters</td>
</tr>
<tr>
<td></td>
<td>- Simplified installation for applications with space limitations</td>
</tr>
<tr>
<td></td>
<td>- Black finish</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-659-0241</td>
<td>Universal Backplate</td>
</tr>
<tr>
<td></td>
<td>- For use when mounting actuator to bollard post</td>
</tr>
<tr>
<td></td>
<td>- Stainless steel finish</td>
</tr>
</tbody>
</table>
### LOW ENERGY POWER OPERATOR ACTUATORS - 6” SQUARE ACTUATOR

#### MODELS
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-659-0169</td>
<td>6” square with text &amp; handicap logo</td>
</tr>
<tr>
<td>2-659-0170</td>
<td>6” square with handicap logo only</td>
</tr>
</tbody>
</table>

#### WARRANTY
- One-year warranty

#### APPLICATION
- For use with ADA low energy power operators
- Ideal installations include medical facilities, assisted living facilities, offices, clean rooms, and schools

#### FEATURES
- Hard wired (standard) with wireless option
- Embossed graphics ensures durability
- Stainless steel faceplate provides durability while also reducing visible deterioration caused by abrasive cleaning agents
- Beveled edges

**Note:** for wireless version, must order receiver and transmitter separately

#### SPECIFICATIONS
- **Finish:** US32D with text and/or blue logo
- **Faceplate:** 16 gauge, 304 stainless steel
- **Backplate:** 1/8” thick aluminum
- **Cherry Switch:** Single-pole, 15A/COM/NO/NC contacts
- **Operating Temperature:** -20°F to 120°F (-30°C to 49°C)
- **Fasteners:** 6-32 x 1” and 8-32 x 1” Allen head mounting screws

#### OPTIONS
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-659-0171</td>
<td>Surface Mount Box for 6” Square Actuator</td>
</tr>
</tbody>
</table>
- Provides adequate space for wireless transmitters
- Simplified installation for applications with space limitations
- Black finish

#### NOTES
- Certification: NEMA rated

---

- **APPLICATION**
  - For use with ADA low energy power operators
  - Ideal installations include medical facilities, assisted living facilities, offices, clean rooms, and schools

- **FEATURES**
  - Hard wired (standard) with wireless option
  - Embossed graphics ensures durability
  - Stainless steel faceplate provides durability while also reducing visible deterioration caused by abrasive cleaning agents
  - Beveled edges

**Note:** for wireless version, must order receiver and transmitter separately

- **SPECIFICATIONS**
  - **Finish:** US32D with text and/or blue logo
  - **Faceplate:** 16 gauge, 304 stainless steel
  - **Backplate:** 1/8” thick aluminum
  - **Cherry Switch:** Single-pole, 15A/COM/NO/NC contacts
  - **Operating Temperature:** -20°F to 120°F (-30°C to 49°C)
  - **Fasteners:** 6-32 x 1” and 8-32 x 1” Allen head mounting screws

- **OPTIONS**
  - **Model:** 2-659-0171
  - Surface Mount Box for 6” Square Actuator
    - Provides adequate space for wireless transmitters
    - Simplified installation for applications with space limitations
    - Black finish

---
# LOW ENERGY POWER OPERATOR ACTUATORS - 4.5” ROUND ACTUATOR

## MODELS
- 2-659-0165 4.5” round with text & handicap logo
- 2-659-0166 4.5” round with handicap logo only

## WARRANTY
- One-year warranty

## APPLICATION
- For use with ADA low energy power operators
- Ideal installations include medical facilities, assisted living facilities, offices, clean rooms, and schools

## FEATURES
- Hard wired (standard) with wireless option
- Embossed graphics ensures durability
- Stainless steel faceplate provides durability while also reducing visible deterioration caused by abrasive cleaning agents
- Beveled edges

**Note:** for wireless version, must order receiver and transmitter separately

Certification: NEMA rated

## SPECIFICATIONS

| Finish: | US32D with text and/or blue logo |
| Faceplate: | 16 gauge, 304 stainless steel |
| Backplate: | 1/8” thick aluminum |
| Cherry Switch: | Single-pole, 15A/COM/NO/NC contacts |
| Operating Temperature: | -20° to 120°F (-30° to 49°C) |
| Fasteners: | 6-32 x 1” and 8-32 x 1” Allen head mounting screws |

## OPTIONS

### 2-659-0167 Surface Mount Box for 4.5” Round Actuator
- **Provides adequate space for wireless transmitters**
- **Simplified installation for applications with space limitations**
- **Black finish**

### 2-659-0168 Weather Ring for 4.5” Round Actuator
- **Provides protection against moisture and weather elements**

### 2-659-0241 Universal Backplate
- **For use when mounting actuator to bollard post**
- **Stainless steel finish**
LOW ENERGY POWER OPERATOR ACTUATORS - 6” ROUND ACTUATOR

MODELS
2-659-0161 6” round with text & handicap logo
2-659-0162 6” round with handicap logo only

WARRANTY
One-year warranty

APPLICATION
• For use with ADA low energy power operators
• Ideal installations include medical facilities, assisted living facilities, offices, clean rooms, and schools

FEATURES
• Hard wired (standard) with wireless option
• Embossed graphics ensures durability
• Stainless steel faceplate provides durability while also reducing visible deterioration caused by abrasive cleaning agents
• Beveled edges

Note: for wireless version, must order receiver and transmitter separately

Certification: NEMA rated

SPECIFICATIONS
Finish: US32D with text and/or blue logo
Faceplate: 16 gauge, 304 stainless steel
Backplate: 1/8” thick aluminum
Cherry Switch: Single-pole, 15A/COM/NO/NC contacts
Operating Temperature: -20° to 120°F (-30° to 49°C)
Fasteners: 6-32 x 1” and 8-32 x 1” Allen head mounting screws

OPTIONS
2-659-0163 Surface Mount Box for 6” Round Actuator
  • Provides adequate space for wireless transmitters
  • Simplified installation for applications with space limitations
  • Black finish

2-659-0164 Weather Ring for 6” Round Actuator
  • Provides protection against moisture and weather elements
LOW ENERGY POWER OPERATOR ACTUATORS - 1.5” x 4.75” JAMB ACTUATOR

MODELS
2-659-0175  Push to Open text and handicap logo
2-659-0176  Handicap logo only

WARRANTY
One-year warranty

FEATURES
• Hard wired (standard) with wireless option
• Embossed graphics ensures durability
• Stainless steel faceplate provides durability while also reducing visible deterioration caused by abrasive cleaning agents
• Beveled edges

Note: for wireless version, must order receiver and transmitter separately

Certification:
• NEMA rated

SPECIFICATIONS
Finish:  US32D with text and/or blue logo
Faceplate: 16 gauge, 304 stainless steel
Backplate: 1/8” thick aluminum
Cherry Switch: Single-pole, 15A/COM/NO/NC contacts
Operating Temperature: -20° to 120°F (-30° to 49°C)
Fasteners: 6-32 x 1” and 8-32 x 1” Allen head mounting screws

OPTIONS
2-659-0177  Surface Mount Box for 1.5” x 4.75” Jamb Actuator
• Provides adequate space for wireless transmitters
• Simplified installation for applications with space limitations
• Black finish
LOW ENERGY POWER OPERATOR ACTUATORS - 36” LOW PROFILE ACTUATOR

**MODELS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-659-0178</td>
<td>Push to Open text and handicap logo - Wireless</td>
</tr>
<tr>
<td>2-659-0179</td>
<td>Push to Open text and handicap logo - Hard wired</td>
</tr>
</tbody>
</table>

**WARRANTY**

One-year warranty

**APPLICATION**

- For use with ADA low energy power operators
- Ideal installations include medical facilities, assisted living facilities, offices, clean rooms, and schools

**FEATURES**

- Mounts to any flat surface
- Embossed graphics ensures durability
- Stainless steel faceplate provides durability while also reducing visible deterioration caused by abrasive cleaning agents
- Weather resistant
- Beveled edges
- 36” x 36” activation area and low profile 1” depth
- Four separate switches to allow activation from any angle
- Exceeds California Building Code, Section 1117B.6

Certification: NEMA Rated

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finish</td>
<td>US32D with text and/or blue logo</td>
</tr>
<tr>
<td>Faceplate</td>
<td>16 gauge, 304 stainless steel</td>
</tr>
<tr>
<td>Backplate</td>
<td>1/8” thick aluminum</td>
</tr>
<tr>
<td>Transmitter Frequencies</td>
<td>433 MHz</td>
</tr>
<tr>
<td>Dimensions</td>
<td>6” (152 mm) W x 36” (990 mm) H x 1 (25 mm) D</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Due to various mounting types, no fasteners are supplied with the actuator</td>
</tr>
</tbody>
</table>
# LOW ENERGY POWER OPERATOR ACTUATORS - 4.75” VESTIBULE ACTUATOR

<table>
<thead>
<tr>
<th>MODEL</th>
<th>2-659-0242 Push to Open text and logo</th>
</tr>
</thead>
<tbody>
<tr>
<td>WARRANTY</td>
<td>One-year warranty</td>
</tr>
</tbody>
</table>
| APPLICATION  | - For use with ADA low energy power operators  
              - Ideal installations include medical facilities, assisted living facilities, offices, clean rooms, and schools |
| FEATURES     | - Hard wired (standard) with wireless option  
              - Embossed graphics ensures durability  
              - 304 grade stainless steel finish - scratch resistant  
              - Interfaces with 2-659-0187 Programmable Relay and Door Sequencer for automatic sequencing applications  
              - Conserves energy and provides entrapment protection  
              - Beveled edges |

## SPECIFICATIONS

- **Finish:** US32D with blue text and logo  
- **Faceplate:** 16 gauge, 304 stainless steel  
- **Base Material:** 1/8” thick aluminum  
- **Cherry Switch:** Single-pole, 15A/COM/NO/NC contacts  
- **Compatible Wireless Frequencies:** 433 MHz  
- **Fasteners:** 6 - 32” x 1”, 8 - 32” x 1” stainless steel  

## OPTIONS

- **2-659-0243** Surface Mount Box for 4.75” Vestibule Actuator  
  - Provides adequate space for wireless transmitters  
  - Simplified installation for applications with space limitations  
  - Black finish

---

85
**LOW ENERGY POWER OPERATOR ACTUATORS - BOLLARD POST**

### MODELS

<table>
<thead>
<tr>
<th>Models</th>
<th>Powder Coat</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-659-0180</td>
<td>Black</td>
</tr>
<tr>
<td>2-659-0181</td>
<td>Bronze Powder</td>
</tr>
<tr>
<td>2-659-0182</td>
<td>Silver Powder</td>
</tr>
</tbody>
</table>

### WARRANTY

One-year warranty

### FEATURES

- For use with Hager’s 4.5” square (2-659-0172 | 2-659-0173) and 4.5” round (2-659-0165 | 2-659-0166) actuators
- Can be mounted on existing or newly poured concrete
- UV resistant plastic cap allows for wireless transmissions

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Material:</th>
<th>Carbon steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Bracket:</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>41.5” H x 6.25” W x 4.25” D (with cap attached)</td>
</tr>
<tr>
<td>Weight:</td>
<td>35 lbs.</td>
</tr>
<tr>
<td>Fasteners:</td>
<td>Screws, expansion anchors, washers and nuts</td>
</tr>
<tr>
<td>Note:</td>
<td>Push plates not included - must order separately</td>
</tr>
</tbody>
</table>
Pedestrian sensors are programmed with the door path and if there is anything within the path that was not mapped, it will stop the door from opening. These are useful on any ADA opening. Typically, assisted living facilities, daycare facilities, healthcare facilities, education institutions, multi-family, commercial structures, and government buildings all have ADA openings.
# PEDESTRIAN PRESENCE SENSORS - OVERHEAD PRESENCE SENSOR

## 2-659-0332
Overhead Presence Sensor

**DESCRIPTION**
Overhead presence sensor designed for pedestrian automatic doors.

**APPLICATIONS**
- Provides protection for pedestrian automatic doors.
- Prevents a closed door from opening and an open door from closing when a pedestrian is in the detection zone

**FEATURES**
- Versatile sensor can be used on single swing, simultaneous pair, dual egress and folding doors when coupled with an interface / lockout device
- Maximum flexibility with separate pattern width, depth and sensitivity for open and closed door states
- Visible LED monitoring indicator
- Active infrared technology and presence detection
- Easy installation and adjustments with optional programming remote

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Mounting Angles:</th>
<th>5°, 10° (5° is default setting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input:</td>
<td>12-24VAC/VDC (50-60HZ VAC)</td>
</tr>
<tr>
<td>Contact Relay:</td>
<td>1A @ 60 VDC/125 VAC</td>
</tr>
<tr>
<td></td>
<td>0.5 - 9s Hold Time</td>
</tr>
<tr>
<td>Temperature:</td>
<td>-22°F - 140°F</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>11.8&quot; (W) x 1.9&quot; (H) x 1.9&quot; (D)</td>
</tr>
<tr>
<td></td>
<td>2-659-0334 - Mounting Kit</td>
</tr>
</tbody>
</table>
PEDESTRIAN PRESENCE SENSORS - ACTIVE INFRARED SAFETY SENSOR

2-659-0335 / 2-659-0336
Active Infrared Safety Sensor

DESCRIPTION
Door mounted

APPLICATIONS
• Low energy swing doors
• Designed to mount at the top of the door to reduce accidental damage

FEATURES
• Detect the presence of a pedestrian, while the door is opening and closing using triangulation
• Each module detection zone can be adjusted independently
• Active Infrared with background suppression allow for infinite presence detection

SPECIFICATIONS
Models:
2-659-0335 - Single module unit
2-659-0336 - Single unit w/ master and slave modules

Power Supply:
12-24 VAC/VDC

Detection Range:
0” - 96” (0’-8’)

Max. Mounting Height:
96” (8’)

Detection Time:
< 50ms

Input Inhibit:
12 – 24 VAC ±10% / 12 – 24 VDC ±10% / Inhibited when voltage is applied

Contact Relay:
1 A @ 30 V (resistive)
0.1 s – 4.5s hold time

LED Indicators
Master:
Red LED = Detection
Green LED = Active Output
Red LED = Detection

Operating Temp:
-30°F - 140°F

Dimensions:
34.5”(L) x 1.95” (W) x 1.89” (H)

Functions
Selection:
Detection mode - NO or NC
Normal mode
Background analysis mode

Individual (2-659-0335) or single w/ slave module (2-659-0336)
Accessories can make any ordinary installation unique. Hager offers different wireless transmitters and receivers that are commonly used in executive installations or other highly automated installations.
• Universally compatible with any type of automatic door application
• Used for wireless activation or sequencing of doors
• Receiver can be programmed with up to 100 transmitters
• Activation of transmitter utilizes a rolling code providing a protected signal

MODELS

2-659-0183
433MHz Receiver

2-659-0184
3-Volt Hard Wireless Transmitter (Hardwired to Hager Actuators)

2-659-0185
9-Volt Wireless Transmitter (Hardwired to Hager Actuators)

2-659-0186
Wireless, One Button Transmitter

FEATURES
• Transmitters can be programmed to multiple receivers
• Optional delay - no delay programming
• Toggle or pulse mode selectable by DIP switch
• Red LED on receiver verifies transmission and delivers troubleshooting assistance
• Red LED on transmitter ensures transmission and battery life
• Wire leads plug into terminals on Hager actuators - 2-659-0184 and 2-659-0185

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>433 MHz</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>12 to 24 VAC/VDC</td>
</tr>
<tr>
<td>Radio Control Type</td>
<td>Digital</td>
</tr>
<tr>
<td>Emitted Radio Power</td>
<td>-28.7dBm (transmitter)</td>
</tr>
<tr>
<td>Number of Transmitters per Receiver</td>
<td>100 maximum transmitters</td>
</tr>
<tr>
<td>LED Functions</td>
<td>Red = Relay Activity</td>
</tr>
<tr>
<td></td>
<td>Blue = Receiver / Transmitter Learn</td>
</tr>
<tr>
<td>Dimensions Receiver</td>
<td>Receiver - 2.75” x 2.125” x 1.0”</td>
</tr>
<tr>
<td></td>
<td>Transmitter - 2.75” x 1.375” x 0.6”</td>
</tr>
<tr>
<td>Certifications</td>
<td>CE, FCC, IC</td>
</tr>
</tbody>
</table>

433 MHz Transmitters and Receiver

2-659-0237
RELAY BOARD
• 24VDC
• Current draw: 40mA
• Contact rating: 5amp/220 VAC or 28VDC DPDT contacts
### FUNCTIONS

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SUBJECT</th>
<th>MOST COMMON APPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Simple Timer</td>
<td>Time delay relay</td>
</tr>
<tr>
<td>11</td>
<td>Ratchet / Latching</td>
<td>Push to open / Push to close</td>
</tr>
<tr>
<td>22</td>
<td>2 relay Sequence Inhibitor with Door Position Input</td>
<td>Automatic swing door with push plate, approach side SuperScan and Electric Strike. SuperScan is inhibited when door is closed.</td>
</tr>
<tr>
<td>28</td>
<td>2 Relay Sequence with Door Position Input</td>
<td>Automatic swing door with a push plate and electric locking devices with a door position switch to prevent the delay from running during a recycle</td>
</tr>
<tr>
<td>29</td>
<td>Relay 1 Deactivation Timer</td>
<td>Automatic swing door or sliding door with an electric locking device and door position switch to prevent lock from reengaging before door closes completely</td>
</tr>
<tr>
<td>36</td>
<td>3-Relay Sequencer + “1-shot”</td>
<td>Sequence of relay 1, relay 2, and relay 3 via trigger of input 1 or WET input relay 1, relay 2, and relay 3 can be maintained or “1-shot”</td>
</tr>
<tr>
<td>37</td>
<td>3-Relay Sequencer with “Independent Relay”</td>
<td>Sequence of relay 1, relay 2, and relay 3 via trigger of input 1 or WET input relay 1, relay 2, and relay 3 can be “independent” or sequenced.</td>
</tr>
<tr>
<td>50</td>
<td>Interlock Timer with Door Position Inputs</td>
<td>Interlock module that will only allow one door to open at a time and can be used with any automatic or manual door</td>
</tr>
<tr>
<td>55</td>
<td>Interlock Ratchet with Door Position Inputs</td>
<td>Interlock module that will only allow one door to open at a time with a ratchet / latching function and can be used with any automatic or manual door</td>
</tr>
<tr>
<td>65</td>
<td>2-Way, 2 Relay Sequence</td>
<td>Two door vestibule sequencing with automatic swing doors traveling in either direction</td>
</tr>
<tr>
<td>nL</td>
<td>Normally Locked Restroom</td>
<td>Sequence of relay 1 (lock), relay 2 (door), and relay 3 (occupied indicators) for normally locked, single occupancy restrooms</td>
</tr>
</tbody>
</table>

### FUNCTIONS (continued)

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SUBJECT</th>
<th>MOST COMMON APPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>nU</td>
<td>Normally Unlocked Restroom</td>
<td>Sequence of relay 1 (lock), relay 2 (door), and relay 3 (occupied indicators) for normally unlocked, single occupancy restrooms</td>
</tr>
<tr>
<td>dn</td>
<td>3-Relay Sequencer + “Day/Night Mode”</td>
<td>Sequence of relay 1, relay 2, and relay 3 via trigger of input 1 or WET input, input 2 operation dependent upon input 4 (“day/night mode”)</td>
</tr>
<tr>
<td>00</td>
<td>Disable (default)</td>
<td>2-659-0240 disabled; 00 is the default setting and has no assigned function</td>
</tr>
</tbody>
</table>

### SPECIFICATIONS

- **Supply Voltage**: 12 to 24 VAC / DC
- **Power Consumption**: 30 to 130 mA; DRY Output
- **Temperature Range**: -15° to 150°F
- **Dimensions**: 5.2” x 2.2” x 1.0”
- **Housing Material**: Clear ABS Plastic
- **Input Specification**: 1 to 4; DRY Contact
- **WET Input**: 5 to 24 VAC / DC
- **Contact Rating DRY**:
  - Relay #1: 3A @24VAC / 30VDC
  - Relay #2: 3A @24VAC / 30VDC
  - Relay #3: 1A @24VAC / 30VDC
- **Contact Rating WET**:
  - Relay #1: 1A

Note: Functions 10, 11, 50, 55, 65, nL, and nU are NOT compatible with the WET input.
At Hager Companies, we know all about the importance of adding the finishing touches to your building projects. That’s why we’re proud to offer more than 200 different trim & auxiliary door hardware products in a variety of designs, sizes, and finishes that not only look great, but also provide long-lasting wear in any application. Whatever you need, from pulls to push plates, protection plates to door edgings, wall and floor stops to flush bolts, coordinators, signage, and much more - Hager trim & auxiliary products give you great looks and proven durability.

Table of Contents

General Information ............................................................. 2
Pulls...................................................................................  5
Flush Cap Pulls ................................................................. 22
Pull Plates........................................................................  26
Push Plates .....................................................................  28
Push Bars .......................................................................  32
Push & Pull Bar Sets......................................................... 35
Door Edgings & Corner Guards .......................................... 40
Door Protection Plates........................................................ 42
Wall Stops & Holders......................................................... 43
Roller Stops .................................................................... 48
Floor Stops & Holders....................................................... 49
Kick Down Door Stops...................................................... 56
Surface Bolts ................................................................. 57
Flush Bolts & Coordinating Devices ................................. 58
Latches & Protection Plates............................................... 65
Coat Hooks ................................................................... 69
Pulls - Closet/Pocket/Sliding Door .................................... 71
Filler Plates .................................................................... 74
Signage .......................................................................... 76
Miscellaneous ............................................................... 81
Residential ..................................................................... 85
MANUFACTURING OPTIONS
Hager Companies can deliver custom door pulls made to your specifications, or choose from our collection of pull designs. Hager’s comprehensive selection of door pull hardware includes standard push/pull bars or multiple push bar combinations with center-to-centers made to order.

PUSH/PULL PLATE DETAILS
Standard Grip Positions
Pulls are centered vertically or lowered when necessary to meet minimum top spacing requirement. Be certain the pull selected will fit on specified plate under these conditions.

Special Pull Positions
Where pairs of doors are involved and active leaf pull plate is lettered or has a cutout, order pull plate for inactive leaf Grip To Align (WOC). This will ensure horizontal alignment of pull on both plates. Always furnish complete details when ordering non-standard pull positions.

PULL PLATES UP TO 4" WIDE

PULL PLATES OVER 4" WIDE
(HANDING REQUIRED WITH CUTOUTS)

Cut Outs
Standard cutout sizes: Cut for Cylinder (CFC) – 1 1/4" (32 mm) diameter; Cut for Thumbturn (CFT) – 3/8" (10 mm) diameter.

All plates may be ordered with cutout option by adding the appropriate suffix (i.e., 30S-CFC).

Standard cutouts are positioned 2" (51 mm) from top of plate where this option has been ordered. Cutouts are centered on plates up to 4" (102 mm) wide or 2" (51 mm) from edge of plates over 4" (102 mm) wide. The latter are handed with cutouts. Furnish hand of door when ordering. Provide complete details for all non-standard cutouts.

Flush Back Mounting
Pull plates using #3, 4, or 10 pull types can be furnished with a flush back (no projections). Specify code FB, (i.e., 33E-FB). Note: Use thru bolts supplied with mountings for best security.

Back To Back Mounting
Many pulls may be ordered back to back (BTB) and availability will be noted on each particular product page (refer to product page). Specify the correct part number and center-to-center unless already specified.

Handicap Option
Pulls that must meet the 2-1/2" (64 mm) clearance for ADA requirements are available. Must specify part number with prefix “H” (i.e., H2E). Please refer to each individual part number for availability.

Engraving
Typical engraved lettering is in Helvetica style and colored black. On push or pull plates, standard position is horizontal on a line 2" (51 mm) from top of plate.
Fasteners
Illustrated below are various types of fasteners that can be furnished by Hager Companies. Please specify type of fastening desired. All types of fastening cannot be used with all items of hardware. If specified method is not possible, we reserve the right to furnish whatever type we feel is best suited for the installation. When used with tempered glass doors, specify thickness of glass and hole diameter. Fasteners are standard for 1-3/4” doors. Other door thicknesses are optional.

**Sex bolt and machine screws**
(Various sizes)

**Lead anchor**
(Used with floor stops in masonry applications)

**Plastic anchor and full threaded screw**
(Used in drywall or masonry applications)

**Lag screw and shield**

**Toggle bolt**
(Ideal for drywall applications)

**Plastic toggle anchor**
(Used with wall stops in drywall applications)

**Thru-bolt and finish washer**
(Flat or oval head; size as required)

**Spanner head machine screws**
(Various sizes furnished at extra charge)

**Security torx head machine screws**
(Various sizes furnished at extra charge)
### GENERAL INFORMATION

#### METAL FINISH SYMBOLS

<table>
<thead>
<tr>
<th>US &amp; Hager</th>
<th>Description</th>
<th>Base Material</th>
<th>BHMA Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>2C</td>
<td>Zinc Plated Steel</td>
<td>Steel</td>
<td>603</td>
</tr>
<tr>
<td>3</td>
<td>Bright Brass</td>
<td>Brass</td>
<td>605</td>
</tr>
<tr>
<td>4</td>
<td>Satin Brass</td>
<td>Brass</td>
<td>606</td>
</tr>
<tr>
<td>5</td>
<td>Satin Brass, Oxidized</td>
<td>Brass/Bronze</td>
<td>609</td>
</tr>
<tr>
<td>9</td>
<td>Bright Bronze</td>
<td>Brass/Bronze</td>
<td>611</td>
</tr>
<tr>
<td>10</td>
<td>Satin Bronze</td>
<td>Brass/Bronze</td>
<td>612</td>
</tr>
<tr>
<td>10B</td>
<td>Antique Bronze, Oiled</td>
<td>Brass/Bronze</td>
<td>613</td>
</tr>
<tr>
<td>10R</td>
<td>Matte Lacquer Antique Bronze</td>
<td>Brass/Bronze</td>
<td>-</td>
</tr>
<tr>
<td>15</td>
<td>Satin Nickel</td>
<td>Brass/Bronze</td>
<td>619</td>
</tr>
<tr>
<td>15A</td>
<td>Satin Nickel Oxidized</td>
<td>Brass/Bronze</td>
<td>620</td>
</tr>
<tr>
<td>19</td>
<td>Flat Black Coated</td>
<td>Brass</td>
<td>622</td>
</tr>
<tr>
<td>26</td>
<td>Bright Chromium Plated</td>
<td>Brass/Bronze</td>
<td>625</td>
</tr>
<tr>
<td>26D</td>
<td>Satin Chromium Plated</td>
<td>Brass/Bronze</td>
<td>626</td>
</tr>
<tr>
<td>28</td>
<td>Satin Anodized Aluminum</td>
<td>Aluminum</td>
<td>628</td>
</tr>
<tr>
<td>32</td>
<td>Stainless Steel Metal, Bright</td>
<td>300 Series</td>
<td>629</td>
</tr>
<tr>
<td>32D</td>
<td>Stainless Steel Metal, Satin</td>
<td>300 Series</td>
<td>630</td>
</tr>
<tr>
<td>L2</td>
<td>Duro</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PC</td>
<td>Clear Plastic</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PK</td>
<td>Plastic Laminate - Black</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CO</td>
<td>Plastic Laminate - Chocolate</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PG</td>
<td>Plastic Laminate - Grey</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S1</td>
<td>Sprayed Aluminum</td>
<td>Cast Iron</td>
<td>-</td>
</tr>
<tr>
<td>S2</td>
<td>Sprayed Brass</td>
<td>Cast Iron</td>
<td>-</td>
</tr>
<tr>
<td>S3</td>
<td>Sprayed Bronze</td>
<td>Cast Iron</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: For any finish not listed in this catalog, or explained above, availability on request.

#### ANTIMICROBIAL PROTECTION

Hager Companies’ full line of US32D stainless steel door pulls, push bars, push plates, and pull plates are available with AgION antimicrobial protection.

Hager uses a powder coat process to apply the antimicrobial treated coating to guarantee durability and protection. Antimicrobial resistance on products is affected by moisture in the air. Silver ions interact with humidity and are released creating a cleaner surface. The suppression of bacteria, mold and fungi is as easy as adding antimicrobial treated coating to your Hager products.

**Antimicrobial Vital Stats**
- US32D stainless steel
- EPA registered
- NSF approved
- FDA listed for food contact
- Designate your product with: MV3 for Trim & Auxiliary
1 Modified Half Round Wrought Door Pull
Certification: Meets ANSI A156.6 for J401 Pulls
Base: 1/2" x 1" (13 mm x 25 mm)
Projection: 2" (51 mm)
Clearance: 1-1/2" (38 mm)
Door Thickness: 1-3/4" (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 x 2-1/4" FPHMS with finish washers
Handicap: • 2-1/2" (64 mm) clearance available on special orders
• Add prefix "H" to number (i.e., H1E)
Options: • May be combined with a plate to make a pull plate
• Other centers on special order
Notes: • For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
• Not suitable for back to back mounting

2 Rectangular Wrought Door Pull
Certification: Meets ANSI A156.6 for J401 Pulls
Base: 3/8" x 1-1/4" (10 mm x 32 mm)
Projection: 2" (51 mm)
Clearance: 1-5/8" (41 mm)
Door Thickness: 1-3/4" (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 x 2-1/4" FPHMS with finish washers
Handicap: • 2-1/2" (64 mm) clearance available on special orders
• Add prefix "H" to number (i.e., H2E)
Options: • May be combined with a plate to make a pull plate
• Other centers on special order
Notes: • For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
• Not suitable for back to back mounting

3 Round Wrought Door Pull
Certification: Meets ANSI A156.6 for J401 Pulls
Base Diameter: 3/4" (19 mm)
Projection: 2-1/4" (57 mm)
Clearance: 1-1/2" (38 mm)
Door Thickness: 1-3/4" (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 x 2-1/4" FPHMS with finish washers
Handicap: • 2-1/2" (64 mm) clearance available on special orders
• Add prefix "H" to number (i.e., H3E)
Notes: • For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
• May be combined with a plate to make a pull plate
• Other centers on special order
• If ordered with tempered glass, specify glass thickness and hole size
• Back to back - see model 13
4

Round Wrought Door Pull
Certification: Meets ANSI A156.6 for J401 Pulls
Base Diameter: 1” (25 mm)
Projection: 2-3/4” (70 mm)
Clearance: 1-3/4” (45 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 x 2-1/4” FPHMS with finish washers
Handicap: • 2-1/2” (64 mm) clearance available on special orders
          • Add prefix "H" to number (i.e., H4E)
Notes: • For sizes or finishes not listed in this catalog, contact Hager Customer Service
       • May be combined with a plate to make a pull plate
       • Other centers on special order
       • If ordered with tempered glass, specify glass thickness and hole size
       • Back to back - see model 13

P4E
Security Pull
Certification: Meets ANSI A156.6 for J401 Pulls
Base: 1” (25 mm) diameter
Projection: 2-1/4” (57 mm)
Clearance: 1-1/4” (32 mm)
CTC Length: 6” (152 mm)
Material: Stainless steel
Finish: US32D
Fasteners: Two (2) 3/8-16 x 1-1/4” "NYLOC" hex head cap screws
Notes: • For metal doors
       • Requires reinforcing plate with an access plate and Torx screws for door edge

T4E
Security Pull
Certification: Meets ANSI A156.6 for J401 Pulls
Base: 1” (25 mm) diameter
Projection: 2-1/4” (57 mm)
Clearance: 1-1/4” (32 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
CTC Length: 6” (152 mm)
Material: Stainless steel
Finish: US32D
Fasteners: Two (2) 1/4-20 x 2-1/4” FTXMS with finish washers

<table>
<thead>
<tr>
<th>CTC Length</th>
<th>4G</th>
<th>4H</th>
<th>4J</th>
<th>4L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Millimeters</td>
<td>203</td>
<td>229</td>
<td>254</td>
<td>305</td>
</tr>
</tbody>
</table>
5D
Round Wrought Door Pull
Certification: Meets ANSI A156.6 for J401 Pulls
Base Diameter: 5/8” (16 mm)
Projection: 2-1/8” (54 mm)
Clearance: 1-1/2” (38 mm)
CTC Length: 5-1/2” (140 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 x 2-1/4” FPHMS with finish washers
Handicap: 2-1/2” (64 mm) clearance available on special orders
Add prefix “H” to number (i.e., H5D)
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
May be combined with a plate to make a pull plate
If ordered with tempered glass, specify glass thickness and hole size
Not suitable for back to back mounting

5N
Cast Pull
Certification: Meets ANSI A156.6 for J401 Pulls
O/A Height: 6-1/8” (156 mm)
Base: 5/8” x 1-3/16” (16 mm x 30 mm)
Projection: 2” (51 mm)
Clearance: 1-1/2” (38 mm)
CTC Length: 5-1/2” (140 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 x 2-1/4” FPHMS with finish washers
Options: May be combined with a plate to make a pull plate
Notes: Not suitable for back to back mounting

6N
Cast Pull
Certification: Meets ANSI A156.6 for J401 Pulls
O/A Height: 6-1/2” (165 mm)
Base Diameter: 1” (25 mm)
Projection: 1-7/8” (48 mm)
Clearance: 1-3/8” (35 mm)
CTC Length: 5-1/2” (140 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 x 2-1/4” FPHMS with finish washers
Options: May be combined with a plate to make a pull plate
Notes: Not suitable for back to back mounting
7N
Cast Pull
Certification: Meets ANSI A156.6 for J401 Pulls
O/A Height: 7-1/2” (190 mm)
Base Diameter: 2” (51 mm)
Projection: 1-7/8” (48 mm)
Clearance: 1-3/8” (35 mm)
CTC Length: 5-1/2” (140 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze
Fasteners: Two (2) 1/4-20 x 2-1/4” FPHMS with finish washers
Options: May be combined with a plate to make a pull plate
Notes: Not suitable for back to back mounting

8N
Cast Pull
Certification: Meets ANSI A156.6 for J401 Pulls
O/A Height: 7-1/2” (190 mm)
Base Diameter: 2” (51 mm)
Projection: 1-7/8” (48 mm)
Clearance: 1-3/8” (35 mm)
CTC Length: 5-1/2” (140 mm)
Materials: Aluminum, brass, bronze
Fasteners: Six (6) #8 x 1” OPHWS
Notes: Not suitable for back to back mounting

P8N
Cast Pull
Certification: Meets ANSI A156.6 for J401 Pulls
O/A Height: 8 - 3/4” (222 mm)
Base: 1-1/2” x 1-5/8” (38 mm x 41 mm)
Projection: 2-1/4” (57 mm)
Clearance: 1-9/16” (40 mm)
CTC Length: 7-3/4” (197 mm)
Materials: Brass
Finishes: US4, US26D
Fasteners: Two (2) 3/8-16 x 3/4” FPHMS
Options: Security Torx screws available
Notes: Not suitable for back to back mounting
9

**Oval Wrought Door Pull**

Certification: Meets ANSI A156.6 for J401 Pulls  
Base: 1/2” x 3/4” (13 mm x 19 mm)  
Projection: 2” (51 mm)  
Clearance: 1-1/2” (38 mm)  
Door Thickness: 1-3/4” (45 mm) - Standard  
Materials: Brass, bronze, stainless steel  
Fasteners: Two (2) 1/4-20 x 2-1/4” FPHMS with finish washers  
Handicap: 2-1/2” (64 mm) clearance available on special orders  
Options: May be combined with a plate to make a pull plate  
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability  

<table>
<thead>
<tr>
<th>CTC Length</th>
<th>9E</th>
<th>9G</th>
<th>9J</th>
<th>9L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Millimeters</td>
<td>152</td>
<td>203</td>
<td>254</td>
<td>305</td>
</tr>
</tbody>
</table>

10

**Round Pull**

Certification: Meets ANSI A156.6 for J401 Pulls  
Base Diameter: 1-1/4” (32 mm)  
Projection: 3” (76 mm)  
Clearance: 1-3/4” (45 mm)  
Door Thickness: 1-3/4” (45 mm) - Standard  
Materials: Aluminum, brass, bronze, stainless steel  
Fasteners: Two (2) 5/16-18 FPHMS with finish washers  
Handicap: 2-1/2” (64 mm) clearance available on special orders  
Options: May be combined with a plate to make a pull plate  
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability  

<table>
<thead>
<tr>
<th>CTC Length</th>
<th>10L</th>
<th>10Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Millimeters</td>
<td>305</td>
<td>457</td>
</tr>
</tbody>
</table>

11

**Round Offset Pull**

Certification: Meets ANSI A156.6 for J402 Pulls  
Base Diameter: 3/4” (19 mm)  
Projection: 2-1/2” (64 mm)  
Offset: 2-1/2” (64 mm); 90° Standard  
Clearance: 1-3/4” (45 mm)  
Door Thickness: 1-3/4” (45 mm) - Standard  
Materials: Aluminum, brass, bronze, stainless steel  
Fasteners: Two (2) 5/16-18 x 2-1/4” FPHMS with finish washers  
Handicap: 2-1/2” (64 mm) clearance available on special orders  
Options: May be combined with a plate to make a pull plate  
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability  

<table>
<thead>
<tr>
<th>CTC Length</th>
<th>11E</th>
<th>11G</th>
<th>11J</th>
<th>11L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Millimeters</td>
<td>152</td>
<td>203</td>
<td>254</td>
<td>305</td>
</tr>
</tbody>
</table>
12
Round Offset Pull

Certification: Meets ANSI A156.6 for J402 Pulls
Base Diameter: 1” (25 mm)
Projection: 2-3/4” (70 mm)
Offset: 3” (76 mm); 90° Standard
Clearance: 1-3/4” (45 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 5/16-18 x 2-1/4” FPHMS with finish washers
Handicap: • 2-1/2” (64 mm) clearance available on special orders
  • Add prefix "H" to number (i.e., H12G)
Options: • For 45° offset, add prefix "X" to number (i.e., X12G)
  • Other centers available on special orders
  • If ordered with tempered glass, specify glass thickness and hole size
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

<table>
<thead>
<tr>
<th>CTC Length</th>
<th>12G</th>
<th>12J</th>
<th>12L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Millimeters</td>
<td>203</td>
<td>254</td>
<td>305</td>
</tr>
</tbody>
</table>

13
Round Wrought Door Push/Pull Set

Certification: Meets ANSI A156.6 for J401 Pulls
Base Diameter: 3/4” (19 mm)
Projection: 2-1/4” (57 mm)
Clearance: 1-1/2” (38 mm)
Door Thickness: 1-3/4” (45 mm) - 2-1/8” (54 mm) Standard
Materials: Aluminum, brass, bronze, stainless steel
Notes: • Type 7 mounting - Standard
  • Consists of two (2) pulls back to back
  • For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
  • Supplied with two (2) 1/4” dia. threaded studs, spanner collar, and spanner wrench

<table>
<thead>
<tr>
<th>CTC Length</th>
<th>13E</th>
<th>13G</th>
<th>13J</th>
<th>13L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Millimeters</td>
<td>152</td>
<td>203</td>
<td>254</td>
<td>305</td>
</tr>
</tbody>
</table>

14
Round Wrought Door Push/Pull Set

Certification: Meets ANSI A156.6 for J401 Pulls
Base Diameter: 1” (25 mm)
Projection: 2-3/4” (70 mm)
Clearance: 1-3/4” (45 mm)
Door Thickness: 1-3/4” (45 mm) - 2-1/8” (54 mm) Standard
Materials: Aluminum, brass, bronze, stainless steel
Notes: • Type 7 mounting - Standard
  • Consists of two (2) pulls back to back
  • For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
  • Supplied with two (2) 1/4” dia. threaded studs, spanner collar, and spanner wrench

<table>
<thead>
<tr>
<th>CTC Length</th>
<th>14G</th>
<th>14H</th>
<th>14J</th>
<th>14L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Millimeters</td>
<td>203</td>
<td>229</td>
<td>254</td>
<td>305</td>
</tr>
</tbody>
</table>
19N
Cast Pull
Certification: Meets ANSI A156.6 for J401 Pulls
O/A Height: 9” (229 mm)
Base Diameter: 1-1/2” (38 mm)
Projection: 3-1/8” (79 mm)
CTC Length: 6-3/16” (132 mm)
Materials: Brass
Fasteners: Four (4) #8 x 1” OPHWS
Notes: Suitable for back to back mounting with sex nuts by special quotation
Clearance: 1-11/16” (43 mm)

20
Round Push/Pull Set
Certification: Meets ANSI A156.6 for J401 Pulls
Base Diameter: 1-1/4” (32 mm)
Projection: 3” (76 mm)
Clearance: 1-3/4” (45 mm)
Door Thickness: 1-3/4” (45 mm) - 2-1/8” (54 mm) Standard
Materials: Brass, bronze, stainless steel
Notes: • Type 7 mounting - Standard
• Consists of two (2) pulls back to back
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
• Supplied with two (2) 5/16” dia. threaded studs, spanner collar, and spanner wrench

20N
Cast Pull
Certification: Meets ANSI A156.6 for J401 Pulls
O/A Height: 9” (229 mm)
Base Diameter: 1-1/2” (38 mm)
Projection: 3-1/8” (79 mm)
CTC Length: 5 1/4” (133.3 mm)
Door Thickness: 1-3/4” - Standard
Material: Brass
Fasteners: Two (2) 1/4 - 20 x 2-3/16” undercut FPHMS with finish washers
Clearance: 1-11/16” (43 mm)

21
Round Offset Push/Pull Set
Certification: Meets ANSI A156.6 for J402 Pulls
Base Diameter: 3/4” (19 mm)
Projection: 2-1/2” (64 mm)
Clearance: 1-3/4” (45 mm)
Offset: 2-1/2” (64); 90° - Standard
Door Thickness: 1-3/4” (45 mm) - 2-1/8” (54 mm) Standard
Materials: Aluminum, brass, bronze, stainless steel
Notes: • Type 7 mounting - Standard
• Consists of two (2) pulls back to back
• Available with 45 degree offset
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
• Supplied with two (2) 1/4” dia. threaded studs, spanner collar, and spanner wrench
**22**  
**Round Offset Push/Pull Set**  
Certification: Meets ANSI A156.6 for J402 Pulls  
Base Diameter: 1” (25 mm)  
Projection: 2-3/4” (70 mm)  
Clearance: 1-3/4” (45 mm)  
Door Thickness: 1-3/4” (45 mm) - 2-1/18” (54 mm) Standard  
Offset: 3” (76 mm); 90° standard  
Materials: Aluminum, brass, bronze, stainless steel  
Notes:  
- Type 7 mounting - Standard  
- Consists of two (2) pulls back to back  
- Available with 45 degree offset  
- For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability  
- Supplied with two (2) 1/4” dia. threaded studs, spanner collar, and spanner wrench

<table>
<thead>
<tr>
<th>CTC Length</th>
<th>22G</th>
<th>22J</th>
<th>22L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Millimeters</td>
<td>203</td>
<td>254</td>
<td>305</td>
</tr>
</tbody>
</table>

**23Q**  
**Round Offset Pull**  
Certification: Meets ANSI A156.6 for J402 Offset Pulls  
Base Diameter: 1-1/4” (32 mm)  
Projection: 3” (76 mm)  
Clearance: 1-3/4” (45 mm)  
Offset: 3-3/4” (96 mm); 90° Standard  
Door Thickness: 1-3/4” (45 mm) - Standard  
CTC Length: 18” (457 mm)  
Materials: Aluminum, brass, bronze, stainless steel  
Fasteners: 5/16-18 x 2-1/4” FPHMS with finish washers  
Handicap:  
- 2-1/2” (64 mm) clearance available on special orders  
- Add prefix “H” to number (i.e., H23Q)  
Options: For 45° offset, substitute “X” for first digit (i.e., X23Q)  
Notes:  
- If ordered with tempered glass, specify glass thickness and hole size  
- For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

**24Q**  
**Round Offset Push/Pull Set**  
Certification: Meets ANSI A156.6 for J402 Offset Pulls  
Base Diameter: 1-1/4” (32 mm)  
Projection: 3” (76 mm)  
Clearance: 1-3/4” (45 mm)  
Offset: 3-3/4” (95 mm); 90° standard  
Door Thickness: 1-3/4” (45 mm) - 2-1/18” (54 mm) Standard  
CTC Length: 18” (457 mm)  
Materials: Aluminum, brass, bronze, stainless steel  
Notes:  
- Type 7 mounting - Standard  
- Consists of two (2) pulls back to back  
- Available with 45 degree offset  
- For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability  
- Supplied with two (2) 5/16” dia. threaded studs, spanner collar, and spanner wrench
**910P | 910B**  
**Offset Mounting Vertical Pull**

- **Pull Diameter:** 1-1/4” (32 mm)
- **O/A Length:** 36” (914 mm), 72” (1829 mm)
- **CTC Lengths:** 20” (508 mm), 56” (1422 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel tubing
- **Fasteners:** Two (2) 3/8-16 FPHMS with finish washers
- **Notes:**
  - 910B is same as 910P with fasteners for back to back mounting
  - For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
- **Clearance:** 1-1/2” (38 mm)
- **Projection:** 2-3/4” (70 mm)
- **Offset:** 1-5/8” (41 mm)

---

**915P | 915B**  
**Straight Mounting Vertical Pull**

- **Pull Diameter:** 1-1/4” (32 mm)
- **O/A Length:** 36” (914 mm), 72” (1829 mm)
- **CTC Lengths:** 20” (508 mm), 56” (1422 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel tubing
- **Fasteners:** Two (2) 3/8-16 FPHMS w/ finish washers
- **Notes:**
  - 915B is same as 915P with fasteners for back to back mounting
  - For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
- **36” and 20”**
  - **Clearance:** 2” (51 mm)
  - **Projection:** 3-1/4” (83 mm)
- **72” and 56”**
  - **Clearance:** 1-1/2” (38 mm)
  - **Projection:** 2-3/4” (70 mm)
920P | 920B
C-Shaped Pull
Base Diameter: 1” (25 mm)
Clearance: 1-3/4” (45 mm)
Projection: 2-1/4” (57 mm)
CTC Length: 8-1/2” (217 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes: • 920B is pair of 920P with fasteners for back to back mounting
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

921P | 921B
C-Shaped Pull
Clearance: 1-1/2” (38 mm)
Offset: 8-1/2” (216 mm)
Projection: 2-1/8” (54 mm)
CTC Length: 17-1/2” (446 mm)
Materials: Brass, bronze, stainless steel
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes: • 921B is pair of 921P with fasteners for back to back mounting
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

922P | 922B
C-Shaped Pull - Continuous
Pull Diameter: 1” (25 mm)
Projection: 2-1/2” (64 mm)
CTC Lengths: 10” (254 mm), 12” (305 mm)
Clearance: 1-1/2” (38 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes: • 922B is pair of 922P with fasteners for back to back mounting
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

923P | 923B
C-Shaped Pull - Flanged
Pull Diameter: 1” (25 mm)
Projection: 2-3/4” (70 mm)
CTC Lengths: 10” (254 mm), 12” (305 mm)
Clearance: 1-3/4” (44 mm)
Base Diameter: 3/4” (19 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes: • 923B is pair of 923P with fasteners for back to back mounting
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
### 924P | 924B
#### C-Shaped Pull
- **Projection:** 2-1/2” (64 mm)
- **CTC Length:** 14” (356 mm)
- **Clearance:** 1-1/2” (38 mm)
- **Offset:** 6-1/2” (165 mm)
- **Materials:** Brass, bronze, stainless steel
- **Fasteners:** Two (2) 3/8-16 FPHMS with finish washers
- **Notes:**
  - 924B is pair of 924P with fasteners for back to back mounting
  - For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

### 925P | 925B
#### C-Shaped Pull
- **Pull Diameter:** 1-1/4” (32 mm)
- **CTC Lengths:** 6-1/2” (165 mm), 8-1/2” (217 mm), 12-1/2” (318 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Two (2) 3/8-16 FPHMS with finish washers
- **Notes:**
  - 925B is pair of 925P with fasteners for back to back mounting
  - For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

### 926P | 926B
#### Curved Pull
- **Base Diameter:** 1-1/4” (32 mm)
- **Projection:** 3” (76 mm)
- **Clearance:** 1-13/16” (46 mm)
- **Offset:** 5-9/32” (134 mm)
- **Pull Diameter:** 1-3/16” (30 mm)
- **CTC Length:** 12” (305 mm)
- **Materials:** Brass, bronze
- **Finishes:** US3, US4, US10, US10B
- **Fasteners:** Two (2) 3/8-16 FPHMS with finish washers
- **Notes:**
  - 926B is pair of 926P with fasteners for back to back mounting
  - For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

### 930P | 930B
#### 90º Pull
- **Projection:** 3” (76 mm)
- **Clearance:** 1-3/4” (45 mm)
- **CTC Lengths:** 14-5/32” - 16-31/32” (360 mm - 431 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Two (2) 3/8-16 FPHMS with finish washers
- **Notes:**
  - 930B is pair of 930P with fasteners for back to back mounting
  - For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
**932P | 932B**  
*S-Shaped Pull*

- **Projection:** 3” (76 mm)
- **Clearance:** 2” (51 mm)
- **Pull Diameter:** 1” (25 mm)
- **Fasteners:** Two (2) 3/8-16 FPHMS w/ finish washers
- **CTC Length:** 30” (762 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Notes:**
  - 932B is pair of 932P with fasteners for back to back mounting
  - Specify handing when ordering
  - For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

**933P | 933B**  
*Colonial Style Pull*

- **Projection:** 2-3/16” (56 mm)
- **Clearance:** 1-3/16” (30 mm)
- **Pull Diameter:** 1” (25 mm)
- **Base Diameter:** 15/16” (24 mm)
- **CTC Length:** 6” (152 mm)
- **Materials:** Brass and bronze
- **Finishes:** US3, US4, US10B, US26
- **Fasteners:** Two (2) 3/8-16 FPHMS with finish washers
- **Notes:** 933B is pair of 933P with fasteners for back to back mounting

**934P | 934B**  
*Offset Pull*

- **Projection:** 3-1/8” (80 mm)
- **Clearance:** 1-7/8” (48 mm)
- **Pull Diameter:** 1-1/4” (32 mm)
- **Base Diameter:** 1” (25 mm)
- **CTC Lengths:** 12” (305 mm), 16” (406 mm), 18” (457 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Two (2) 3/8-16 FPHMS with finish washers
- **Notes:** 934B is pair of 934P with fasteners for back to back mounting

**960P | 960B**  
*Square Tip Pull*

- **O/A Height:** 16” (406 mm)
- **Base Diameter:** 1-1/4” (32 mm)
- **Pull Diameter:** 1” (25 mm)
- **Clearance:** 1-3/4” (45 mm)
- **Projection:** 3-1/4” (83 mm)
- **CTC Length:** 12” (305 mm)
- **Materials:** Brass, bronze
- **Fasteners:** Two (2) 3/8-16 FPHMS w/ finish washers
- **Notes:**
  - 960B is pair of 960P with fasteners for back to back mounting
  - For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
961P | 961B
Steeple Tip Pull
O/A Height: 16-5/16” (414 mm)
Base Diameter: 2” (51 mm)
Pull Diameter: 1” (25 mm)
Clearance: 1-3/4” (45 mm)
Projection: 3” (76 mm)
CTC Length: 12” (305 mm)
Materials: Brass, bronze
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes:  
• 961B is pair of 961P with fasteners for back to back mounting  
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

962P
Acorn Tip Pull
O/A Height: 16-5/16” (414 mm)
Base Diameter: 2” (51 mm)
Pull Diameter: 1” (25 mm)
Projection: 3” (76 mm)
Clearance: 1-7/8” (48 mm)
CTC Length: 12” (305 mm)
Materials: Brass, bronze
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes:  
For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

963P
Acorn Pull - Offset
O/A Height: 16-5/16” (414 mm)
Pull Diameter: 1” (25 mm)
Projection: 2-3/4” (70 mm)
CTC Lengths: 12” (304 mm), 16” (406 mm), 18” (457 mm), 24” (610 mm), 30” (762 mm)
Materials: Cast brass, bronze
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes:  
For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

967P
Curved Pull
O/A Height: 20-1/2” (520 mm)
Projection: 5-9/16” (141 mm)
Clearance: 3-9/16” (90 mm)
CTC Length: 16” (406 mm)
Materials: Brass, bronze
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes:  
For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
**970P**  
**Custom Push/Pull Set**  
Base Diameter: 1” (25 mm)  
Pull Projection: 3” (76 mm)  
Pull Clearance: 2” (51 mm)  
CTC Length: 13-1/4” (337 mm)  
Push Projection: 2-3/4” (70 mm)  
Push Clearance: 1-3/4” (45 mm)  
CTC Length: 34” (864 mm) or to suit door dimension  
Materials: Brass, bronze, stainless steel  
Fasteners: 3/8 x 16 Type 3 mounting, concealed cone with 3/8 x 16 Type 2 thru bolts and finish washer  
Notes:  
• Pull or push bar can be ordered separately by quotation only  
• Push bar radius can be custom made so the radius points in the downward direction  
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

**974P | 974B**  
**Door Pull**  
Projection: 2-1/2” (64 mm)  
CTC Length: 12” (304 mm), 18” (457 mm), 24” (610 mm), 30” (762 mm), 36” (914 mm), 48” (1219 mm)  
OA Lengths: 17” (431.8 mm), 23” (584.2 mm), 29” (736.6 mm), 35” (889 mm), 41” (1041.4 mm), 53” (1346.2 mm)  
Materials: Brass, bronze, stainless steel  
Fasteners: Two (2) 3/8-16 FPHMS with finish washers  
Notes:  
• 974B is pair of 974P with fasteners for back to back mounting  
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

**975P | 975B**  
**Vertical Pull**  
Projection: 2-3/4” (70 mm)  
O/A Length: 36” (914 mm), 72” (1829 mm)  
CTC Length: 20” (508 mm), 56” (1422 mm)  
Pull Diameter: 1” (25 mm)  
Materials: Brass, bronze, stainless steel  
Fasteners: Two (2) 3/8-16 FPHMS with finish washers  
Notes:  
• 975B is pair of 975P with fasteners for back to back mounting  
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
976P | 976B
Door Pull - Offset
O/A Height: 29-1/2" (750 mm)
Base Diameter: 1-1/4" (32 mm)
Pull Diameter: 1-1/4" (32 mm)
Projection: 5-3/8" (137 mm)
Clearance: 4-1/8" (105 mm)
Offset: 1-3/4" (45 mm)
CTC Length: 19-13/16" (503 mm)
Materials: Stainless steel
Finish: US32D
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes: • 976B is pair of 976P with fasteners for back to back mounting
       • For sizes or finishes not listed in this catalog, contact Hager Customer Service
         for availability

980P | 980B
Segment Shape - Straight
CTC Length: 9" (229 mm), 12" (305 mm), 18" (457 mm), 24" (610 mm)
Materials: Brass, bronze, stainless steel
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes: • 980B is pair of 980P with fasteners for back to back mounting
       • For sizes or finishes not listed in this catalog, contact Hager Customer Service
         for availability

981P | 981B
Segment Shape - Offset
Projection: 2-3/8" (60 mm)
CTC Length: 9" (229 mm), 12" (305 mm), 18" (457 mm), 24" (610 mm)
Materials: Brass, bronze, stainless steel
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes: • 981B is pair of 981P with fasteners for back to back mounting
       • For sizes or finishes not listed in this catalog, contact Hager Customer Service
         for availability

982P | 982B
Straight Pull
Base Diameter: 1-5/16" (33 mm)
Projection: 3-1/8" (79 mm)
Clearance: 1-13/16" (46 mm)
CTC Length: 20" (508 mm)
Materials: Brass, bronze, stainless steel
Fasteners: Two (2) 3/8-16 FPHMS with finish washers
Notes: • 982B is pair of 982P with fasteners for back to back mounting
       • For sizes or finishes not listed in this catalog, contact Hager Customer Service
         for availability
<table>
<thead>
<tr>
<th>Model</th>
<th>Model</th>
<th>Curved Pull</th>
</tr>
</thead>
<tbody>
<tr>
<td>983P</td>
<td>983B</td>
<td>O/A Height: 21-1/4&quot; (540 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Base Diameter: 1-1/4&quot; (32 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Projection: 3-1/8&quot; (79 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clearance: 1-7/8&quot; (48 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CTC Length: 20&quot; (508 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Materials: Brass, bronze, stainless steel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fasteners: Two (2) 3/8-16 FPHMS with finish washers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notes: • 983B is pair of 983P with fasteners for back to back mounting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Specify handing when ordering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability</td>
</tr>
</tbody>
</table>

| 984P   | 984B   | Projection: 3" (76 mm) |  
|--------|--------| CTC Lengths: 12" (305 mm), 20" (508 mm) |  
|        |        | Materials: Brass, bronze, stainless steel |  
|        |        | Fasteners: Two (2) 3/8-16 FPHMS with finish washers |  
|        |        | Notes: • 984B is pair of 984P with fasteners for back to back mounting |  
|        |        | • For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability |  

| 985P   | 985B   | O/A Height: 14" (356 mm) |  
|--------|--------| Base Diameter: 2" (51 mm) |  
|        |        | Projection: 3" (76 mm) |  
|        |        | Clearance: 1-9/16" (40 mm) |  
|        |        | Offset: 1-5/8" (41 mm) |  
|        |        | CTC Length: 12" (305 mm) |  
|        |        | Materials: Brass, bronze, stainless steel |  
|        |        | Fasteners: Two (2) 3/8-16 FPHMS with finish washers |  
|        |        | Notes: • 985B is pair of 985P with fasteners for back to back mounting |  
|        |        | • For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability |  

| 986P   | 986B   | O/A Height: 22" (559 mm) |  
|--------|--------| Pull Diameter: 1-1/4" (32 mm) |  
|        |        | Base Diameter: 2" (51 mm) |  
|        |        | Projection: 3-7/8" (99 mm) |  
|        |        | Clearance: 2-5/8" (67 mm) |  
|        |        | Offset: 3" (76 mm) |  
|        |        | CTC Length: 20" (508 mm) |  
|        |        | Materials: Brass, bronze, stainless steel |  
|        |        | Fasteners: Two (2) 3/8-16 FPHMS with finish washers |  
|        |        | Notes: • 986B is pair of 986P with fasteners for back to back mounting |  
|        |        | • For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability |
**987P | 987B**  
**Double Curved Pull**  
Base Diameter: 1-1/4” (32 mm)  
Projection: 3” (76 mm)  
Clearance: 2” (51 mm)  
CTC Length: 20” (508 mm)  
Materials: Brass, bronze, stainless steel  
Fasteners: Two (2) 3/8-16 FPHMS with finish washers  
Notes:  
• 987B is pair of 987P with fasteners for back to back mounting  
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

**988P | 988B**  
**Offset Pull**  
Projection: 3” (76 mm)  
CTC Length: 24” (610 mm)  
Materials: Brass, bronze, stainless steel  
Fasteners: Two (2) 3/8-16 FPHMS with finish washers  
Notes:  
• 988B is pair of 988P with fasteners for back to back mounting  
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

**990P | 990B**  
**18º Pull**  
Pull Diameter: 1” (25 mm)  
Projection: 2-3/4” (70 mm)  
Clearance: 1-3/4” (45 mm)  
CTC Length: 24” (610 mm)  
Materials: Brass, bronze, stainless steel  
Fasteners: Two (2) 3/8-16 FPHMS with finish washers  
Notes:  
• 990B is pair of 990P with fasteners for back to back mounting  
• Specify handing when ordering  
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
15C
Heavy Duty Flush Cup Pull
Certification: Meets ANSI A156.6 for J403 Pulls
Description: Cup welded to face plate
Face: 3-1/2” x 5” (89 mm x 127 mm)
Projection: 1/8” (3.2 mm)
Opening: 1-3/4” x 3-1/16” (44 mm x 78 mm)
Cup Clearance: 3/4” (19 mm)
Materials: Stainless steel
Finishes: US32D
Fasteners: Four (4) #6 x 5/8” OPHWS

15N
Flush Cup Pull
Certification: Meets ANSI A156.6 for J403 Pulls
Description: Cup welded to face plate
Face: 3-1/2” x 5” (89 mm x 127 mm)
Projection: 1/8” (3.2 mm)
Opening: 1-3/4” x 3-1/16” (44 mm x 78 mm)
Cup Clearance: 3/4” (19 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Four (4) #6 x 5/8” OPHWS

15P
Heavy Duty Security Flush Cup Pull
Certification: Meets ANSI A156.6 for J403 Pulls
Description: Cup welded to face plate and welded studs for security torx thru-bolt mounting
Face: 3-1/2” x 5” (89 mm x 127 mm)
Projection: 1/8” (3.2 mm)
Opening: 1-3/4” x 3-1/16” (44 mm x 78 mm)
Cup Clearance: 3/4” (19 mm)
Materials: Stainless steel
Finishes: US32D
Fasteners: Two (2) 6-32 x 1-1/2” FPHMS (Security Torx)
Notes: For use on 1-3/4” (44 mm) doors

15S
Light Duty Flush Cup Pull
Certification: Meets ANSI A156.6 for J403 Pulls
Description: Concealed mounting by screws within the recessed cup (similar to 16N or 17N)
Face: 3-1/2” x 5” (89 mm x 127 mm)
Projection: 1/8” (3.2 mm)
Opening: 1-3/4” x 3-1/16” (44 mm x 78 mm)
Cup Clearance: 3/4” (19 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) #6 x 5/8” PPHWS
Notes: Fasteners concealed in cup
**FLUSH CUP PULLS**

**16N**
**Light Duty Flush Cup Pull**
Certification: Meets ANSI A156.6 for J403 Pulls
Face: 1-15/16” x 3” (49 mm x 76 mm)
Projection: 1/16” (1.5 mm)
Opening: 27/32” x 2-3/8” (22 mm x 60 mm)
Cup Clearance: 5/8” (16 mm)
Materials: Brass
Fasteners: Two (2) #8 x 3/4” OPHWS
Notes: Fasteners concealed in cup

**16R**
**Finger Pull Plate**
Certification: Meets ANSI A156.6 for combination J301 Pull Plate and J403 Pulls
Face: 4” x 16” (102 mm x 406 mm)
Projection: .050” (1.3 mm)
Opening: 1-3/4” x 3-1/16” (44 x 78 mm)
Cup Clearance: 13/16” (21 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Ten (10) #6 x 5/8” OPHWS

**17N**
**Light Duty Flush Cup Pull**
Certification: Meets ANSI A156.6 for J403 Pulls
Face: 2-1/2” x 3-31/32” (64 mm x 101 mm)
Projection: 3/32” (2.4 mm)
Opening: 1-11/32” x 3-13/32” (34 mm x 87 mm)
Cup Clearance: 5/8” (16 mm)
Materials: Brass
Fasteners: Two (2) #8 x 13/16” OPHWS
Notes: Fasteners concealed in cup

**25B**
**Security Flush Pull Set**
Certification: Meets ANSI A156.6 for J403 Pulls
Face: 3-1/2” x 5” (89 mm x 127 mm)
Opening: 1-3/4” x 3-1/16” (45 mm x 78 mm)
Projection: 3/16” (5 mm)
Cup Clearance: 3/4” (19 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Stainless steel
Finishes: US32D
Fasteners: Two (2) 6-32 x 1-1/2” FPHMS (Security Torx)
Notes: Security pull thru-bolted to a 15P pull
**FLUSH CUP PULLS**

### 25C Heavy Duty Flush Pull Set
- **Certification:** Meets ANSI A156.6 for J403 Pulls
- **Face:** 3-1/2” x 5” (89 mm x 127 mm)
- **Opening:** 1-3/4” x 3-1/16” (45 mm x 78 mm)
- **Projection:** 1/8” (3 mm)
- **Cup Clearance:** 3/4” (19 mm)
- **Door Thickness:** 1-3/4” (45 mm) - Standard
- **Materials:** Stainless steel
- **Finishes:** US32D
- **Fasteners:** Two (2) 6-32 OPHMS sex nuts and bolts
- **Notes:** Consists of two (2) 15C pulls mounted back to back

### 25N Flush Pull Set
- **Certification:** Meets ANSI A156.6 for J403 Pulls
- **Face:** 3-1/2” x 5” (89 mm x 127 mm)
- **Opening:** 1-3/4” x 3-1/16” (45 mm x 78 mm)
- **Projection:** 1/8” (3 mm)
- **Cup Clearance:** 3/4” (19 mm)
- **Door Thickness:** 1-3/4” (45 mm) - Standard
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Two (2) 6-32 OPHMS sex nuts and bolts
- **Notes:** Consists of two (2) 15N pulls mounted back to back

### 25P Security Finger Push/Pull Plate Set
- **Certification:** Meets ANSI A156.6 for combination J301 Push Plate and J403 Flush Pull
- **Face:** 4” x 16” (102 mm x 406 mm)
- **Projection:** 1/8” (3.2 mm)
- **Opening:** 1-3/4” x 3-1/16” (44 mm x 78 mm)
- **Cup Clearance:** 13/16” (21 mm)
- **Materials:** Stainless steel
- **Finishes:** US32D
- **Fasteners:** Six (6) 8-32 x 3/4” FPHMS (Security Torx) with sex nuts and bolts
- **Notes:** Consists of a 15 pull cup welded to a 100T push plate (Mounted in back to back fashion)

### 26N Security Finger Pull
- **Certification:** Meets ANSI A156.6 for J403 Pulls
- **Face:** 4” x 5” (102 mm x 127 mm)
- **Projection:** 1/8” (3.2 mm)
- **Opening:** 1-5/8” x 3” (41 mm x 76 mm)
- **Cup Clearance:** 13/16” (21 mm)
- **Materials:** Brass, stainless steel
- **Finishes:** US4, US26D, US32D
- **Fasteners:** Four (4) 1/4-20 x 3/4” Undercut FPHMS (Security Torx)
- **Notes:** Cup welded to face
27N
Security Flush Cup Pull
Certification: Meets ANSI A156.6 for J403 Pulls
Face: 5" x 5" (127 mm x 127 mm)
Projection: 3/8" (9.5 mm)
Opening: 3" x 3-1/2" (76 mm x 89 mm)
Cup Clearance: 7/8" (22 mm)
Materials: Stainless steel
Finishes: US32D
Fasteners: Four (4) 10-24 FPHMS (Security Torx) sex nuts and bolts (compatible with 1-3/4" doors only)
Notes: 
- ADA Compliant
- Not available for back to back mounting

27P
Security Flush Cup Pull
Certification: Meets ANSI A156.6 for J403 Pulls
Face: 5" x 5" (127 mm x 127 mm)
Projection: 3/8" (9.5 mm)
Opening: 3" x 3-1/2" (76 mm x 89 mm)
Cup Clearance: 7/8" (22 mm)
Materials: Stainless steel
Finishes: US32D
Fasteners: Four (4) 1/4-20 x 3/4" Undercut FPHMS (Security Torx)
Notes: 
- ADA Compliant
- Not available for back to back mounting
### Pull Plates

#### 30, 40, 50 Series

**Pull Plate**  
Gauge: 0.050" (1.3 mm)  
Certification: Meets ANSI A156.6 for J405 Pull Plate

**A30, A40, A50 Series**  
Gauge: 0.062" (1.6 mm)  
Certification: Meets ANSI A156.6 for J405 Pull Plate

#### 80, 90, 100 Series

**Pull Plate**  
Gauge: 0.125" (3.2 mm)  
Certification: Meets ANSI A156.6 for J407 Pull Plate

**Materials:** Aluminum, brass, bronze, stainless steel  
**Standard Sizes:** 3" x 12" (76 mm x 305 mm), 3-1/2" x 15" (89 mm x 381 mm), 4" x 16" (102 mm x 406 mm), 6" x 16" (152 mm x 406 mm)*, 8" x 16" (203 mm x 406 mm)* - *(size not available for 50 and A50 Series)

**Fasteners:** Six (6) #6 x 5/8 OPH tapping screws  

**Notes:**  
- For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability  
- Plate only - does not include pull

---

**How To Order:**
1) Identify plate (ex: 30 Series)  
2) Add pull (ex.: 3G)  
3) Add to order (ex: 33G)

---

#### Pull Plate Chart

<table>
<thead>
<tr>
<th>Pull Plate Part Number</th>
<th>30, 40, 50 Series</th>
<th>A30, A40, A50 Series</th>
<th>80, 90, 100 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Square Corner</strong></td>
<td><strong>Radius Corner</strong></td>
<td><strong>Rounded Corner</strong></td>
<td><strong>Square Corner</strong></td>
</tr>
<tr>
<td>1E</td>
<td>31E</td>
<td>41E</td>
<td>51E</td>
</tr>
<tr>
<td>1G</td>
<td>31G</td>
<td>41G</td>
<td>51G</td>
</tr>
<tr>
<td>1J</td>
<td>31J</td>
<td>41J</td>
<td>51J</td>
</tr>
<tr>
<td>1L</td>
<td>31L</td>
<td>41L</td>
<td>51L</td>
</tr>
<tr>
<td>2E</td>
<td>32E</td>
<td>42E</td>
<td>52E</td>
</tr>
<tr>
<td>2G</td>
<td>32G</td>
<td>42G</td>
<td>52G</td>
</tr>
<tr>
<td>2J</td>
<td>32J</td>
<td>42J</td>
<td>52J</td>
</tr>
<tr>
<td>2L</td>
<td>32L</td>
<td>42L</td>
<td>52L</td>
</tr>
<tr>
<td>3E</td>
<td>33E</td>
<td>43E</td>
<td>53E</td>
</tr>
<tr>
<td>3G</td>
<td>33G</td>
<td>43G</td>
<td>53G</td>
</tr>
<tr>
<td>3J</td>
<td>33J</td>
<td>43J</td>
<td>53J</td>
</tr>
<tr>
<td>3L</td>
<td>33L</td>
<td>43L</td>
<td>53L</td>
</tr>
<tr>
<td>4G</td>
<td>34G</td>
<td>44G</td>
<td>54G</td>
</tr>
<tr>
<td>4J</td>
<td>34J</td>
<td>44J</td>
<td>54J</td>
</tr>
<tr>
<td>4L</td>
<td>34L</td>
<td>44L</td>
<td>54L</td>
</tr>
<tr>
<td>5D</td>
<td>35D</td>
<td>45D</td>
<td>55D</td>
</tr>
<tr>
<td>5N</td>
<td>35N</td>
<td>45N</td>
<td>55N</td>
</tr>
<tr>
<td>6N</td>
<td>36N</td>
<td>46N</td>
<td>56N</td>
</tr>
<tr>
<td>9E</td>
<td>39E</td>
<td>49E</td>
<td>59E</td>
</tr>
<tr>
<td>9L</td>
<td>39L</td>
<td>49L</td>
<td>59L</td>
</tr>
</tbody>
</table>
## 313L
### Antivandal Trim with Latchguard
- **Certification:** Meets ANSI A156.6 for J401 Pull and ANSI A156.6 for J407 Pull Plate
- **Size:** 7-13/32” x 11” (188 mm x 280 mm)
- **Height:** 11” (280 mm)
- **Projection:** 1-7/8” (48 mm)
- **Clearance:** 1-5/8” (41 mm)
- **Door Thickness:** 1-3/4” – 2” (45 mm - 51 mm)
- **Materials:** 11 gauge stainless steel
- **Finishes:** US32D
- **Fasteners:** 1/4-20 FPHMS with finish washers - Standard
- **Options:**
  - Cylinder cutout available - 1-1/4” (32 mm) diameter standard for exit device use and 1-1/2” (38 mm) diameter standard for mortise lock use
- **Notes:**
  - For use with most mortise locks on out-swinging doors
  - For use with many exit devices (thru bolts directly to device)
  - Cylinders must be ordered separately
  - When mounting trim to a Hager exit device, cylinder collar (2-649-0137) must be purchased to ensure proper installation (see instructions for more detail)
  - When mounting trim to a Hager exit device, a 7/16” (11 mm) tall cylinder collar must be purchased when using a 1-1/4” - 1-3/8” (32 mm - 35 mm) long rim cylinder (see instructions for more detail)

## 313S
### Antivandal Trim
- **Certification:** Meets ANSI A156.6 for J401 Pull and ANSI A156.6 for J407 Pull Plate
- **Size:** 6-11/32” x 11” (161 mm x 280 mm)
- **Height:** 11” (280 mm)
- **Projection:** 1-7/8” (48 mm)
- **Clearance:** 1-5/8” (41 mm)
- **Door Thickness:** 1-3/4” – 2” (45 mm - 51 mm)
- **Materials:** 11 gauge stainless steel
- **Finishes:** US32D
- **Fasteners:** 1/4-20 FPHMS with finish washers - Standard
- **Options:**
  - Cylinder cutout available - 1-1/4” (32 mm) diameter standard for exit device use and 1-1/2” (38 mm) diameter standard for mortise lock use
- **Notes:**
  - For use with most mortise locks on in-swinging and out-swinging doors
  - For use with many exit devices (thru bolts directly to device)
  - Cylinders must be ordered separately
  - When mounting trim to a Hager exit device, cylinder collar (2-649-0137) must be purchased to ensure proper installation (see instructions for more detail)
  - When mounting trim to a Hager exit device, a 7/16” (11 mm) tall cylinder collar must be purchased when using a 1-1/4” - 1-3/8” (32 mm - 35 mm) long rim cylinder (see instructions for more detail)
**30S | A30S**  
**Square Corner - Beveled Push Plate**  
Certification: Meets ANSI A156.6 for J301 Push Plate  
Gauge:  
- 30S - 0.050” (1.3 mm)  
- A30S - 0.062” (1.6 mm)  
Materials: Aluminum, brass, bronze, stainless steel  
Fasteners: Six (6) #6 x 5/8” OPH tapping screws  
Options: May be ordered cut for cylinder (CFC) or engraved “PUSH”  
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability  

<table>
<thead>
<tr>
<th>Available in Sizes</th>
<th>3 x 12</th>
<th>3-1/2 x 15</th>
<th>4 x 16</th>
<th>6 x 16</th>
<th>8 x 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
<td>152 x 406</td>
<td>203 x 406</td>
</tr>
<tr>
<td>Millimeters</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
<td>152 x 406</td>
<td>203 x 406</td>
</tr>
</tbody>
</table>

**40R | A40R**  
**Radius Corner - Non-Beveled Push Plate**  
Certification: Meets ANSI A156.6 for J301 Push Plate  
Gauge:  
- 40R - 0.050” (1.3 mm)  
- A40R - 0.062” (1.6 mm)  
Materials: Aluminum, brass, bronze, stainless steel  
Fasteners: Six (6) #6 x 5/8” OPH tapping screws  
Options: May be ordered cut for cylinder (CFC) or engraved “PUSH”  
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability  

<table>
<thead>
<tr>
<th>Available in Sizes</th>
<th>3 x 12</th>
<th>3-1/2 x 15</th>
<th>4 x 16</th>
<th>6 x 16</th>
<th>8 x 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
<td>152 x 406</td>
<td>203 x 406</td>
</tr>
<tr>
<td>Millimeters</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
<td>152 x 406</td>
<td>203 x 406</td>
</tr>
</tbody>
</table>

**50T | A50T**  
**Round Corner - Non-Beveled Push Plate**  
Certification: Meets ANSI A156.6 for J301 Push Plate  
Gauge:  
- 50T - 0.050” (1.3 mm)  
- A50T - 0.062” (1.6 mm)  
Materials: Aluminum, brass, bronze, stainless steel  
Fasteners: Six (6) #6 x 5/8” OPH tapping screws  
Options: May be ordered cut for cylinder (CFC) or engraved “PUSH”  
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability  

<table>
<thead>
<tr>
<th>Available in Sizes</th>
<th>3 x 12</th>
<th>3-1/2 x 15</th>
<th>4 x 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
</tr>
<tr>
<td>Millimeters</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
</tr>
</tbody>
</table>
60S
Square Corner - Beveled Push Plate
Certification: Meets ANSI A156.6 for J304 Push Plate
Gauge: 0.125” (3.2 mm)
Materials: Plastic laminate
Finishes: PG - Grey, PK - Black, CO - Brown
Fasteners: Six (6) #6 x 5/8” OPH tapping screws
Options: May be ordered cut for cylinder (CFC) or engraved “PUSH”
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

Available in Sizes
<table>
<thead>
<tr>
<th>Inches</th>
<th>3 x 12</th>
<th>3-1/2 x 15</th>
<th>4 x 16</th>
<th>6 x 16</th>
<th>8 x 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Millimeters</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
<td>152 x 406</td>
<td>203 x 406</td>
</tr>
</tbody>
</table>

70S
Square Corner - Beveled Push Plate
Certification: Meets ANSI A156.6 for J304 Push Plate
Gauge: 0.125” (3.2 mm)
Materials: Clear plastic laminate
Finishes: PC - Clear
Fasteners: Six (6) #6 x 5/8” OPH tapping screws
Options: May be ordered cut for cylinder (CFC) or engraved “PUSH”
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

Available in Sizes
<table>
<thead>
<tr>
<th>Inches</th>
<th>3 x 12</th>
<th>3-1/2 x 15</th>
<th>4 x 16</th>
<th>6 x 16</th>
<th>8 x 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Millimeters</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
<td>152 x 406</td>
<td>203 x 406</td>
</tr>
</tbody>
</table>

80S
Square Corner - Beveled Push Plate
Certification: Meets ANSI A156.6 for J304 Push Plate
Gauge: 0.125” (3.2 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Six (6) #6 x 5/8” OPH tapping screws
Options: May be ordered cut for cylinder (CFC) or engraved “PUSH”
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

Available in Sizes
<table>
<thead>
<tr>
<th>Inches</th>
<th>3 x 12</th>
<th>3-1/2 x 15</th>
<th>4 x 16</th>
<th>6 x 16</th>
<th>8 x 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Millimeters</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
<td>152 x 406</td>
<td>203 x 406</td>
</tr>
</tbody>
</table>
### 90R
#### Radius Corner - Non-Beveled Push Plate
- **Certification:** Meets ANSI A156.6 for J304 Push Plate
- **Gauge:** 0.125” (3.2 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Six (6) #6 x 5/8” OPH tapping screws
- **Options:** May be ordered cut for cylinder (CFC) or engraved “PUSH”
- **Notes:** For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

<table>
<thead>
<tr>
<th>Available in Sizes</th>
<th>3 x 12</th>
<th>3-1/2 x 15</th>
<th>4 x 16</th>
<th>6 x 16</th>
<th>8 x 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
<td>152 x 406</td>
<td>203 x 406</td>
</tr>
<tr>
<td>Millimeters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 100T
#### Square Corner - Rounded Bevel Top and Bottom Push Plate
- **Certification:** Meets ANSI A156.6 for J304 Push Plate
- **Gauge:** 0.125” (3.2 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Six (6) #6 x 5/8” OPH tapping screws
- **Options:** May be ordered cut for cylinder (CFC) or engraved “PUSH”
- **Notes:** For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

<table>
<thead>
<tr>
<th>Available in Sizes</th>
<th>3 x 12</th>
<th>3-1/2 x 15</th>
<th>4 x 16</th>
<th>6 x 16</th>
<th>8 x 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>76 x 305</td>
<td>89 x 38</td>
<td>102 x 406</td>
<td>152 x 406</td>
<td>203 x 406</td>
</tr>
<tr>
<td>Millimeters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 110S
#### Half Circle Push Plate
- **Certification:** Meets ANSI A156.6 for J301 Push Plate
- **Plate:** 8” x 16” (203 mm x 406 mm)
- **Gauge:** 0.050” (1.3 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Six (6) #6 x 5/8” OPH tapping screws
- **Options:** May be ordered cut for cylinder (CFC) or engraved “PUSH”
- **Notes:** For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
120L
Pull Plate with Lip - Non-Beveled
Certification: Meets ANSI A156.6 for J303 Plate
Plate: 3-1/2" x 16" (89 mm x 406 mm)
Lip Projection: 1-1/8" (29 mm)
Gauge: 0.125" (3.2 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Six (6) #6 x 5/8" OPH tapping screws
Options: • Other sizes available, please specify
• May be ordered cut for cylinder (CFC) or engraved
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

121L
Cylinder Pull - Beveled
Plate: 2" x 3-3/4" (51 mm x 95 mm)
Lip Projection: 1-1/8" (29 mm)
Cylinder Cutout: 1-1/4" (32 mm) diameter
Gauge: 0.125" (3.2 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Attached by lock cylinder
Notes: • 1/4"-20 x 3/8" stud installed on reverse side to eliminate twisting
• For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability

122L
Security Pull/Push Plate Set - Beveled
Certification: Meets ANSI A156.6 for combination J304 Push Plate and J303 Flush Pull
Push Plate: 4" x 16" (102 mm x 406 mm)
Pull Plate: 4" x 9-1/4" (102 mm x 235 mm)
Lip Projection: 2-1/8" (54 mm)
Gauge: 0.125" (3.2 mm)
Materials: Stainless steel
Finishes: US32D
Fasteners: Four (4) 8-32 FPHMS (Security Torx) sex nuts and bolts
Two (2) 8-32 x 1/2" FPHMS (Security Torx)
Notes: For sizes or finishes not listed in this catalog, contact Hager Customer Service for availability
125S
Bent Push Bar
Certification: Meets ANSI A156.6 for J501 Push Bar
Bar Size: 3/8” x 1-1/4” (10 mm x 32 mm)
Projection: 2-1/8” (54 mm)
Base Plate: 1” x 3” (25 mm x 76 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) #8 x 3/4” FPH tapping screws and one (1) 1/4 - 20 OPHMS
Options: May be ordered with thru bolts in place of surface screws

126S
Push Bar
Certification: Meets ANSI A156.6 for J501 Push Bar
Bar Size: 3/8” x 1-1/4” (10 mm x 32 mm)
Projection: 2-1/8” (54 mm)
Base Plate: 1” x 3” (25 mm x 76 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Four (4) #8 x 3/4” FPH tapping screws
Options: May be ordered with thru bolts in place of surface screws

127S
Push Bar
Certification: Meets ANSI A156.6 for J501 Push Bar
Bar Size: 3/8” x 1-1/4” (10 mm x 32 mm)
Projection: 3/4” (19 mm)
Base Plate: 1-1/4” x 1-1/4” (32 mm x 32 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 FPHMS
Options: May be ordered with thru bolts in place of surface screws

128P
Wide Push Bar
Certification: Meets ANSI A156.6 for J501 Push Bar
Bar Size: 3/8” x 3” (10 mm x 76 mm)
Projection: 2-1/8” (54 mm)
Base Plate: 1-1/2” x 4-1/2” (38 mm x 114 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Eight (8) #8 x 3/4” FPH tapping screws
## PUSH BARS

### 128S

**Wide Push Bar**

- **Certification:** Meets ANSI A156.6 for J501 Push Bar
- **Bar Size:** 3/8” x 3” (10 mm x 76 mm)
- **Projection:** 2” (51 mm)
- **Base Plate:** 1-1/2” x 4-1/2” (38 mm x 114 mm)
- **Door Thickness:** 1-3/4” (45 mm) - Standard
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Two (2) 1/4 - 20 x 2-1/4” FPHMS with finish washers
- **Notes:** 128S is same as 128P, but without base plates

### 129P

**Wide Push Bar**

- **Certification:** Meets ANSI A156.6 for J501 Push Bar
- **Bar Size:** 3/8” x 3” (10 mm x 76 mm)
- **Projection:** 3/4” (19 mm)
- **Base Plate:** 1” x 3” (25 mm x 76 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Two (2) 1/4-20 x 1-1/4” FPHMS
- **Options:**
  - May be ordered with thru bolts in place of surface screws
  - #14 Flat head wood screws available on special order

### 130S

**Round Push Bar**

- **Certification:** Meets ANSI A156.6 for J501 Push Bar
- **Bar Stock:** 1” (25 mm)
- **Projection:** 2-1/2” (64 mm)
- **Door Thickness:** 1-3/4” (45 mm) - Standard
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Two (2) 1/4-20 x 20 x 2-1/4” FPHMS with finish washers
- **Options:** May be ordered with Type 5 concealed mountings at extra charge

### 131S

**Round Push Bar**

- **Certification:** Meets ANSI A156.6 for J501 Push Bar
- **Bar Stock:** 1” (25 mm)
- **Projection:** 2-5/8” (67 mm)
- **Base Diameter:** 2” (51 mm)
- **Door Thickness:** 1-3/4” (45 mm) - Standard
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Fasteners:** Two (2) 1/4-20 x 2-1/4” FPHMS with finish washers
- **Options:** May be ordered with Type 5 concealed mountings at extra charge
PUSH BARS

133S
Round Push Bar
Certification: Meets ANSI A156.6 for J501 Push Bar
Bar Stock: 3/4” (19 mm)
Projection: 2-1/4” (57 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4 - 20 x 2-1/4” FPHMS with finish washers

134S
Round Push Bar
Certification: Meets ANSI A156.6 for J501 Push Bar
Bar Stock: 3/4” (19 mm)
Projection: 2-3/8” (60 mm)
Base Diameter: 1-1/4” (32 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4 - 20 x 2-1/4” FPHMS with finish washers
Options: May be ordered with Type 5 concealed mountings at extra charge

136S
Round Push Bar
Certification: Meets ANSI A156.6 for J501 Push Bar
Bar Stock: 1-1/4” (32 mm)
Projection: 3” (76 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 5/16 - 18 x 2-1/4” FPHMS with finish washers
Options: May be ordered with Type 5 concealed mountings at extra charge

137S
Round Push Bar
Certification: Meets ANSI A156.6 for J501 Push Bar
Bar Stock: 1-1/4” (32 mm)
Projection: 3-1/8” (79 mm)
Base Diameter: 2” (51 mm)
Door Thickness: 1-3/4” (45 mm) - Standard
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 5/16 - 18 x 2-1/4” FPHMS with finish washers
Options: May be ordered with Type 5 concealed mountings at extra charge
138P
Round Push/Pull Set
Certification: Meets ANSI A156.6 for J504 Bar Sets
Bar Stock: 1” (25 mm)
Projection: 2-1/2” (64 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 Type 3 concealed cone

139P
Round Push/Pull Set
Certification: Meets ANSI A156.6 for J504 Bar Sets
Bar Stock: 3/4” (19 mm)
Projection: 2-1/4” (60 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 1/4-20 Type 3 concealed cone

140P
Round Push/Pull Set
Certification: Meets ANSI A156.6 for J504 Bar Sets
Bar Stock: 1-1/4” (32 mm)
Projection: 3” (76 mm)
Materials: Aluminum, brass, bronze, stainless steel
Fasteners: Two (2) 5/16-18 Type 3 concealed cone

150D | 150V | 150B
Round Push/Pull Set*
Certification: Meets ANSI A156.6 for J504 Bar Sets
Bar Stock: 3/4” (19 mm)
Projection: 2-1/4” (57 mm)
Pull CTC: 8” (203 mm)
Materials: Aluminum, brass, bronze, stainless steel

* 
D = Standard Fastening - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 1/4-20 Type 1 connections for other ends of push bar and pull.
V = Fully Concealed Fastening - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 1/4-20 Type 5 connections for ends of push bar and pull.
B = Tempered Glass Fastening - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 1/4-20 Type 8 connections for ends of push bar and pull plus gaskets that separate metal parts from glass.
### PUSH & PULL BAR SETS

#### 151D | 151V | 151B
**Round Push/Pull Set***
- **Certification:** Meets ANSI A156.6 for J504 Bar Sets
- **Bar Stock:** 3/4” (19 mm)
- **Projection:** 2-1/4” (57 mm)
- **Pull CTC:** 10” (254 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel

#### 152D | 152V | 152B
**Round Push/Pull Set***
- **Certification:** Meets ANSI A156.6 for J504 Bar Sets
- **Bar Stock:** 3/4” (19 mm)
- **Projection:** 2-1/4” (57 mm)
- **Pull CTC:** 12” (305 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel

#### 153D | 153V | 153B
**Round Push/Pull Set***
- **Certification:** Meets ANSI A156.6 for J504 Bar Sets
- **Bar Stock:** 1” (25 mm)
- **Projection:** 2-1/2” (64 mm)
- **Pull CTC:** 10” (254 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel

#### 154D | 154V | 154B
**Round Push/Pull Set***
- **Certification:** Meets ANSI A156.6 for J504 Bar Sets
- **Bar Stock:** 1” (25 mm)
- **Projection:** 2-1/2” (64 mm)
- **Pull CTC:** 12” (305 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel

---

* **D = Standard Fastening** - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 1/4-20 Type 1 connections for other ends of push bar and pull.

* **V = Fully Concealed Fastening** - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 1/4-20 Type 5 connections for ends of push bar and pull.

* **B = Tempered Glass Fastening** - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 1/4-20 Type 8 connections for ends of push bar and pull plus gaskets that separate metal parts from glass.
### 155D | 155V | 155B
**Round Push/Pull Set***
- **Certification:** Meets ANSI A156.6 for J504 Bar Sets
- **Bar Stock:** 1” (25 mm)
- **Projection:** 2-1/2” (64 mm)
- **Pull CTC:** 18” (457 mm)
- **Materials:** Aluminum, brass, bronze, stainless steel

* = **Standard Fastening** - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 5/16-18 Type 1 connections for other ends of push bar and pull.

### 156D | 156V | 156B
**Round Push/Pull Set***
- **Certification:** Meets ANSI A156.6 for J505 Bar Sets
- **Bar Stock:** 3/4” (19 mm) diameter
- **Pull Bar Projection:** 2-1/2” (64 mm)
- **Push Bar Projection:** 2-1/4” (57 mm)
- **Pull CTC:** 8” (203 mm)
- **Offset:** 2-1/2” (64 mm), 90° Standard
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Options:** For 45° offset pull, add prefix “X” (i.e., X156D) to number
- **Notes:** Non-reversible; specify handing

### 157D | 157V | 157B
**Round Push/Pull Set***
- **Certification:** Meets ANSI A156.6 for J505 Bar Sets
- **Bar Stock:** 3/4” (19 mm) diameter
- **Pull Bar Projection:** 2-1/2” (64 mm)
- **Push Bar Projection:** 2-1/4” (57 mm)
- **Pull CTC:** 10” (254 mm)
- **Offset:** 2-1/2” (64 mm), 90° Standard
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Options:** For 45° offset pull, add prefix “X” (i.e., X157D) to number
- **Notes:** Non-reversible; specify handing

### 158D | 158V | 158B
**Round Push/Pull Set***
- **Certification:** Meets ANSI A156.6 for J505 Bar Sets
- **Bar Stock:** 3/4” (19 mm) diameter
- **Pull Bar Projection:** 2-1/2” (64 mm)
- **Push Bar Projection:** 2-1/4” (57 mm)
- **Pull CTC:** 12” (305 mm)
- **Offset:** 2-1/2” (64 mm), 90° Standard
- **Materials:** Aluminum, brass, bronze, stainless steel
- **Options:** For 45° offset pull, add prefix “X” (i.e., X158D) to number
- **Notes:** Non-reversible; specify handing

* = **Fully Concealed Fastening** - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 5/16-18 Type 5 connections for ends of push bar and pull.

**B = Tempered Glass Fastening** - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 5/16-18 Type 8 connections for ends of push bar and pull plus gaskets that separate metal parts from glass.
PUSH & PULL BAR SETS

159D | 159V | 159B
Round Push/Pull Set*
Certification: Meets ANSI A156.6 for J505 Bar Sets
Bar Stock: 1” (25 mm)
Projection: 2-1/2” (64 mm)
Pull CTC: 10” (254 mm)
Offset: 3” (76 mm), 90° Standard
Materials: Aluminum, brass, bronze, stainless steel
Options: For 45° offset pull, add prefix “X” to number (i.e., X159D)
Notes: Non-reversible; specify handing

160D | 160V | 160B
Round Push/Pull Set*
Certification: Meets ANSI A156.6 for J505 Bar Sets
Bar Stock: 1” (25 mm)
Projection: 2-1/2” (64 mm)
Pull CTC: 12” (305 mm)
Offset: 3” (76 mm), 90° Standard
Materials: Aluminum, brass, bronze, stainless steel
Options: For 45° offset pull, add prefix “X” to number (i.e., X160D)
Notes: Non-reversible; specify handing

161D | 161V | 161B
Round Push/Pull Set*
Certification: Meets ANSI A156.6 for J504 Bar Sets
Bar Stock: 1-1/4” (32 mm)
Projection: 3” (76 mm)
Pull CTC: 12” (305 mm)
Materials: Aluminum, brass, bronze, stainless steel
Options: For 45° offset pull, add prefix “X” to number (i.e., X161D)
Notes: Non-reversible; specify handing

164D | 164V | 164B
Round Push/Pull Set*
Certification: Meets ANSI A156.6 for J504 Bar Sets
Bar Stock: 1-1/4” (32 mm)
Projection: 3” (76 mm)
Pull CTC: 12” (305 mm)
Materials: Aluminum, brass, bronze, stainless steel

*D = Standard Fastening - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 5/16-18 Type 1 connections for other ends of push bar and pull.
V = Fully Concealed Fastening - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 5/16-18 Type 5 connections for ends of push bar and pull.
B = Tempered Glass Fastening - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 5/16-18 Type 8 connections for ends of push bar and pull plus gaskets that separate metal parts from glass.
PUSH & PULL BAR SETS

165D | 165V | 165B
Round Push/Pull Set*
Certification: Meets ANSI A156.6 for J504 Bar Sets
Bar Stock: 1-1/4” (32 mm)
Projection: 3” (76 mm)
Pull CTC: 18” (457 mm)
Materials: Aluminum, brass, bronze, stainless steel

167D | 167V | 167B
Round Push/Pull Set*
Certification: Meets ANSI A156.6 for J505 Bar Sets
Bar Stock: 1-1/4” (32 mm)
Projection: 3” (76 mm)
Pull CTC: 18” (457 mm)
Offset: 3-3/4” (96 mm), 90° Standard
Materials: Aluminum, brass, bronze, stainless steel
Notes: Non-reversible; specify handing

170D
Push/Pull Set
Certification: Meets ANSI A156.6 for J502 Bar Sets
Bar Stock: 3/8” x 1-1/4” (10 mm x 32 mm)
Pull Bar Projection: 2-1/2” (64 mm)
Push Bar Projection: 3/4” (19 mm)
Base: 1-1/4” x 1-1/4” (32 x 32 mm)
Horizontal Spacing CTC: 8” (203 mm)
Materials: Aluminum, brass, bronze, stainless steel
Notes: • Bars are mounted back to back with 1/4”-20 thru bolt type 4 mounting
• Non-reversible; specify handing

* D = Standard Fastening - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 5/16-18 Type 1 connections for other ends of push bar and pull.
V = Fully Concealed Fastening - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 5/16-18 Type 5 connections for ends of push bar and pull.
B = Tempered Glass Fastening - One (1) 3/8-16 Type 7 spanner collar connection between push bar and pull plus two (2) 5/16-18 Type 8 connections for ends of push bar and pull plus gaskets that separate metal parts from glass.

All push bar units are made to order. Specify CTC lengths, fastening method unless standard, and type of door (WO, HM, AL, etc.).
180H | 180K | 180M | 180P | 180Q

**Mortise Door Edging**

- **Certification:** Meets ANSI A156.6 Door Edging Type J201 through J212
- **Standard Length:** 36” – 42” (914 mm – 1067 mm)
- **Materials:** Aluminum, stainless steel
- **Gauge:** 0.045” – 0.050” (1.1 mm – 1.3 mm)
- **Finishes:** US28, US32D
- **Fasteners:** #6 x 3/4” FPH tapping screws
- **Options:** Other lengths by quotation, Hinge cutout available, Latch cutout available, UL rated edging available
- **Order:** Provide actual rather than typical door thickness, Provide item #, size and finish (i.e., 180H - 40”-32D)
- **Notes:** Cutout will hand edging; specify handing information, Standard edge guards are made for 1-3/4” +0, -1/32” thick doors

![Diagram of 180H, 180K, 180M, 180P, 180Q Mortise Door Edging](image)

181H | 181K | 181M | 181P | 181Q

**Overlap Door Edging**

- **Certification:** Meets ANSI A156.6 Door Edging Type J201 through J212
- **Standard Length:** 36” – 42” (914 mm – 1067 mm)
- **Materials:** Aluminum, stainless steel
- **Gauge:** 0.045” – 0.050” (1.1 mm – 1.3 mm)
- **Finishes:** US28, US32D
- **Fasteners:** #6 x 3/4” FPH tapping screws
- **Options:** Other lengths by quotation, Hinge cutout available, Latch cutout available, UL rated edging available
- **Order:** Provide actual rather than typical door thickness, Provide item #, size and finish (i.e., 181H - 40”-32D)
- **Notes:** Cutout will hand edging; specify handing information, Standard edge guards are made for 1-3/4” +0, -1/32” thick doors

![Diagram of 181H, 181K, 181M, 181P, 181Q Overlap Door Edging](image)
**DOOR EDGINGS & CORNER GUARDS**

**182H | 182K | 182M | 182P | 182Q**

**Non-Mortise Door Edging**
- Certification: Meets ANSI A156.6 Door Edging Type J201 through J212
- Standard Length: 36” – 42” (914 mm – 1067 mm)
- Materials: Aluminum, stainless steel
- Gauge: 0.045” - 0.050” (1.1 mm - 1.3 mm)
- Finishes: US28, US32D
- Fasteners: #6 x 3/4” FPH tapping screws
- Options:
  - Other lengths by quotation
  - Hinge cutout available
  - Latch cutout available
  - UL rated edging available
- Order:
  - Provide actual rather than typical door thickness
  - Provide item #, size and finish (i.e., 182H - 40”-32D)
- Notes:
  - Cutout will hand edging; specify handing information
  - Standard edge guards are made for 1-3/4” +0, -1/32” thick doors

---

**185G Corner Guard**
- Certification: Meets ANSI A156.6 for J210
- Size: 3” x 3” x 40” (76 mm x 76 mm x 1016 mm)
- Gauge: 0.050” (1.3 mm)
- Materials: Aluminum, stainless steel
- Finishes: US28, US32D
- Fasteners: #6 x 5/8” FPHSMS self drilling screws
- Options: Mounting with double-stick tape instead of screws
- Notes:
  - 90° bend standard
  - Other lengths by quotation
Door Protection Plates

The metal door protection plates below meet ANSI A156.6 for J101 Metal Armor Plate, J102 Metal Kickplate, and J103 Metal Mop Plate. The plastic door protection plates below meet ANSI A156.6 for J105 Plastic Armor Plate, J106 Plastic Kickplate, and J107 Plastic Mop Plate. Options for all plates include countersunk holes, UL armor plate stamped, self-adhesive tape, spanner head screws, torx head screws, round corners, wrap around side and bottom return, and 0.125" (3.2 mm) material. All plates below are supplied standard with #6 x 5/8” truss head screws (unless specified otherwise). They are available in mop plate, kick plate, stretcher plate, and armor plate sizes.

Mop Plate: Protects the bottom of the pull side of doors subject to cleaning and mopping procedures.

Kick Plate: Protects the bottom of the push side of doors subject to scuffing from foot traffic.

Stretcher Plate: Protects doors in specific areas where constant contact is made by stretchers, service carts, or other equipment.

Armor Plate: Protects lower half of doors from abuse by carts, trucks, and rough usage.

NFPA 80 STANDARD 6.4.5.1/6.4.5.2 /6.4.5.3 Protection Plates

• Factory installed protection plates shall be installed in accordance with the listing of the door.
• Field installed protection plate shall be labeled and installed in accordance with their listing.
• Labeling is not required where the top of the protection plate is not more than 16” (406 mm) above the bottom of the door.

190S
Thickness: 0.050” (1.3 mm)
U.S. Gauge: 18
Materials: Aluminum, brass, bronze, stainless steel
Bevel: None
Options: UL Listed for US32 and US32D*

194S
Thickness: 0.050” (1.3 mm)
U.S. Gauge: 18
Materials: Aluminum, brass, bronze, stainless steel
Bevel: 4 edges
Options: UL Listed for US32 and US32D*

198S
Thickness: 0.038” (0.8 mm)
U.S. Gauge: 20
Materials: Stainless steel
Finishes: US32D
Options: UL Listed*

199B
Thickness: 0.038” (0.8 mm)
U.S. Gauge: 20
Materials: Aluminum
Finishes: Bright gold anodized
Fasteners: #6 x 5/8” TPH Tapping Screws

204S
Thickness: 0.125” (3.2 mm)
Materials: Clear plastic
Bevel: 4 edges

214S
Thickness: 0.125” (3.2 mm)
Materials: Plastic laminate
Bevel: 4 edges
Colors: Black, Brown, Grey
Notes: Other colors are available and will be subject to minimum order quantities; priced on application

220S
Thickness: 0.062” (1.6 mm)
U.S. Gauge: 16
Materials: Aluminum, brass, bronze, stainless steel
Bevel: None

223S
Thickness: 0.062” (1.6 mm)
U.S. Gauge: 16
Materials: Aluminum, brass, bronze, stainless steel
Bevel: 3 edges

224S
Thickness: 0.062” (1.6 mm)
U.S. Gauge: 16
Materials: Aluminum, brass, bronze, stainless steel
Bevel: 4 edges

225S
Thickness: 0.060” (1.9 mm)
Materials: Kydex®
Colors: CBO - Calcutta Black, KGO - Beige, KHO - Chocolate
Notes: Other colors are available and will be subject to minimum order quantities; priced on application
Options: UL Listed*

*Must specify UL stamp. UL labeling not required when top of plate is less than 16” above the bottom of the door. Screw fasteners only.
230W
Convex Wall Stop
Certification: Meets ANSI A156.16 for L02101
Diameter: 2-15/32” (63 mm)
Projection: 1-3/32” (28 mm)
Materials: Cast brass, bronze with grey rubber bumper
Fasteners: One (1) #10 x 1-1/2” PPHWS with plastic and toggle anchor.
Notes:
• Concealed tamper proof mounting
• Easy installation by inserting screwdriver through small hole in bumper
• Specify 230T for machine screw and toggle nut screwpack (10 pk)

232W | BL232W
Convex Wall Stop
Certification: Meets ANSI A156.16 for L02101
Diameter: 2-7/16” (62 mm)
Projection: 1” (25 mm)
Materials: Wrought brass, bronze, stainless steel with grey rubber bumper
Fasteners: One (1) #10 x 1-1/2” PPHWS with plastic and toggle anchor
Notes:
• Concealed tamper proof mounting
• Easy installation by inserting screwdriver through small hole in bumper
• Specify 230T for machine screw and toggle nut screwpack (10 pk)
• BL232W is 232W case quantity 50

234W
Concave Wall Stop
Certification: Meets ANSI A156.16 for L02251
Diameter: 2-15/32” (63 mm)
Projection: 1-3/32” (28 mm)
Materials: Cast brass, bronze with grey rubber bumper
Fasteners: One (1) #10 x 1-1/2” PPHWS w/ plastic and toggle anchor
Notes:
• Easy installation by inserting screwdriver through small hole in rubber bumper
• Concealed tamper proof mounting
• Concave rubber bumper prevents damage to locksets with projecting buttons
• Specify 230T for machine screw and toggle nut screwpack (10 pk)

236W | BL236W
Concave Wall Stop
Certification: Meets ANSI A156.16 for L02251
Diameter: 2-7/16” (75 mm)
Projection: 1” (25 mm)
Materials: Wrought brass, bronze, stainless steel with grey rubber bumper
Fasteners: One (1) #10 x 1-1/2” PPHWS w/ plastic and toggle anchor
Notes:
• Easy installation by inserting screwdriver through small hole in rubber bumper
• Concealed tamper proof mounting
• Concave rubber bumper prevents damage to locksets with projecting buttons
• Specify 230T for machine screw and toggle nut screwpack (10 Pk)
• BL236W is 236W case quantity 50
**250W**
Convex Wall Stop
- Diameter: 1” (25 mm)
- Projection: 9/16” (14 mm)
- Materials: Cast brass
- Fasteners: One (1) #6 x 3/4” screw with plastic anchor and one (1) 0.052 diameter nail
- Notes: • Concealed mounting screw prevents vandalism
  • For use on drywall
  • Compact design

**251W**
Concave Wall Stop
- Diameter: 1-7/8” (48 mm)
- Projection: 25/32” (20 mm)
- Materials: Adhesive backed rubber bumper
- Finish: Grey only
- Notes: • Concave bumper prevents damage to locksets with projecting buttons
  • For areas where concealed mounting is not required
  • Adhesive backing for use on clean smooth flat surfaces only

**254S**
Wall Stop & Holder
- Certification: Meets ANSI A156.16 for L01341
- Base Diameter: 2-11/32” (60 mm)
- Base Projection: 3-1/2” (89 mm)
- Engaged Projection: 5-19/32” (142 mm)
- Keeper: 1” x 2” (25 mm x 51 mm)
- Materials: Cast brass with black rubber bumper
- Fasteners: Five (5) #10 x 1” FPHWS, and three (3) plastic anchors
- Notes: • For use on drywall
  • Manual holder ideal for interior and exterior applications
  • Unit functions as a stop, but can serve as a “Hold Open” when hook is manually engaged
  • Ideal for use with locksets with a projection of 3-5/16” (84 mm) or less

**254W**
Wall Stop & Holder
- Certification: Meets ANSI A156.16 for L01351
- Base Diameter: 2-11/32” (60 mm)
- Base Projection: 3-1/2” (89 mm)
- Engaged Projection: 5-19/32” (142 mm)
- Keeper: 1” x 2” (25 mm x 51 mm)
- Materials: Cast brass with black rubber bumper
- Fasteners: Three (3) #10 x 1” FPH tapping screw, one (1) plastic anchor, one (1) 5/16-18 x 2-1/2” threaded stud, and one (1) 5/16-18 lead anchor
- Notes: • For use on concrete walls
  • Manual holder ideal for interior and exterior applications
  • Unit functions as a stop, but can serve as a “Hold Open” when hook is manually engaged
  • Ideal for use with locksets with a projection of 3-5/16” (84 mm) or less
**255S**
**Wall Stop**
Certification: Meets ANSI A156.16 for L02011
Base Diameter: 2-11/32" (60 mm)
Projection: 3-11/16" (94 mm)
Materials: Cast brass with black rubber bumper
Fasteners: Three (3) #10 x 1” OPHWS and three (3) plastic anchors
Notes:
- For use on drywall
- Ideal for interior and exterior applications
- Heavy duty - for use in high traffic areas
- Ideal for use with locksets with a projection of 3” (76 mm) or less

**255W**
**Wall Stop**
Certification: Meets ANSI A156.16 for L02021
Base Diameter: 2-11/32" (60 mm)
Projection: 3-11/16" (94 mm)
Materials: Cast brass with black rubber bumper
Fasteners: One (1) #10 x 1” OPHWS, one (1) plastic anchor, one (1) 5/16-18 lead anchor, one (1) 5/16-18 x 2-1/2” threaded stud, one (1) 5/16-18 x 2-1/2” combo threaded stud
Notes:
- For use on concrete walls
- Ideal for interior and exterior applications
- Heavy duty - for use in high traffic areas
- Ideal for use with locksets with a projection of 3” (76 mm) or less

**256S**
**Manual Wall Stop & Holder**
Certification: Meets ANSI A156.16 for L01341
Base Diameter: 2-1/4" (57 mm)
Base Projection: 3-3/4" (95 mm)
Engaged Projection: 5-11/16” (145 mm)
Keeper: 25/32" x 1-1/2" (20 mm x 38 mm)
Materials: Cast brass with black rubber bumper
Fasteners: Three (3) #10 x 1” OPHWS and three (3) plastic anchors
Notes:
- For use on drywall
- Ideal for interior and exterior applications
- Heavy duty - for use in high traffic areas
- Unit functions as a stop, but can serve as a “Hold Open” when hook is manually engaged
- Ideal for use with locksets with a projection of 3” (76 mm) or less
256W
Manual Wall Stop & Holder
Certification: Meets ANSI A156.16 for L01351
Base Diameter: 2-1/4” (57 mm)
Base Projection: 3-3/4” (95 mm)
Engaged Projection: 5-11/16” (145 mm)
Keeper: 25/32” x 1-1/2” (20 mm x 38 mm)
Materials: Cast brass with black rubber bumper
Fasteners: Three (3) #14 x 1-1/2” FPHWS, three (3) 1/4-20 x 3/4” FPHMS, three (3) plastic anchors, and three (3) 1/4-20 lead anchors
Notes:
• For use on concrete walls
• Ideal for interior and exterior applications
• Heavy duty - for use in high traffic areas
• Unit functions as a stop, but can serve as a “Hold Open” when hook is manually engaged
• Ideal for use with locksets with a projection of 3” (76 mm) or less

260W
Angled Wall Stop
Certification: Meets ANSI A156.16 for L02201
Base: 2-3/16”x 2-15/16” (56 mm x 75 mm)
Projection: 3-21/32” (93 mm)
Materials: Cast brass with black rubber bumper
Finishes: US26D
Fasteners: Three (3) #14 x 1-1/2” FPHWS, three (3) 1/4-20 x 3/4” FPHMS, three (3) plastic anchors, and three (3) 1/4-20 lead anchors
Notes:
• For use with drywall or concrete walls
• Sloping design resists vandalism
• Ideal for use with locksets with a projection of 3” (76 mm) or less

324W
Light Duty Wall Bumper
Certification: Meets ANSI A156.16 for L02031
Base Diameter: 1-1/4” (32 mm)
Projection: 3-1/4” (83 mm)
Tip Diameter: 5/8” (16 mm)
Materials: Cast brass, bronze with white rubber tip
Fastener: #10 x 7/8” wood thread
Notes:
• Replaceable rubber tip available
• Hex shape near the tip allows usage of a wrench for easier installation
**326W**

**Automatic Wall Stop & Holder**

Certification: Meets ANSI A156.16 for L01293

Holder Base: 2-13/32” x 2-25/32” (61 mm x 71 mm)

Holder Projection: 2-5/16” (59 mm)

Engaged Projection: 3-5/8” (92 mm)

Strike Base: 1” x 2-1/16” (25 mm x 52 mm)

Strike Projection: 2” (51 mm)

Keeper: 1” x 2” (25 mm x 51 mm)

Materials: Cast brass


Fasteners: Five (5) #10 x 1” OPHWS, three (3) 10-24 x 1-1/4” FPHMS, and three (3) plastic anchors

Notes:
- For use with wood or metal doors
- Holder is mounted on the door
- Roller is spring loaded to seat on strike - heavy duty rubber pad dampens sound and shock
- Ideal for use with locksets with a projection of 3” (76 mm) or less

**327W**

**Automatic Wall Stop & Holder**

Certification: Meets ANSI A156.16 for L11291

Holder Base: 3-1/16” x 3-1/2” (78 mm x 89 mm)

Holder Projection: 1-15/16” (49 mm)

Engaged Projection: 3-1/2” (89 mm)

Strike Diameter: 2-3/8” (60 mm)

Strike Projection: 3-1/16” (78 mm)

Materials: Cast brass


Fasteners: Three (3) #14 x 1-1/2” FPHWS, three (3) 1/4-20 x 3/4” FPHMS, four (4) 12-24 x 1” TPHMS, four (4) #12 x 1” TPHWS, and three (3) 1/4-20 lead anchors

Notes:
- For use with wood or metal doors
- For use with drywall or concrete walls
- Roller is spring loaded to seat on strike - heavy duty rubber pad dampens sound and shock
- Strike is adjustable 45° left or right
- Holder has vertical adjustment once mounted on the door
- Ideal for use with locksets with a projection of 3” (76 mm) or less
- For doors up to 500 lbs
**271W Roller Bumper**

Certification: Meets ANSI A156.16 for L02193

Base Diameter: 2” (51 mm)

Projection: 4-1/2” (114 mm)

Materials: Cast brass with grey rubber roller


Fasteners: Three (3) #10 x 1” FPHWS, and three (3) plastic anchors

Notes:
- For use when two doors swing into each other at right angles (back to back)
- Prevents damage to the door and door hardware

**272W Roller Bumper**

Certification: Meets ANSI A156.16 for L02193

Base Diameter: 2” (51 mm)

Projection: 6-1/4” (159 mm)

Materials: Cast brass with grey rubber roller


Fasteners: Three (3) #10 x 1” FPHWS, and three (3) plastic anchors

Notes:
- For use when two doors swing into each other at right angles (back to back)
- Prevents damage to the door and door hardware

**273W Curved Roller Bumper**

Certification: Meets ANSI A156.16 for L12213

Projection: 2-21/32” (67 mm)

Materials: Cast brass with grey rubber roller


Fasteners: Three (3) #10 x 1” FPHWS and three (3) plastic anchors

Notes:
- Used when two doors swing into each other at odd angles
- Prevents damage to the door and door hardware
**241F | BL241F**

**Dome Stop - Low**

Certification: Meets ANSI A156.16 for L02142

Base Diameter: 1-11/16” (43 mm)
Base Thickness: 1/8” (3.2 mm)
Overall Height: 1” (25 mm)

Materials: Cast brass with grey rubber bumper


Fasteners: One (1) #14 x 1-1/2” FPHWS, one (1) 1/4-20 x 3/4” FPHMS, one (1) 1/4-20 lead anchor, and one (1) plastic anchor

Notes:
- To be used independently or in conjunction with 246B
- For use when no threshold is used (door not undercut)
- For use with wood or concrete floors
- BL241F is 241F case quantity 50

**242F**

**Dome Stop - Universal**

Certification: Meets ANSI A156.16 for L02162

Base Diameter: 1-11/16” (43 mm)
Base Thickness: 7/32” (5.5 mm)
Overall Height: 1-5/8 (41 mm)

Materials: Brass with grey rubber bumper


Fasteners: One (1) #14 x 1-1/2” FPHWS, one (1) 1/4-20 x 3/4” FPHMS, one (1) 1/4-20 lead anchor, and one (1) plastic anchor

Notes: For use with wood or concrete floors

**243F | BL243F**

**Dome Stop - High**

Certification: Meets ANSI A156.16 for L02162

Base Diameter: 1-11/16” (43 mm)
Base Thickness: 7/16” (11 mm)
Overall Height: 1-9/32” (33 mm)

Materials: Cast brass with grey rubber bumper


Fasteners: One (1) #14 x 1-1/2” FPHWS, one (1) 1/4-20 x 1-1/4” FPHMS, one (1) 1/4-20 lead anchor, and one (1) plastic anchor

Notes:
- For use with thresholds or undercut doors
- For use with wood or concrete floors
- BL243F is 243F case quantity 50

**244F**

**Cast Floor Stop**

Certification: Meets ANSI A156.16 for L02141

Base: 1-3/4” x 4” (45 mm x 102 mm)
Base Thickness: 5/32” (4 mm)
Overall Height: 1” (25 mm)

Materials: Cast brass with grey rubber bumper


Fasteners: Two (2) #14 x 1-1/2” FPHWS, two (2) 1/4-20 x 3/4” FPHMS, two (2) 1/4-20 lead anchor, and two (2) plastic anchor

Notes:
- Heavy duty - for use in high traffic areas
- For use when no thresholds are used (door not undercut)
- For use with wood or concrete floors
**245F Cast Floor Stop**
- **Certification:** Meets ANSI A156.16 for L02161
- **Base:** 1-3/4” x 4” (45 mm x 102 mm)
- **Base Thickness:** 1/2” (13 mm)
- **Overall Height:** 1-5/16” (33 mm)
- **Materials:** Cast brass with grey rubber bumper
- **Fasteners:** Two (2) #14 x 1-1/2” FPHWS, two (2) 1/4-20 x 1-1/4” FPHMS, two (2) 1/4-20 lead anchor, and two (2) plastic anchor
- **Notes:**
  - Heavy duty - for use in high traffic areas
  - For use with thresholds and undercut doors
  - For use on wood or concrete floors

**246B Dome Stop Riser Plate**
- **Diameter:** 1-3/4” (45 mm)
- **Thickness:** 3/8” (10 mm)
- **Fasteners:** One (1) 1/4-20 x 1” FPHMS
- **Materials:** Cast brass
- **Notes:** For use with 241F on undercut doors, doors with thresholds, and carpeted flooring

**248F Modern Style Universal Stop**
- **Base Diameter:** 1-7/16” (37 mm)
- **Height:** 1-1/2” (38 mm)
- **Materials:** Brass with black rubber bumper
- **Finishes:** US26D
- **Fasteners:** One (1) #12 x 1-1/4” FPHWS, one (1) plastic anchor, one (1) 1/4-20 x 1” FPHMS, and one (1) 1/4-20 lead anchor

**248G Modern Style Universal Stop**
- **Base Diameter:** 1-7/16” (37 mm)
- **Height:** 1-1/2” (38 mm)
- **Materials:** Brass with grey rubber bumper
- **Finishes:** US26D
- **Fasteners:** One (1) #12 x 1-1/4” FPHWS with plastic anchor and one (1) 1/4-20 x 1” FPHMS with lead anchor

**249F L-Shaped Floor Stop**
- **Base:** 1” x 2-1/2” x 7/32” thick (25 mm x 64 mm x 6 mm)
- **Base Thickness:** 1/4” (6 mm)
- **Overall Height:** 2-5/8” (67 mm)
- **Stop face:** Resilient black rubber
- **Materials:** Steel
- **Fasteners:** Two (2) #14 x 1-1/2” FPHWS and two (2) plastic anchors
- **Notes:** 1-1/2” (38 mm) max door to floor clearance
**252F**

**Floor Stop**
- Certification: Meets ANSI A156.16 for L02131
- Base: 1-9/16” x 2-1/2” (40 mm x 64 mm)
- Overall Height: 2-11/16” (68 mm)
- Materials: Cast brass with black rubber bumper
- Fasteners: One (1) #14 x 1-1/2” FPHWS, one (1) 1/4-20 x 3/4” FPHMS, one (1) 5/16-18 lead anchor, one (1) 1/4-20 lead anchor, one (1) plastic anchor, one (1) 5/16-18 x 2-1/2” threaded stud, and one (1) 5/16-18 x 2-1/2” combo threaded stud
- Notes: • Heavy duty - for use in high traffic areas
  • For use on wood or concrete floors
  • 2” (51 mm) max door to floor clearance

**257F**

**Floor Stop**
- Certification: Meets ANSI A156.16 for L02131
- Base: 1-9/16” x 2-15/32” (40 mm x 63 mm)
- Overall Height: 2” (51 mm)
- Materials: Cast brass with black rubber bumper
- Fasteners: One (1) #14 x 1-1/2” FPHWS, one (1) 1/4-20 x 3/4” FPHMS, one (1) 5/16-18 lead anchor, one (1) 1/4-20 lead anchors, one (1) plastic anchor, one (1) 5/16-18 x 2-1/2” threaded stud, and one (1) 5/16-18 x 2-1/2” combo threaded stud
- Notes: • 1-3/8” (35 mm) max door to floor clearance
  • Heavy duty - for use in high traffic areas
  • For use on wood or concrete floors

**258F**

**Floor Stop and Holder**
- Certification: Meets ANSI A156.16 for L01371
- Base: 1-9/16” x 2-15/32” (40 mm x 63 mm)
- Height: 3” (76 mm)
- Keeper: 1” x 2” (25 mm x 51 mm)
- Materials: Cast brass with black rubber bumper
- Fasteners: Two (2) #10 x 1” FPHWS, one (1) 1/4-20 x 3/4” FPHMS, one (1) 5/16-18 lead anchor, one (1) 1/4-20 lead anchors, and one (1) 5/16-18 x 2-1/2” threaded stud
- Notes: • 1-3/8” (35 mm) max door to floor clearance
  • Heavy duty - for use in high traffic areas
  • For use on concrete floors
  • Manual holder ideal for interior and exterior applications
  • Unit functions as a stop, but can serve as a "Hold Open" when hook is manually engaged
259F
Tri Base Floor Stop
Certification: Meets ANSI A156.16 for L02121
Base: 2-1/2" wide x 1-9/16" deep (64 mm x 40 mm)
Overall Height: 1-11/16" (43 mm)
Material: Cast brass with grey rubber bumper
Fasteners: Three (3) #10 x 1-1/4" FPHWS, three (3) plastic anchors, three (3) 10-32 x 3/4"
FPHMS, and three (3) 10-32 lead anchor
Notes:
• 1/2" (13 mm) max door to floor clearance
• Heavy duty - for use in high traffic areas
• For use on wood or concrete floors

259H
Tri Base Floor Stop - Tall
Certification: Meets ANSI A156.16 for L02121
Base: 2-1/2" wide x 1-9/16" deep (64 mm x 40 mm)
Overall Height: 2-1/4" (57 mm)
Materials: Cast brass with grey rubber bumper
Fasteners: Three (3) #10 x 1-1/4" FPHWS, three (3) plastic anchor, three (3) 10-32 x 3/4"
FPHMS, and three (3) 10-32 lead anchors
Notes:
• 1" (25 mm) max door to floor clearance
• Heavy duty - for use in high traffic areas
• For use on wood or concrete floors

267F
Cast Floor Stop
Certification: Meets ANSI A156.16 for L02131
Base Diameter: 2-1/4" (57 mm)
Overall Height: 3-1/8" (80 mm)
Materials: Cast brass with black rubber bumper
Fasteners: One (1) #10 x 1" OPHWS, one (1) plastic anchor, one (1) 5/16-18 lead anchor,
one (1) 5/16-18 x 2-1/2" threaded stud, and one (1) 5/16-18 x 2-1/2” combo threaded stud
Notes:
• 2-3/8" (60 mm) max door to floor clearance
• Heavy duty - for use in high traffic areas
• For use on concrete floors

267S
Cast Floor Stop
Certification: Meets ANSI A156.16 for L02121
Base Diameter: 2-1/4" (57 mm)
Overall Height: 3-1/8" (80 mm)
Materials: Cast brass with black rubber bumper
Fasteners: Three (3) #10 x 1” OPHWS and three (3) plastic anchors
Notes:
• 2-3/8” (60 mm) max door to floor clearance
• Heavy duty - for use in high traffic areas
• For use on wood floors
268F
Cast Floor Stop and Holder
Certification: Meets ANSI A156.16 for L01371
Base Diameter: 2-1/4" (57 mm)
Height: 3-19/32" (91 mm)
Keeper: 25/32" x 1-1/2" (20 mm x 38 mm)
Materials: Cast brass with black rubber bumper
Fasteners: Three (3) #10 x 1” OPHWS, one (1) plastic anchor, one (1) 5/16-18 lead anchor, and one (1) 5/16-18 x 2-1/2” threaded stud
Notes: • 2-1/2” (64 mm) max door to floor clearance • Heavy duty - for use in high traffic areas • For use on concrete floors • Manual holder ideal for interior and exterior applications • Unit functions as a stop, but can serve as a “Hold Open” when hook is manually engaged

268S
Cast Floor Stop and Holder
Certification: Meets ANSI A156.16 for L01361
Base Diameter: 2-1/4" (57 mm)
Height: 3-19/32" (91 mm)
Keeper: 25/32" x 1-1/2" (20 mm x 38 mm)
Materials: Cast brass with black rubber bumper
Fasteners: Five (5) #10 x 1” OPHWS and three (3) plastic anchors
Notes: • 2-1/2” (64 mm) max door to floor clearance • Heavy duty - for use in high traffic areas • For use on wood floors • Manual holder ideal for interior and exterior applications • Unit functions as a stop, but can serve as a “Hold Open” when hook is manually engaged

269F
Heavy Duty Floor Stop
Certification: Exceeds the criteria set forth for a 300-pound impact test (Report #91-04-01646)
Bumper Diameter: 2” (51 mm)
Bumper Height: 1-1/2” (38 mm)
Steel Bolt: 5/8 – 11 x 2-1/2” thread
Materials: Black rubber (fire-resistant)
Notes: • Designed for high vandalism areas • Ideal for prisons where floor stops are required • Grouted in concrete to eliminate exposed screws
FLOOR STOPS & HOLDERS

269T
Heavy Duty Floor Stop
Certification: Exceeds the criteria set forth for a 300-pound impact test (Report #91-04-01646)
Bumper Diameter: 2” (51 mm)
Bumper Height: 3-1/2” (89 mm)
Steel Bolt: 5/8 – 11 x 2-1/2” thread
Materials: Black rubber (fire-resistant)
Notes:
• Designed for high vandalism areas
• Ideal for prisons where floor stops are required
• Grouted in concrete to eliminate exposed screws

326F
Automatic Floor Stop and Holder
Certification: Meets ANSI A156.16 for L01301
Holder Projection: 1-15/16” (49 mm)
Holder Base: 3-1/16” x 3-1/2” (78 mm x 89 mm)
Floor Strike: 2” x 4-3/32” (51 mm x 104 mm)
Strike Height: 1-1/4” (32 mm)
Max Door to Floor Clearance: 1/2” (13 mm) or less
Materials: Cast brass
Fasteners: Three (3) #14 x 1-1/2” FPHWS, three (3) 1/4-20 x 3/4” FPHMS, three (3) 1/4-20 lead anchors, four (4) 12-24 x 1” TPHMS, and four (4) #12 x 1” TPHWS
Notes:
• For use on wood or metal doors and wood or concrete floors
• Ideal for heavy traffic situations that require frequent hold open
• Firm pull releases holding mechanism
• Holder has vertical adjustment once mounted on the door

327F
Automatic Floor Stop and Holder
Certification: Meets ANSI A156.16 for L01301
Holder Projection: 1-15/16” (49 mm)
Holder Base: 3-1/16” x 3-1/2” (78 mm x 89 mm)
Floor Strike: 2-3/16” x 4-1/8” (51 mm x 105 mm)
Strike Height: 1-3/4” (44 mm)
Max Door to Floor Clearance: 9/16” to 1-1/16” (14 mm to 27 mm)
Materials: Cast brass
Fasteners: Three (3) #14 x 1-1/2” FPHWS, three (3) 1/4-20 x 3/4” FPHMS, three (3) 1/4-20 lead anchors, four (4) 12-24 x 1” TPHMS, and four (4) #12 x 1” TPHWS
Notes:
• For use on wood or metal doors and wood or concrete floors
• Ideal for heavy traffic situations that require frequent hold open
• Firm pull releases holding mechanism
• Holder has vertical adjustment once mounted on the door
328F
Automatic Floor Stop and Holder
Certification: Meets ANSI A156.16 for L01301
Holder Projection: 1-15/16” (49 mm)
Holder Base: 3-1/16” x 3-1/2” (78 mm x 89 mm)
Floor Strike: 2-3/16” x 4-1/8” (56 mm x 105 mm)
Strike Height: 2-1/4” (57 mm)
Max Door to Floor Clearance: 1-1/8” to 1-9/16” (29 mm to 40 mm)
Materials: Cast brass
Fasteners: Three (3) #14 x 1-1/2” FPHWS, three (3) 1/4-20 x 3/4” FPHMS, three (3) 1/4-20 lead anchors, four (4) 12-24 x 1” TPHMS, and four (4) #12 x 1” TPHWS
Notes: • For use on wood or metal doors and wood or concrete floors • Ideal for heavy traffic situations that require frequent hold open • Firm pull releases holding mechanism • Holder has vertical adjustment once mounted on the door

329F
Automatic Floor Stop and Holder
Certification: Meets ANSI A156.16 for L01301
Holder Projection: 1-15/16” (49 mm)
Holder Base: 3-1/16” x 3-1/2” (78 mm x 89 mm)
Floor Strike: 2-3/16” x 4-1/8” (56 mm x 105 mm)
Strike Height: 2-3/4” (70 mm)
Max Door to Floor Clearance: 1-5/8” to 2-1/16” (41 mm to 52 mm)
Materials: Cast brass
Fasteners: Three (3) #14 x 1-1/2” FPHWS, three (3) 1/4-20 x 3/4” FPHMS, three (3) 1/4-20 lead anchors, four (4) 12-24 x 1” TPHMS, and four (4) #12 x 1” TPHWS
Notes: • For use on wood or metal doors and wood or concrete floors • Ideal for heavy traffic situations that require frequent hold open • Firm pull releases holding mechanism • Holder has vertical adjustment once mounted on the door
**270C**

**Kick Down Door Holder**

Certification: Meets ANSI A156.16 for L71382  
Base: 1-7/16” x 2-1/8” (37 mm x 54 mm)  
Arm: 3-13/16” (97 mm)  
Materials: Cast iron with rubber tip  
Finishes: S1 - Sprayed Aluminum, S2 - Sprayed Brass, S3 - Sprayed Bronze  
Fasteners: Four (4) #6 x 3/4” OPH tapping screws  
Notes:  
- Provides simple hold and release with a touch of the foot  
- 2-1/4” (57 mm) max door to floor clearance  

---

**270D**

**Kick Down Door Holder**

Certification: Meets ANSI A156.16 for L01381  
Base: 1-19/32” x 1-25/32” (41 mm x 45 mm)  
Arm: 3-1/2” (89 mm)  
Materials: Cast brass with rubber tip  
Fasteners: Three (3) #6 x 3/4” OPHWS  
Notes:  
- Provides simple hold and release with a touch of the foot  
- 2-1/4” (57 mm) max door to floor clearance  

---

**270R**

**Replacement Rubber Tip**

Materials: Rubber  
Notes:  
- For use with 270D and 271D  
- Sold in packs of 10  

---

**270CR**

**Replacement Rubber Tip**

Materials: Rubber  
Notes:  
- For use with 270C  
- Sold in packs of 6  

---

**271D**

**Kick Down Door Holder**

Certification: Meets ANSI A156.16 for L01381  
Base: 1-19/32” x 1-25/32” (41 mm x 45 mm)  
Arm: 4-7/16” (87 mm)  
Materials: Cast brass with rubber tip  
Fasteners: Three (3) #6 x 3/4” OPHWS  
Notes:  
- Provides simple hold and release with a touch of the foot  
- 3-1/4” (83 mm) max door to floor clearance
**SURFACE BOLTS**

**275D | 276D**

**Surface Bolt**
- Certification: Meets ANSI A156.16 for L04161
- Overall Projection: 1-3/8” (35 mm)
- Overall Width: 2-1/32” (52 mm)
- Bar: 3/4” x 1/4” (19 mm x 6 mm) thick
- Length: 275D - 8” (203 mm)  
  276D - 12” (305 mm)
- Throw: 1” (25 mm)
- Materials: Steel
- Fasteners: Eight (8) #10 x 1-1/4” FPHWS and eight (8) 10-24 x 1” undercut FPHMS
- Notes: • Mortise bottom strike and universal top strike included
  • Strong tension springs prevent creep
  • UL listed for use on inactive leaf of a pair of 3-HR labeled fire doors

**278D**

**Surface Bolt**
- Bolt Length: 6” (152 mm)
- Bolt Width: 7/16” (11 mm)
- Bolt Throw: 31/32” (25 mm)
- Base Width: 19/32” (15 mm)
- Knob Diameter: 1/2” (13 mm)
- Projection: 3/4” (19 mm)
- Materials: Brass
- Fasteners: Four (4) #5 x 5/8” FPHWS
- Notes: • Mortise and universal strikes included
  • Concealed screw design enhances appearance and security
  • Permanent stop prevents bolt disengagement from track

**279D**

**Surface Bolt**
- Length: 4” (102 mm)
- Width: 1-11/16” (43 mm)
- Throw: 3/8” (10 mm)
- Half Round Bolt Size: 5/8” (16 mm)
- Projection: 1-1/4” (32 mm)
- Knob Diameter: 29/32” (23 mm)
- Materials: Brass
- Fasteners: Twelve (12) #6 x 3/4” FPHWS
- Notes: Mortise and universal strikes included
### 280X Dust Proof Strike

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification</td>
<td>Meets ANSI A156.16 for L04021</td>
</tr>
<tr>
<td>Face Plate</td>
<td>1-7/16” x 2-29/32” x 1/8” depth (37 mm x 74 mm x 3 mm)</td>
</tr>
<tr>
<td>Barrel Diameter</td>
<td>1” (25 mm)</td>
</tr>
<tr>
<td>Barrel Depth</td>
<td>2-3/16” (56 mm)</td>
</tr>
<tr>
<td>Plunger Diameter</td>
<td>3/4” (19 mm)</td>
</tr>
<tr>
<td>Materials</td>
<td>Brass</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Two (2) #8 x 1” FPHWS, two (2) plastic anchors, and spanner wrench</td>
</tr>
<tr>
<td>Notes</td>
<td>• Packed unassembled with plate, strike, fasteners, and spanner wrench</td>
</tr>
<tr>
<td></td>
<td>• May be used with carpet or threshold application by omitting face plate</td>
</tr>
<tr>
<td></td>
<td>• Designed for use with the bottom bolt of a flushbolt set</td>
</tr>
<tr>
<td></td>
<td>• Spring loaded plunger returns to floor or threshold level anytime flushbolt is retracted, eliminating the need to clean out the bottom strike</td>
</tr>
</tbody>
</table>

### 281D Slide Flush Bolt

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification</td>
<td>Meets ANSI A156.16 for L04201</td>
</tr>
<tr>
<td>Faceplate</td>
<td>3/4” x 6” (19 mm x 153 mm)</td>
</tr>
<tr>
<td>Bolt Diameter</td>
<td>1/2” (13 mm)</td>
</tr>
<tr>
<td>Bolt Throw</td>
<td>1” (25 mm)</td>
</tr>
<tr>
<td>Bolt Backset</td>
<td>7/16” (11 mm)</td>
</tr>
<tr>
<td>Strike</td>
<td>7/8” x 1-3/4” (22 mm x 45 mm)</td>
</tr>
<tr>
<td>Materials</td>
<td>Brass, bronze faceplate with steel components</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Four (4) #6 x 3/4” FPHWS</td>
</tr>
<tr>
<td>Notes</td>
<td>Double action spring design provides automatic holding of bolt in projected or retracted position</td>
</tr>
</tbody>
</table>

### 282D Manual Flush Bolt

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification</td>
<td>• Fits ANSI A115 door and frame prep</td>
</tr>
<tr>
<td></td>
<td>• Meets ANSI A156.16 for L14251</td>
</tr>
<tr>
<td>Face Plate</td>
<td>1” x 6-3/4” (25 mm x 172 mm)</td>
</tr>
<tr>
<td>Bolt Head</td>
<td>1/2” (13 mm) square</td>
</tr>
<tr>
<td>Bolt Throw</td>
<td>3/4” (19 mm)</td>
</tr>
<tr>
<td>Standard Rod Length</td>
<td>12” (305 mm) (center of face to corner of door)</td>
</tr>
<tr>
<td>Bolt Backset</td>
<td>3/4” (19 mm)</td>
</tr>
<tr>
<td>Mortise Strike</td>
<td>15/16” x 2-1/4” (24 mm x 57 mm)</td>
</tr>
<tr>
<td>Materials</td>
<td>Brass faceplate with steel components</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Eight (8) #8 x 3/4” combo screws; eight (8) #8 x 1-1/2” combo screws</td>
</tr>
<tr>
<td>Notes</td>
<td>• For use on hollow metal/fire-rated doors</td>
</tr>
<tr>
<td></td>
<td>• Non-handed</td>
</tr>
<tr>
<td></td>
<td>• Bolt head rods are adjustable</td>
</tr>
<tr>
<td></td>
<td>• Sold in increments of two</td>
</tr>
<tr>
<td></td>
<td>• 3 hour fire rating for metal doors up to 4 feet wide by 10 feet tall</td>
</tr>
<tr>
<td></td>
<td>• 282S strike plate bag and 282P bolt head available</td>
</tr>
<tr>
<td></td>
<td>• Specify 282R for optional rod length of 18” (457 mm), 25” (635 mm),</td>
</tr>
<tr>
<td></td>
<td>or 30” (762 mm) (bolt head not included)</td>
</tr>
</tbody>
</table>
283D
Manual Flush Bolt
Certification: Meets ANSI A156.16 for L14261
Face Plate: 1” x 6-25/32” (25 mm x 172 mm)
Bolt Head: 1/2” (13 mm) square
Bolt Throw: 3/4” (19 mm)
Bolt Backset: 3/4” (19 mm)
Mortise Strike: 15/16” x 2-1/4” (24 mm x 57 mm)
Materials: Brass faceplate with steel components
Fasteners: Eight (8) #8 x 3/4” combo screws
Notes:
• For use on wood composite/ fire-rated doors
• Non-handed
• Bolt head rods are adjustable
• 1-1/2 hour fire rating for wood doors up to 4 feet wide by 10 feet tall

291D
Automatic Flush Bolt Set for Wood Covered Composite Doors
Certification: B, C, D, and E Label
ANSI A156.3 Type #25
Face Plate: 1” x 8-1/2” (25 mm x 216 mm)
Bolt Head: 1/2” (13 mm) square
Bolt Throw: 3/4” (19 mm)
Bolt Backset: 3/4” (19 mm)
Mortise Strike: 15/16” x 2-1/4” (24 mm x 57 mm)
Materials: Stainless steel and brass with steel components
Fasteners: Six (6) #8 x 1” combo screws, three (3) #10 x 1” SMS, and two (2) plastic anchors
Notes:
• Thermal lock automatically locks inactive door under high fire/heat conditions
• 280X dust proof strikes are recommended for use with these sets
• Used in pairs at top and bottom of inactive door
• Fully automatic – bolts retract when active door is opened; bolts extend when active door is closed
• Non-handed
• Bolt head rods are adjustable
• 1-1/2 hour fire rating for wood doors up to 4 feet wide by 9 feet tall
292D
Automatic Flush Bolt Set for Metal Doors
Certification: A, B, C, D, and E Label
ANSI A156.3 Type #25
Face Plate: 1” x 6-3/4” (27 mm x 172 mm)
Bolt Head: 1/2” (13 mm) square
Bolt Throw: 3/4” (19 mm)
Bolt Backset: 3/4” (19 mm)
Mortise Strike: 15/16” x 2-1/4” (24 mm x 57 mm)
Materials: Stainless steel and brass with steel components
Fasteners: Ten (10) #8 x 1” combo screws
Notes:
• Thermal lock automatically locks inactive door under high fire/heat conditions
• 280X dust proof strikes are recommended for use with these sets
• Used in pairs at top and bottom of inactive door
• Fully automatic – bolts retract when active door is opened; bolts extend when active door is closed
• Non-handed
• Bolt head rods are adjustable
• 3-hour fire rating for metal doors up to 4 feet wide by 9 feet tall

293D
Constant-Latching Flush Bolt Set for Inactive Metal Doors
Certification: A, B, C, D, and E Label
ANSI A156.3 Type #27
Face Plate: 1” x 6-3/4” (25 mm x 172 mm)
Bolt Head: 1/2” (13 mm) square
Bolt Throw: 3/4” (19 mm)
Bolt Backset: 3/4” (19 mm)
T-Strike: 1-1/8” x 2-3/4” (28 mm x 70 mm)
Materials: Stainless steel and brass with steel components
Fasteners: Eight (8) #8 x 1” combo screws
Notes:
• Thermal lock automatically locks inactive door under high fire/heat conditions
• 280X dust proof strikes are recommended for use with these sets
• Consists of one 292S and one 293S for two point latching
• Inactive door remains latched until the active door is opened, releasing the automatic bottom bolt - Top bolt can be manually released by pressing plunger - Inactive door will relatch automatically when closed
• Non-handed
• Bolt head rods are adjustable
• 3-hour fire rating for metal doors up to 4 feet wide by 9 feet tall
**294D**

**Constant-Latching Flush Bolt Set for Inactive Wood Covered Composite Doors**

Certification: B, C, D, and E Label  
ANSI A156.3 Type #27

Face Plate: 1" x 8-1/2" (25 mm x 216 mm)  
Bolt Head: 1/2" (13 mm) square  
Bolt Throw: 3/4" (19 mm)  
Bolt Backset: 3/4" (19 mm)  
T-Strike: 1-1/8" x 2-3/4" (28 mm x 70 mm)

Materials: Stainless steel and brass with steel components  

Fasteners: Four (4) #8 x 1” combo screws, three (3) #10 x 1” SMS, and two (2) plastic anchors

Notes:  
- Thermal lock automatically locks inactive door under high fire/heat conditions  
- 280X dust proof strikes are recommended for use with these sets  
- May be used on doors 4 ft. wide and 9 ft. high  
- Consists of one 291S and one 294S for two point latching  
- Inactive door remains latched until the active door is opened, releasing the automatic bottom bolt - Top bolt can be manually released - Inactive door will relatch automatically when closed  
- Non-handed  
- Bolt head rods are adjustable  
- 1-1/2 hour fire rating for wood doors up to 4 feet wide by 9 feet tall

**295M**

**Automatic Flush Bolt Set with Fire Bolt for Metal Doors**

Certification: ANSI/BHMA 156.3 Type #25

Face Plate: 1" x 6-3/4" (25 mm x 172 mm)  
Bolt Head: 1/2" (13 mm) square  
Bolt Throw: 3/4" (19 mm)  
Bolt Backset: 3/4" (19 mm)  
Mortise Strike: 15/16" x 2-1/4" (24 mm x 57 mm)

Materials: Stainless steel and brass with steel components  

Fasteners: Ten (10) #8 x 1” combo screws

Notes:  
- Fire bolt is activated at 230º Fahrenheit projecting into active door locking leaves together - This combination eliminates the bottom flushbolt and eliminates floor preparation  
- Fully automatic – Bolt retracts when active door is opened - Bolt extends when active door is closed  
- Non-handed  
- Bolt head rods are adjustable  
- 3-hour fire rating for metal doors up to 4 feet wide by 9 feet tall
296W
Automatic Flush Bolt Set for Wood Doors
Certification: ANSI/BHMA 156.3 Type #25
Face Plate: 1-1/8" x 2-1/4" (29 mm x 57 mm)
Bolt Head: 1/2" (13 mm) diameter
Bolt Throw: 3/4" (19 mm)
Bolt Backset: 1-1/2" (39 mm)
Mortise Strike: 1-1/8" x 2-1/4" (29 mm x 57 mm)
Materials: Stainless steel and brass with steel components
Fasteners: Four (4) #8 x 1" SMS, two (2) #8 x 3/4" combo screws, two (2) plastic anchors
Strike: 1-1/8" x 2-1/4" (29 mm x 57 mm)
Notes: • Non-handed
• Ideal for wood veneer doors
• Only two (2) 1-1/8" diameter holes needed for easier door preparation
• Opening active door retracts top and bottom bolts
• Smaller profile adds stability to the door
• 1-1/2 hour fire rating for doors up to 4 feet wide by 9 feet tall
297D
Coordinating Device
Certification: ANSI/BHMA A156.3 Type #21A
Base: 1-5/8” x 5/8” (41 mm x 16 mm)
Maximum Astragal Overlap: 1” (25 mm)
Stop Height: 5/8” (16 mm)
Materials: Steel
Finishes: Black Prime Coat
Fasteners: Seven (7) 12-24 x 3/4” PPHMS w/ sex nuts
Notes: • For use with overall frame widths 60” (1524 mm), 72” (1829 mm), or 96” (2438 mm), consult Hager Customer Service if overall frame width is different than our stock sizes
• Coordinating device is 52” (1321 mm) long for all stock sizes 60” (1524 mm), 72” (1829 mm), or 96” (2438 mm)
• Filler bar is cut to length by factory to match customers overall frame width
• Non-handed

297C
Carry Bar
Certification: ANSI/BHMA A156.3 Type #27
Projection: 25/32” (20 mm)
Base: 1-3/4” x 2-1/4” (45 mm x 57 mm)
Materials: Brass and stainless steel
Fasteners: Two (2) 12-24 x 3/4” PPHMS w/ sex nuts
Notes: • Used when it is possible for the inactive door to be opened before the active door
• For use on pairs of doors with astragals
• For use in conjunction with a 297D or 298D coordinator
• Prevents damage to the doors and other hardware
• Carry bar is not required when the inactive door is equipped with automatic or self-latching flushbolts
• Non-handed

REV. DESCRIPTION ECO NO. DATE
WEIGHT: 0.03
Part1 -Material <not specified>- 1/1/2008--
--

PROPRIETARY & CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HAGER COMPANIES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HAGER COMPANIES IS PROHIBITED. SHEET 1 OF 1

Q.A.
ENG. APPR.
DRAWN
TOLERANCES:
FRACTIONAL: 0.015”
ANGULAR: MACH: 1  BEND: 1
TWO PLACE DECIMAL: 0.01”
THREE PLACE DECIMAL: 0.004”DO  NOT  SCALE  DRAWING

FINISH
MATERIAL

DWG.  NO.SIZE

SCALE:1:4

HAGER RESERVES THE RIGHT TO MAKE DESIGN CHANGES WITHOUT NOTICE.
CALL HAGER ENGINEERING AT 1-800-325-9995 FOR THE LATEST REVISION DATE OF TEMPLATE.

2016
www.hagerco.com

63
297F
Filler Bar
Stop Height: 5/8" (16 mm)
Material: Steel
Finishes: Black prime coat
Length: 18-5/8" (473 mm) (for jamb opening widths 52" – 72")
42-5/8" (1082 mm) (for jamb opening widths 73" – 96")
Notes: For use with 297D coordinator

297M
Mounting Bracket
Jamb Depth: 4-3/4" (121 mm)
Stop Height: 5/8" (16 mm)
Material: Aluminum
Finishes: Black prime coat
Soffit Width: 7/8" - 2 3/8" (22.23 mm - 60.33 mm)
Fasteners: Four (4) 12-24 x 2" FPHMS and four (4) 1/4-20 x 1/2" FPHMS
Notes:
• For use with 297D coordinator
• Allows soffit mounted hardware to be properly installed without damaging the coordinator, such as a parallel arm closer or a non-fire-rated surface vertical rod strike

297N
Mounting Bracket
Stop Height: 5/8" (16 mm)
Material: Aluminum
Finishes: Black prime coat
Fasteners: Four (4) 12-24 x 2" FPHMS and four (4) 1/4-20 x 1/2" FPHMS
Notes:
• For use with 297D coordinator
• For soffit width 3" (76 mm) or greater
• Allows soffit mounted hardware to be properly installed without damaging the coordinator, such as a parallel arm closer or a non-fire-rated surface vertical rod strike

298D
Gravity Coordinator
Certification: ANSI A156.3 Type #21B
Base: 5-1/2" x 1-1/8" (140 mm x 29 mm)
Projection: 7" (178 mm)
Rail Height: 2-1/2" (64 mm) min
Materials: Cast brass with rubber roller and nylon cam roller
Fasteners: Two (2) #12 x 1" OPHWS, two (2) #6 x 3/4" FPHWS, two (2) #8 x 3/4" TPHWS, and one (1) #6 x 3/4" FPHWS
Notes:
• Non-handed
• Recommended for use with flush top metal doors only
• Use automatic flush bolts only
• Use 297D if using self latching flush bolts
• Gravity arm and door bracket are adjustable on the job for ease of installation
• For use on pairs of doors with astragal on active door up to 4' (1219 mm) wide or with astragal on inactive door up to 3'-4" (1016 mm) wide or with astragal on both doors up to 2'-10" (864 mm) wide
• Maximum astragal overlap - 7/8" (22 mm)
• Do not use spring hinges with coordinating device
**311H | 311L**

**Push/Pull Latch**

Certification: ANSI A156.2 Closest Equivalent

(Bored Latch - Series 4000 - Grade 2)

Push & Pull Levers: 1-15/16" x 4-1/2" (49 mm x 114 mm)

Escutcheons: 3-1/16" x 5" (78 mm x 127 mm)

Projection: 2-5/8" (67 mm)

Bolt Throw: 1/2" (13 mm)

Bolt Diameter: 3/4" (19 mm)

Backset:
- 2-3/4" (70 mm) - Standard
- 5" (127 mm) - Optional

Strike (TEE) - standard: 1-1/8" x 2-3/4" (29 mm x 70 mm)

Strike (ASA) - standard: 1-1/4" x 4-7/8" (32 mm x 124 mm)

Door thickness: 1-3/4" (45 mm)

Materials: Zinc and stainless steel


Notes:
- Non-handed
- Engraving is optional
- 311L is same as 311H but for use on lead lined doors

---

**Optional Vertical Mounting**

Requires 2-3/4" to 5" (70 mm - 127 mm) backset

---

**Optional Horizontal Mounting**

Requires 5" (127 mm) backset

---

**318D**

**Roller Latch with Tee Strike**

Certification: Meets ANSI A156.16 for E09091

Roller Faceplate: 1" x 3-3/8" (25 mm x 86 mm)

Strike: 1-1/8" x 2-3/4" (29 mm x 70 mm)

Strike Gauge: 0.171" (4.3 mm)

Materials: Brass


Fasteners: Two (2) #10 x 1-1/2" FPHWS, two (2) #8 x 1" FPHWS, and two (2) 8-32 x 3/4" FPHMS

Notes:
- Adjustable spring tension with nylon roller
- Projection of roller is easily adjusted using screws on faceplate
- Max projection of the roller is 3/8" (9.5 mm) allowing for variance in door and frame clearance
318S
Roller Latch with Stop
Certification: Meets ANSI A156.16 for E0911
Roller Faceplate: 1-7/16” wide x 4-7/16” high x 11/16” angle (37 mm x 111 mm x 18 mm)
Strike: 1-1/8" x 2-1/4" (29 mm x 57 mm)
Strike Gauge: 0.171” (4.3 mm)
Materials: Brass
Fasteners: Two (2) #10 x 1-1/2” FPHWS and two (2) 8-32 x 3/4” FPHMS
Notes: • Adjustable spring tension with nylon roller
• Projection of roller is easily adjusted using screws on faceplate
• Max projection of the roller is 3/8” (9.5 mm) allowing for variance in door and frame clearance

320R
Roller Catch with Tee Strike
Certification: Meets ANSI A156.16 for E0910
Roller Faceplate: 1-1/8” x 2-1/4” (29 mm x 57 mm)
Strike: 1-1/4” x 2-3/4” x 1/16” thick (32 mm x 70 mm x 1.5 mm)
Materials: Brass
Fasteners: Four (4) #8 x 1” FPHWS
Notes: • Adjustable spring tension with nylon roller
• Projection of roller is easily adjusted using screws on back of the latch
• Max projection of the roller is 7/16” (11 mm) allowing for variance in door and frame clearance
• For use with wood door and frame

321R
Adjustable Ball Catch with Strike
Roller Faceplate: 1” x 2-1/8” (25 mm x 54 mm)
Strike: 1-1/2” x 2-1/8” (38 mm x 54 mm)
Strike Gauge: 0.050” (1.3 mm)
Materials: Brass with steel ball
Fasteners: Four (4) #6 FPHWS
Notes: • Adjustable threaded barrel compensates for various door clearances
• Adjustable spring tension
• For use with wood door and frame

323S
Three-Way Ball Catch
Certification: Meets ANSI/BHMA 156.9.B13302
Body: 1/2 W x 2-3/16” H x 1/2” D
Strike: • 3/8” W x 1-3/8” H x 5/8” D • Plate type strike
Materials: Brass with steel balls
Finish: US26D
Notes: • Adjustable spring tension is easily adjusted to suit field conditions
• Body can be surface applied or mortised
340D
Latch Protection Plate
Size: 3” x 11” (76 mm x 279 mm)
Materials: 12 gauge steel, stainless steel
Finishes: US2C, US32D
Fasteners: Two (2) 5/16-20 x 1-1/2” carriage bolts with sex nuts
Notes: • For use with 1-3/4” (45 mm) doors
• Non-handed
• Frame pin prevents prying of door
• For use with most mortise locks
• For use with cylindrical locksets with a 3-3/4” (95 mm) backset or greater

341D
Latch Protection Plate with Lock Cut Out
Size: 3” x 11” (76 mm x 279 mm)
Materials: 12 gauge steel, stainless steel
Finishes: US2C, US32D
Fasteners: Two (2) 5/16-20 x 1-1/2” carriage bolts with sex nuts
Notes: • For use with 1-3/4” (45 mm) doors
• Non-handed
• Frame pin prevents prying of door
• For use with cylindrical locksets with a 2-3/4” (70 mm) backset

342D
Latch Protection Plate with Escutcheon Cut Out
Size: 3” x 11” (76 mm x 279 mm)
Materials: 12 gauge steel, stainless steel
Finishes: US2C, US32D
Fasteners: Two (2) 5/16-20 x 1-1/2” carriage bolts with sex nuts
Notes: • For use with 1-3/4” (45 mm) doors
• Non-handed
• For use with cylindrical and mortise locks with a 2-3/4” (70 mm) backset

345D
Latch Protection Plate
Size: 1-5/8” x 10” (41 mm x 254 mm)
Materials: 12 gauge steel, stainless steel
Finishes: US2C, US32D
Fasteners: Two (2) 5/16-20 x 1-1/2” carriage bolts with sex nuts
Notes: • For use with 1-3/4” (45 mm) doors
• Non-handed
• For use with cylindrical and mortise locks
**1442**

Roller Latch with Full Lip Strike

- **Certification:** Meets ANSI A156.16 for E09091
- **Roller Faceplate:** 1” x 3-3/8” (25 mm x 86 mm)
- **Strike:** 1-11/16” x 2-1/4” (43 mm x 57 mm)
- **Strike Gauge:** 5/32” (4 mm)
- **Materials:** Brass
- **Fasteners:** Two (2) #10 x 1-1/2” FPHWS, two (2) #8 x 1” FPHWS, and two (2) 8-32 x 3/4” FPHMS
- **Notes:**
  - Adjustable spring tension with nylon roller
  - Projection of roller is easily adjusted using screws on faceplate
  - Max projection of the roller is 3/8” (9.5 mm) allowing for variance in door and frame clearance

**1443**

Roller Latch with ASA Strike

- **Certification:** Meets ANSI A156.16 for E09101
- **Roller Faceplate:** 1” x 3-3/8” (25 mm x 86 mm)
- **Strike:** 1-1/4” x 4-7/8” (32 mm x 124 mm)
- **Strike Gauge:** 0.090” (2.3 mm)
- **Materials:** Brass
- **Fasteners:** Two (2) #10 x 1-1/2” FPHWS, two (2) #12 x 3/4” FPHWS, and two (2) 12-24 x 1/2” FPHMS
- **Notes:**
  - Adjustable spring tension with nylon roller
  - Projection of roller is easily adjusted using screws on faceplate
  - Max projection of the roller is 3/8” (9.5 mm) allowing for variance in door and frame clearance
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Diameter</th>
<th>Projection</th>
<th>Materials</th>
<th>Finishes</th>
<th>Fasteners</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>901P</td>
<td>Coat Hook - Short Single</td>
<td>1” (25 mm)</td>
<td>1-1/4” (32 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>#14 x 1-1/4” wood thread</td>
<td>Concealed mounting</td>
</tr>
<tr>
<td>902P</td>
<td>Coat Hook - Long Single</td>
<td>1” (25 mm)</td>
<td>2-1/2” (63 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>#14 x 1-1/4” wood thread</td>
<td>Concealed mounting</td>
</tr>
<tr>
<td>903P</td>
<td>Coat Hook - Long Double</td>
<td>1” (25 mm)</td>
<td>2-1/2” (63 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>#14 x 1-1/4” wood thread</td>
<td>Concealed mounting</td>
</tr>
<tr>
<td>936P</td>
<td>Coat Hook Single Angled</td>
<td>Base Diameter: 1-15/16” (49 mm)</td>
<td>Hook Diameter: 11/16” (17 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td></td>
<td>Concealed mounting</td>
</tr>
<tr>
<td>937P</td>
<td>Coat Hook</td>
<td>Projections: • 3-3/4” (95 mm) top hook • 2-1/2” (63 mm) bottom hook</td>
<td></td>
<td></td>
<td>US3, US26D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>940P</td>
<td>Coat Hook - Double</td>
<td>Overall Height: 4-11/16” (119 mm)</td>
<td>Top Projection: 3-15/16” (100 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>Two (2) #10 x 1” FPHWS</td>
<td></td>
</tr>
<tr>
<td>941P</td>
<td>Coat Hook - Single</td>
<td>Overall Height: 2-5/16” (59 mm)</td>
<td>Projection: 2-1/8” (54 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>Two (2) #10 x 1” FPHWS</td>
<td></td>
</tr>
</tbody>
</table>
### COAT HOOKS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Overall Height</th>
<th>Projection</th>
<th>Material</th>
<th>Finish</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>945P</td>
<td>Double Coat Hook - Surface Mounting</td>
<td>5-1/2” (140 mm)</td>
<td>3-5/16” (84 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>Four (4) #10 x 1” FPHWS w/ anchors</td>
</tr>
<tr>
<td>946P</td>
<td>Double Coat Hook - Concealed Mounting</td>
<td>5-1/2” (140 mm)</td>
<td>3-11/16” (94 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>Two (2) #10 x 1” FPHWS w/ anchors</td>
</tr>
<tr>
<td>951P</td>
<td>Coat Hook - Double</td>
<td>5-3/4” (146 mm)</td>
<td>2-3/4” (70 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>Concealed mounting</td>
</tr>
<tr>
<td>952P</td>
<td>Coat Hook - Single</td>
<td>2-13/16” (71 mm)</td>
<td>2-7/32” (56 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>Concealed mounting</td>
</tr>
<tr>
<td>956P</td>
<td>Double Coat Hook - Angled</td>
<td>5-11/16” (144 mm)</td>
<td>3-23/32” (95 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>Concealed mounting</td>
</tr>
<tr>
<td>957P</td>
<td>Coat Hook</td>
<td>1-3/4” (45 mm)</td>
<td>3/4” (19 mm)</td>
<td>Brass</td>
<td>US3, US26D</td>
<td>One (1) #10 x 1” wood thread</td>
</tr>
</tbody>
</table>
### 22N Concealed Edge Pull
- **Certification:** Meets ANSI A156.14 for D2801
- **Size:** 31/32” x 4-1/4” x 3/8” thick (25 mm x 108 mm x 9.5 mm)
- **Lever Extension:** 2-19/32” (66 mm)
- **Materials:** Brass
- **Finishes:** US3, US26D
- **Fasteners:** Two (2) #6 x 3/4” FPHWS

### 330D Pocket Door Latch
- **Certification:** Meets ANSI A156.14 for D0821
- **Size:** 2-3/4” x 2-1/2” (70 mm x 64 mm)
- **Extension of Finger Piece:** 1-3/8” (35 mm)
- **Materials:** Brass
- **Fasteners:** Two (2) #6 x 5/8” OPHWS
- **Notes:** For use with 1-3/8” - 1-3/4” (35 mm - 45 mm) door

### 330L Pocket Door Privacy Latch
- **Certification:** Meets ANSI A156.14 for D0831
- **Size:** 2-3/4” x 2-1/2” (70 mm x 64 mm)
- **Extension of Finger Piece:** 1-3/8” (35 mm)
- **Strike Size:** 1” x 2-1/4” (25 mm x 57 mm)
- **Materials:** Brass
- **Fasteners:** Two (2) #6 x 5/8” OPHWS and two (2) #6 x 3/4” FPHWS
- **Notes:** For use with 1-3/8” (35 mm) door

### 330M Pocket Door Privacy Latch
- **Certification:** Meets ANSI A156.14 for D0831
- **Size:** 2-3/4” x 2-1/2” (70 mm x 64 mm)
- **Extension of Finger Piece:** 1-3/8” (35 mm)
- **Strike Size:** 1” x 2-1/4” (25 mm x 57 mm)
- **Materials:** Brass
- **Fasteners:** Two (2) #6 x 5/8” OPHWS and two (2) #6 x 3/4” FPHWS
- **Notes:** For use with 1-3/4” (45 mm) door

### 2610 Flush Cup Finger Pull
- **Overall Diameter:** 31/32” (24.5 mm)
- **Finger Pull Diameter:** 3/4” (19 mm)
- **Pull Clearance:** 5/16” (8 mm)
- **Projection:** 1/32” (.8 mm)
- **Materials:** Solid brass
- **Notes:**
  - For use on bi-fold, by-pass or pocket applications
  - Built-in prong design eliminates the need for screws or brads
<table>
<thead>
<tr>
<th></th>
<th>PULLS - CLOSET/POCKET/SLIDING DOOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2620</td>
<td><strong>Flush Cup Pull</strong></td>
</tr>
<tr>
<td></td>
<td>Overall Diameter: 2-1/16” (52 mm)</td>
</tr>
<tr>
<td></td>
<td>Finger Pull Diameter: 1-11/16” (43 mm)</td>
</tr>
<tr>
<td></td>
<td>Pull Clearance: 11/32” (8.7 mm)</td>
</tr>
<tr>
<td></td>
<td>Projection: 5/64” (2 mm)</td>
</tr>
<tr>
<td></td>
<td>Materials: Solid brass</td>
</tr>
<tr>
<td></td>
<td>Notes: • For use on bi-fold, by-pass or pocket applications • Built-in prong design eliminates the need for screws or brads</td>
</tr>
<tr>
<td>2630</td>
<td><strong>Flush Cup Pull</strong></td>
</tr>
<tr>
<td></td>
<td>Overall Diameter: 2-7/16” (62 mm)</td>
</tr>
<tr>
<td></td>
<td>Finger Pull Diameter: 2-1/16” (52 mm)</td>
</tr>
<tr>
<td></td>
<td>Pull Clearance: 11/32” (8.7 mm)</td>
</tr>
<tr>
<td></td>
<td>Projection: 3/32” (2.4 mm)</td>
</tr>
<tr>
<td></td>
<td>Materials: Solid brass</td>
</tr>
<tr>
<td></td>
<td>Notes: • For use on bi-fold, by-pass or pocket applications • Built-in prong design eliminates the need for screws or brads</td>
</tr>
<tr>
<td>2640</td>
<td><strong>Oblong Flush Pull</strong></td>
</tr>
<tr>
<td></td>
<td>Size: 1-5/16” x 2-3/4” (33 mm x 70 mm)</td>
</tr>
<tr>
<td></td>
<td>Cup Clearance: 5/16” (8 mm)</td>
</tr>
<tr>
<td></td>
<td>Materials: Solid brass</td>
</tr>
<tr>
<td></td>
<td>Fasteners: Two (2) #6 x 5/8” OPHWS</td>
</tr>
<tr>
<td></td>
<td>Notes: For use on bi-fold, by-pass or pocket applications</td>
</tr>
<tr>
<td>9558</td>
<td><strong>Wood Knob</strong></td>
</tr>
<tr>
<td></td>
<td>Diameter: 1-1/2” (38 mm)</td>
</tr>
<tr>
<td></td>
<td>Materials: Solid wood</td>
</tr>
<tr>
<td></td>
<td>Notes: • For use on bi-fold applications • Will accept paint or stain</td>
</tr>
<tr>
<td>9566</td>
<td><strong>Knob</strong></td>
</tr>
<tr>
<td></td>
<td>Diameter: 1-1/4” (32 mm)</td>
</tr>
<tr>
<td></td>
<td>Projection: 1” (25 mm)</td>
</tr>
<tr>
<td></td>
<td>Materials: Die Cast Zinc</td>
</tr>
<tr>
<td></td>
<td>Fasteners: One (1) 8-32 x 1-3/4” PPHMS and one (1) 8-32 x 2” PPHMS</td>
</tr>
<tr>
<td></td>
<td>Notes: For use on bi-fold applications on doors 3/4” (19 mm) to 1-3/8” (35 mm) thick</td>
</tr>
</tbody>
</table>
9567
**Rose**
- Base Diameter: 1-3/4” (45 mm)
- Projection: 15/32” (12 mm)
- Materials: Die cast zinc
- Fasteners: One (1) 8-32 x 1-3/4” PPHMS and one (1) 8-32 x 2” PPHMS
- Notes: • For use on bi-fold applications on doors 3/4” (19 mm) to 1-3/8” (35 mm) thick
  • For use with 9566 knob

9865
**Flush Cup Pull**
- Overall Diameter: 1-31/32” (50 mm)
- Finger Pull Diameter: 1-19/32” (40 mm)
- Pull Clearance: 11/32” (8.7 mm)
- Projection: 5/64” (2 mm)
- Materials: Tan color ABS plastic
- Notes: • For use on bi-fold, by-pass or pocket applications
  • Built-in prong design eliminates the need for screws or brads

9882
**Pocket Door Edge Pull**
- Face Plate Size: 3/4” x 3 - 7/8” (19 mm x 98 mm)
- Finger Pull Extends: 3/4” (19 mm)
- Materials: Solid brass
- Fasteners: Two (2) #6 x 5/8” FPHWS
- Notes: • Ideal for narrow and standard door thicknesses
  • Automatic spring return

9884
**Pocket Door Edge Pull**
- Faceplate: 21/32” x 3-1/2” (16.5 mm x 89 mm)
- Finger Pull Extends: 1-1/16” (27 mm)
- Materials: Die cast zinc
- Finishes: US3
- Fasteners: Two (2) #6 x 5/8” FPHWS
- Notes: Ideal for narrow and standard door thicknesses
**FILLER PLATES**

**336A**  
Door Edge Filler Plate - 161 Prep  
Size: 1-1/8” x 2-1/4”  
(29 mm x 57 mm)  
Thickness: 0.134” (3.4 mm)  
Materials: Primed steel

**336B**  
Door Edge Filler Plate - 86 Prep  
Size: 1-1/4” x 8”  
(32 mm x 203 mm)  
Thickness: 0.180” (4.5 mm)  
Materials: Primed steel

**336C**  
Door Face Filler Plate  
Size: 1-3/4” (45 mm) diameter  
Thickness: 0.055” (1.4 mm)  
Materials: Primed steel

**336D**  
Door Face Filler Plate  
Size: 2-5/8” (67 mm) diameter  
Thickness: 0.055” (1.4 mm)  
Materials: Primed steel

**336E**  
Door Edge Filler Plate - Square  
Size: 1-3/4” x 4-1/2”  
(45 mm x 114 mm)  
Thickness: 0.134” (3.4 mm)  
Materials: Primed steel

**336F**  
Door Edge Filler Plate - Bevel  
Size: 1-1/2” x 4-1/2”  
(38 mm x 114 mm)  
Thickness: 0.134” (3.4 mm)  
Materials: Primed steel  
Notes: For handed doors

**336G**  
Door Edge Filler Plate - Square  
Size: 1-3/4” x 5”  
(38 mm x 127 mm)  
Thickness: 0.134” (3.4 mm)  
Materials: Primed steel

**336H**  
Door Edge Filler Plate - Beveled  
Size: 1-1/2” x 5”  
(38 mm x 127 mm)  
Thickness: 0.134” (3.4 mm)  
Materials: Primed steel  
Notes: For handed doors

**336J**  
Flush Bolt Strike Filler Plate - Frame  
Size: 15/16” x 2-1/4”  
(24 mm x 57 mm)  
Thickness: 0.083” (2.1 mm)  
Materials: Primed steel

**336K**  
Flush Bolt Filler Plate - Door  
Size: 1” x 6-3/4”  
(25 mm x 172 mm)  
Thickness: 0.134” (3.4 mm)  
Materials: Primed steel

**336L**  
Hinge Filler Plate - Frame  
Size: 1-5/8” x 4-1/2”  
(41 mm x 114 mm)  
Thickness: 0.134” (3.4 mm)  
Materials: Primed steel
FILLER PLATES

336M
Hinge Filler Plate - Frame
Size: 1-5/8” x 5”
(41 mm x 127 mm)
Thickness: 0.134” (3.4 mm)
Materials: Primed steel

337A
Template Hinge Shim
Size: 1-7/16” x 4-1/2”
(37 mm x 114 mm)
Thickness: 0.028” (0.7 mm)
Materials: Primed steel

336N
Latch Adapter Filler Plate - 86 to 161 Edge Prep
Size: 1-1/4” x 8”
(32 mm x 203 mm)
Thickness: 0.238” (6 mm)
Materials: Primed steel

337B
Template Hinge Shim
Size: 1-7/16” x 4-1/2”
(37 mm x 114 mm)
Thickness: 0.065” (1.7 mm)
Materials: Primed steel

336P
Deadlock Strike Filler Plate - Frame
Size: 1-1/8” x 2-3/4”
(29 mm x 70 mm)
Thickness: 0.083” (2.1 mm)
Materials: Primed steel

337C
Template Hinge Shim
Size: 1-7/16” x 5”
(37 mm x 127 mm)
Thickness: 0.028” (0.7 mm)
Materials: Primed steel

336Q
ASA Strike Filler Plate - Frame
Size: 1-1/4” x 4-7/8”
(32 mm x 124 mm)
Thickness: 0.093” (2.4 mm)
Materials: Primed steel

337D
Template Hinge Shim
Size: 1-7/16” x 5”
(37 mm x 127 mm)
Thickness: 0.065” (1.7 mm)
Materials: Primed steel

336R
Cylindrical Lock Strike Filler Plate - Frame
Size: 1-1/8” x 2-3/4”
(29 mm x 70 mm)
Thickness: 0.083” (2.1 mm)
Materials: Primed steel
SIGNAGE

350H | 350L
Lettered Plastic Sign - Push (350H) and Pull (350L)
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Lettering: 3/4” (19 mm) Helvetica
Size: 2” x 4” (51 mm x 102 mm)
Fasteners: Double-sided pressure sensitive tape or screws (specify)
Colors: • Brown (W1) with white lettering
        • Black (W2) with white lettering
        • Blue (W3) with white lettering
        • Silver (B1) with black lettering
        • Gold (B2) with black lettering
Notes: Signs are individually packed in a poly bag

350M | 350W
Lettered Plastic Sign - Men (350M) and Women (350W)
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Lettering: 3/4” (19 mm) Helvetica
Size: 2” x 4” (51 mm x 102 mm)
Fasteners: Double-sided pressure sensitive tape or screws (specify)
Colors: • Brown (W1) with white lettering
        • Black (W2) with white lettering
        • Blue (W3) with white lettering
        • Silver (B1) with black lettering
        • Gold (B2) with black lettering
Notes: Signs are individually packed in a poly bag

350R
Lettered Plastic Sign - Number
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Lettering: 3/4” (19 mm) Helvetica
Size: 2” x 4” (51 mm x 102 mm)
Fasteners: Double-sided pressure sensitive tape or screws (specify)
Colors: • Brown (W1) with white lettering
        • Black (W2) with white lettering
        • Blue (W3) with white lettering
        • Silver (B1) with black lettering
Notes: • Signs are individually packed in a poly bag
       • Please note numbers to be engraved when ordering

351H | 351L
Lettered Plastic Sign - Push (351H) and Pull (351L)
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Lettering: 3/4” (19 mm) Helvetica
Size: 1” x 4-1/2” (25 mm x 114 mm)
Fasteners: Double-sided pressure sensitive tape or screws (specify)
Colors: • Brown (W1) with white lettering
        • Black (W2) with white lettering
        • Blue (W3) with white lettering
        • Silver (B1) with black lettering
        • Gold (B2) with black lettering
Notes: Signs are individually packed in a poly bag
**352M | 352W**

**Lettered Plastic Sign - Men (352M) and Women (352W)**

Certification: Meets ANSI A156.16 L03201  
Materials: 0.125” (3.2 mm) thick plastic  
Lettering: 3/4” (19 mm) Helvetica  
Size: 352M - 2-1/2” x 6” (64 mm x 152 mm)  
352W - 2-1/2” x 7” (64 mm x 178 mm)  
Fasteners: Double-sided pressure sensitive tape or screws (specify)  
Colors:  
- Brown (W1) with white lettering  
- Black (W2) with white lettering  
- Blue (W3) with white lettering  
- Silver (B1) with black lettering  
- Gold (B2) with black lettering  
Notes: Signs are individually packed in a poly bag

---

**354A | 354B**

**Lettered Plastic Sign - Restroom(s)**

Certification: Meets ANSI A156.16 L03201  
Materials: 0.125” (3.2 mm) thick plastic  
Lettering: 3/4” (19 mm) Helvetica  
Size: 2” x 6” (51 mm x 127 mm)  
Fasteners: Double-sided pressure sensitive tape or screws (specify)  
Colors:  
- Black (W2) with white lettering  
- Blue (W3) with white lettering  
Notes: Signs are individually packed in a poly bag

---

**360M | 360W**

**Lettered Metal Sign - Men (360M) and Women (360W)**

Certification: Meets ANSI A156.16 L03201  
Materials: 0.050” (1.3 mm) thick metal  
Lettering: 3/4” (19 mm) Helvetica black filled  
Size: 2” x 6” (51 mm x 152 mm)  
Fasteners: Double-sided pressure sensitive tape or screws (specify)  
Notes: Signs are individually packed in a poly bag

---

**361H | 361L**

**Lettered Metal Sign - Push (361H) and Pull (361L)**

Certification: Meets ANSI A156.16 L03201  
Materials: 0.050” (1.3 mm) thick metal  
Lettering: 3/4” (19 mm) Helvetica black filled  
Size: 2” x 4” (51 mm x 102 mm)  
Fasteners: Double-sided pressure sensitive tape or screws (specify)  
Notes: Signs are individually packed in a poly bag
362H | 362L
**Lettered Metal Sign - Push (362H) and Pull (362L)**
Certification: Meets ANSI A156.16 L03201
Materials: 0.050" (1.3 mm) thick metal
Lettering: 3/4" (19 mm) Helvetica black filled
Size: 1” x 4-1/2” (25 mm x 114 mm)
Fasteners: Double-sided pressure sensitive tape or screws (specify)
Notes: Signs are individually packed in a poly bag

364M | 364S
**Plastic International Handicap Symbol**
Certification: Meets ANSI A156.16 L03201
Materials: 0.0625" (1.6 mm) thick plastic raised HANDICAP symbol
Size: 364M - 4” x 4” (102 mm x 102 mm)
364S - 3” x 3” (76 mm x 76 mm)
Fasteners: Double-sided pressure sensitive tape standard or screws (specify)
Colors: Blue (W3) with raised white symbol
Notes: Signs are individually packed in a poly bag

364N
**Lasered International No Smoking Symbol**
Certification: Meets ANSI A156.16 L03201
Materials: 0.125" (3.2 mm) thick plastic
Size: 6” x 6” (152 mm x 152 mm)
Fasteners: Pressure sensitive tape standard or screws (specify)
Colors: Red (W4) with raised white symbol
Notes: Signs are individually packed in a poly bag

364L
**Plastic International Handicap Symbol**
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic 1/32” (0.8 mm) raised HANDICAP symbol
Size: 6” x 6” (152 mm x 152 mm)
Fasteners: Double-sided pressure sensitive tape standard or screws (specify)
Colors: • Brown (W4) with raised white symbol
• Black (W2) with raised white symbol
• Blue (W3) with raised white symbol
Notes: Signs are individually packed in a poly bag

365M | 365W
**ADA Tactile Signage - Men (365M) and Women (365W)**
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Size: 6” x 8” (152 mm x 203 mm)
Fasteners: Double-sided pressure sensitive tape
Colors: • Brown (W1) with raised white symbol
• Black (W2) with raised white symbol
• Blue (W3) with raised white symbol
Notes: • Signs are individually packed in a poly bag
• Grade 2 Braille Translation conforming to section 4.30 requirements
366R
ADA Tactile Signage - Room Number
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Size: 2-1/2” x 5” (64 mm x 127 mm)
Fasteners: Double-sided pressure sensitive tape
Colors: • Brown (W1) with raised white lettering
      • Black (W2) with raised white lettering
      • Blue (W3) with raised white lettering
Notes: • Signs are individually packed in a poly bag
      • Grade 2 Braille Translation conforming to section 4.30 requirements
      • Please note numbers to be engraved when ordering

366S
ADA Tactile Signage - Stairs
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Size: 6” x 8” (152 mm x 203 mm)
Fasteners: Double-sided pressure sensitive tape
Colors: • Brown (W1) with white symbol and lettering
      • Black (W2) with white symbol and lettering
      • Blue (W3) with white symbol and lettering
Notes: • Signs are individually packed in a poly bag
      • Grade 2 Braille Translation conforming to section 4.30 requirements

368E
ADA Tactile Signage - Exit
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Size: 6” x 8” (152 mm x 203 mm)
Fasteners: Double-sided pressure sensitive tape
Colors: • Brown (W1) with white symbol and lettering
      • Black (W2) with white symbol and lettering
      • Blue (W3) with white symbol and lettering
Notes: • Signs are individually packed in a poly bag
      • Grade 2 Braille Translation conforming to section 4.30 requirements

368M | 368W
ADA Tactile Signage - Men (365M) and Women (365W) with Handicap
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Size: 6” x 8” (152 mm x 203 mm)
Fasteners: Double-sided pressure sensitive tape
Colors: • Brown (W1) with white symbol and lettering
      • Black (W2) with white symbol and lettering
      • Blue (W3) with white symbol and lettering
Notes: • Signs are individually packed in a poly bag
      • Grade 2 Braille Translation conforming to section 4.30 requirements
368U
ADA Tactile Signage - Unisex
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Size: 8” x 8” (203 mm x 203 mm)
Fasteners: Double-sided pressure sensitive tape
Colors: • Brown (W1) with white symbol and lettering
       • Black (W2) with white symbol and lettering
       • Blue (W3) with white symbol and lettering
Notes: • Signs are individually packed in a poly bag
       • Grade 2 Braille Translation conforming to section 4.30 requirements

369L  |  369R
ADA Tactile Signage - Access Left (369L) and Access Right (369R)
Certification: Meets ANSI A156.16 L03201
Materials: 0.125” (3.2 mm) thick plastic
Size: 6” x 8” (152 mm x 203 mm)
Fasteners: Double-sided pressure sensitive tape
Colors: • Brown (W1) with white symbol and lettering
       • Black (W2) with white symbol and lettering
       • Blue (W3) with white symbol and lettering
Notes: • Signs are individually packed in a poly bag
       • Grade 2 Braille Translation conforming to section 4.30 requirements

370U  |  370W  |  370M
ADA Tactile Signage - Restroom, Men, and Women
Certification: Meets ANSI A156.16 L03201
Materials: 9/16” (14.3 mm) plastic
Size:
   • 370U - 12” (305 mm) diameter
   • 370W - 12” (305 mm) diameter
   • 370M - 10-1/2” (267 mm) side
Fasteners: Double-sided pressure sensitive tape
Color: Blue (W3) with white raised symbol and lettering
Notes:
   • Signs are individually packed in a poly bag
   • Grade 2 Braille Translation conforming to section 4.30 requirements
**274B**  
**Door Guard Protection Plate**  
Size: 1-1/8" x 1" x 1/2" (28.5 mm x 25 mm x 12.5 mm)  
Materials: Brass  
Notes:  
- Used when additional protective plate is required for frame application  
- Mounted with double-sided tape  
- To be used with the 274D  

**274C**  
**Shim for Door Guard**  
Size:  
- 1-1/16" X 1-5/8" (27 mm X 41 mm)  
- 1-1/8" x 1-1/16" (29 mm x 27 mm)  
Thickness: 3/32" (2.3 mm)  
Materials: Black rubber  
Notes:  
- To be used with the 274D  

**274D**  
**Door Guard**  
Certification: Meets ANSI A156.16 for L13041  
Arm Length: 4-1/2" (114 mm)  
Materials: Brass  
Fasteners: Three (3) #6 x 1-1/2” OPHWS, four (4) #6 x 3/4” OPHWS, and seven (7) 6-32 x 12” OPHMS  
Notes:  
- Permits door to be slightly opened to allow viewing  
- Hinged bar allows the door guard to be positioned 180 degrees away from the door when not in use  
- Includes door guard protective plate 274B  

**277D**  
**Door Guard**  
Certification:  
- Meets NFPA 80 5.2.13.3  
- Meets NFPA 80 5.2.4.2(9)  
- ADA Compliant Arm  
Size:  
- Base: 2-5/8” H x 1-9/16” W  
- Projection: 2-3/16”  
Materials: Cast zinc  
Fasteners:  
- Three (3) #12 x 1 3/4” FPHSMS  
- Three (3) 12-24 machine screws  

**300D**  
**Chain Door Check**  
Certification: Meets ANSI A156.16 for L02231  
Lengths:  
- 25½-1/2'+/- 1/2" (648 mm) recommended for use with 36” (914 mm) wide door  
- 30” +/- 1/2” (762 mm) recommended for use with 42” (1067 mm) wide door  
Base Plate: 1-1/2" x 1-1/2" (38 mm x 38 mm)  
Materials:  
- Cast zinc base  
- Galvanized steel chain  
- EDPM rubber cover  
Finish: US26D  
Fasteners: Ten (10) #8 x 1” FPHSMS  
Notes:  
- Tear resistant grey vinyl cover  
- Can be ordered through door mounting with grommet nut sets at extra charge  
- 440 pound load strength  
- Designed for full size exterior doors
**301D Residential Stop**
Certification: Meets ANSI A156.16 for L02223
Materials: Wrought steel with rubber bumpers
Finishes: 2C, US3
Notes: • Works with 1/4” (6 mm) and 5/16” (8 mm) hinge pins
      • For use where standard door stops are not desirable
      • Positive slip proof design
      • Adjustable from 70 degrees to 100 degrees
      • Must purchase an NRP hinge for use with this pinstop

**303W Handrail Bracket**
Certification: Meets ANSI A156.16 for L03061
Base Diameter: 3-5/32” (80 mm)
Base to Center of Rail: 2-3/4” (70 mm)
Materials: Brass
Fasteners: Three (3) #10 x 1-1/4” FPHWS, three (3) plastic anchors, three (3) 10-24 x 13/16” FPHMS, and three (3) 10-24 lead anchors

**305D Wire Pull**
Certification: Meets ANSI A156.9 for B02011
Diameter of Rod: 5/16” (7.9 mm)
Projection: 1-9/32” (32.5 mm)
CTC Lengths: 3” (76 mm), 3-1/2” (89 mm), 4” (102 mm)
Materials: Brass
Fasteners: Two (2) 8-32 x 1” TPHMS

**307D Door Silencer**
Certification: Meets ANSI A156.16 for L03011
Diameter: 1/2” (13 mm)
Projection: 1/8” (3 mm)
Materials: Rubber
Notes: • For use with metal frames
      • Proper installation eliminates door rattle and provides constant tension for door latches or locks

**308D Door Silencer**
Certification: Meets ANSI A156.16 for L0302
Projection: 9/64” (3.5 mm)
Base: 3/8” x 3/4” (9.5 mm x 19 mm)
Length: 3/4” (19 mm)
Materials: Rubber
Notes: • For use with wood frames
      • Eliminates door rattle when door is latched
      • Proper installation eliminates door rattle and provides constant tension for door latches or locks
**310C**
*Conversion Kit*
- **Filler Plate:** 1-1/8” x 3-3/8” (29 mm x 86 mm)
- **Strike:** 1-11/16” x 2-1/4” (43 mm x 57 mm)
- **Materials:** Brass
- **Finishes:** US10B, US26D
- **Notes:** • Packed with filler plate, strike and fasteners  
  • Change door from Roller Latch to Push/Pull Latch

**322V**
*Wrought Door Knocker with Viewer (115°)*
- **Certification:** Meets ANSI A156.16 for L03163
- **Size:** 2-3/16” x 3-1/4” (56 mm x 83 mm)
- **Materials:** Brass
- **Finishes:** US3, US4, US10, US26D
- **Fasteners:** Three (3) #6 x 3/4” TPHSMS
- **Engraving:** Available up to four characters
- **Notes:** Requires 1/2” (13 mm) hole for viewer  
  90 Minute Fire Rated

**334V**
*Door Knocker with Viewer (115°)*
- **Certification:** Meets ANSI A156.16 for L03163
- **Size:** 3-9/16” x 6-3/4” (90.5 mm x 171.5 mm)
- **Materials:** Solid Cast Brass
- **Fasteners:**  
  • Two (2) #8 finish washers  
  • Two (2) 7-32 x 1-7/8” OHMS for 1-5/8” doors  
  • Two (2) 7-32 x 2” OHMS for 1-3/4” doors
- **Engraving:** Available up to four characters
- **Notes:** 90 Minute Fire Rated

**1755**
*115° Door Viewer*
- **Certification:** Meets ANSI A156.16 for L03223
- **Materials:** Brass
- **Door Thickness:** 1-3/8” - 2-1/8” thick, adjustable
- **Notes:**  
  • For doors up to 2-1/8” (54 mm) thick, adjustable  
  • Requires 1/2” (13 mm) hole for viewer  
  • Tamper resistant  
  • 90 minute fire-rated  
  • One-way viewer
### 1756
**185° Door Viewer**
- Certification: Meets ANSI A156.16 for L03223
- Materials: Brass
- Notes:
  - Requires 9/16” (14 mm) hole for viewer
  - For doors up to 2-1/8” (54 mm) thick, adjustable
  - Tamper resistant
  - 90 minute fire-rated
  - One-way viewer

### 1758
**115° Door Viewer with Privacy Flap**
- Certification: Meets ANSI A156.16 for L03223
- Materials: Brass
- Notes:
  - Requires 1/2” (13 mm) hole for viewer
  - For doors 1-3/8” (35 mm) to 2-1/8” (54 mm) thick, adjustable
  - Tamper resistant
  - 90 minute fire-rated
  - One-way viewer
  - Flap diameter - 3/4”

### 1759
**185° Door Viewer with Privacy Flap**
- Certification: Meets ANSI A156.16 for L03223
- Materials: Brass
- Notes:
  - Requires 9/16” (14 mm) hole for viewer
  - For doors 1-3/8” (35 mm) to 2-1/8” (54 mm) thick, adjustable
  - Tamper resistant
  - 90 minute fire-rated
  - One-way viewer
  - Flap diameter - 3/4”

### 1765
**Privacy Flap for Use with Hager 115° Door Viewer (1755)**
- Materials: Brass
- Notes: Flap diameter - 3/4”

### 1766
**Privacy Flap for Use with Hager 185° Door Viewer (1756)**
- Materials: Brass
- Notes: Flap diameter - 3/4”
208
Kick Down Door Stop
Base: 1-5/8” x 1-7/8” (41 mm x 48 mm)
Arm: 3-7/8” (98 mm)
Materials: Aluminum alloy
Fasteners: Three (3) #6 x 3/4” FPHWS
Notes:
• Poly bag (1 each) with screws
• Provides simple hold and release with a touch of the foot
• 3” (76 mm) max door to floor clearance

209
Floor Door Stop
Height: 1-1/4” (32 mm)
Base Diameter: 1-3/32” (28 mm)
Tip Diameter: 19/32” (15 mm)
Materials: Zinc alloy
Fasteners: One (1) #8 x 2” FPHWS
Notes:
• Non-marking white tip
• 3/8” (9.5 mm) max door to floor clearance

BL6209
Floor Door Stop
Height: 1-3/8” (35 mm)
Base Diameter: 13/16” (21 mm)
Tip Diameter: 1/2” (13 mm)
Materials: Zinc alloy
Finishes: US26D, ABA
Fasteners: #8 x 11/32” thread
Notes:
• Non-marking white tip
• 150 per case
• 1/2” (13 mm) max door to floor clearance
• Hex shape near the base allows usage of a wrench for easier installation

210
Rigid Door Stop
Projection: 3” (76 mm)
Tip Diameter: 11/16” (17.5 mm)
Base Diameter: 1” (25 mm)
Materials: Zinc alloy
Finishes: US3, US26, AN
Fasteners: #8 x 5/8” thread
Notes: Bumper made of rubber
211
**Flexible Door Stop**

Projection: 3-1/8” (79 mm)
Tip Diameter: 9/16” (14 mm)
Base Diameter: 1” (25 mm)
Materials: Steel
Fasteners: One (1) #8 x 3/4” PPHWS
Notes: • Bumper made of rubber
         • Flexible spring

BL6211
**Flexible Door Stop**

Projection: 3” (76 mm)
Tip Diameter: 7/16” (11 mm)
Base Diameter: 3/4” (19 mm)
Materials: Zinc alloy base
Fastener: #8 x 11/32” thread
Notes: • Bumper made of rubber
         • Flexible spring

212
**Hinge Pin Door Bumper**

Materials: Zinc alloy base
Notes: • Non-marking white plastic tip
        • For use where standard door stops are not desirable
        • For use with narrow trim
        • Adjustable from 80 degrees to 120 degrees
        • For use with residential hinges
        • Works with 1/4” (6 mm) hinge pins

BL6212
**Hinge Pin Door Bumper**

Materials: Zinc alloy base
Notes: • Non-marking white plastic tip
        • Works with 1/4” (6 mm) hinge pins
        • For use where standard door stops are not desirable
        • For use with narrow trim
        • Adjustable from 80 degrees to 120 degrees
        • For use with residential hinges

1412
**Door Guard**

Arm Length: 4 (102 mm)
Materials: Zinc alloy base
Fasteners: Seven (7) #6 x 3/4” FPHWS
Notes: • Provides extra security from inside door
        • Limits door opening when latch is thrown
        • Poly bag (1 each) with screws
1413
Flush Bolt
Faceplate: 3/4” x 6” (19 mm x 181 mm)
Strike: 7/8” x 1-3/4” (22 mm x 45 mm)
Bolt Diameter: 1/2” (13 mm)
Bolt Throw: 15/16” (24 mm)
Bolt Backset: 7/16” (11 mm)
Materials: Brass faceplate with steel components
Fasteners: Four (4) #6 x 3/4” FPHWS
Notes: • Poly bag (1 each) with strikeplate and screws
• Square corners

1414
Flush Bolt
Faceplate: 3/4” x 6” (19 mm x 181 mm)
Strike: 7/8” x 1-3/4” (22 mm x 45 mm)
Bolt Diameter: 1/2” (12.7 mm)
Bolt Throw: 15/16” (24 mm)
Bolt Backset: 7/16” (11 mm)
Materials: Brass faceplate with steel components
Fasteners: Four (4) #6 x 3/4” FPHWS
Notes: • Poly bag (1 each) with strikeplate and screws
• Rounded corners

1415
Strike Plate
Size: 7/8” x 1-3/4” (22 mm x 45 mm)
Fasteners: Two (2) #6 x 3/4” FPHWS
Notes: • For use with 1413 and 1414 Flush Bolts
• Packed (1 each) with Poly bag and screws

1416
Single Route Flush Bolt
Faceplate: 3/4” x 7-1/8” (19 mm x 181 mm)
Strike: 21/32” x 1-1/2” (17 mm x 38 mm)
Bolt Diameter: 5/16” (8 mm)
Bolt Throw: 7/8” (22 mm)
Bolt Backset: 3/8” (9.5 mm)
Materials: Brass faceplate with steel components
Fasteners: Two (2) #8 x 1-1/2” FPHWS and two (2) #6 x 3/4” FPHWS
Notes: • Poly bag (1 each) with strikeplate and screws
• Rounded corners
• Single route for quick and simple door prep
1418
Flush Bolt with Extension Rod
Faceplate: 23/32” x 7-3/8” (18 mm x 187 mm)
Strike: 5/8” x 1-1/2” (16 mm x 38 mm)
Bolt Diameter: 5/16” (8 mm)
Bolt Throw: 3/4” (19 mm)
Bolt Backset: 3/8” (9.5 mm)
Extension Rod Length: 16” (406 mm)
Materials: Brass faceplate with steel components
Fasteners: Two (2) #8 x 1-1/2” FPHWS and two (2) #6 x 3/4” FPHWS
Notes: • Poly bag (1 each) with strikeplate and screws
• Rounded corners
• Single route for quick and simple door prep

1419
Flush Bolt with Extension Rod
Faceplate: 3/4” x 7-1/8” (19 mm x 181 mm)
Strike: 5/8” x 1-1/2” (16 mm x 38 mm)
Bolt Diameter: 5/16” (8 mm)
Bolt Throw: 3/4” (19 mm)
Bolt Backset: 5/16” (8 mm)
Materials: Brass faceplate with steel components
Fasteners: Two (2) #8 x 1-1/2” FPHWS and two (2) #6 x 3/4” FPHWS
Notes: Single route for quick and simple door prep

1439  |  BL6439
Magnetic Catch - Light Weight
Catch: 1-1/16” x 2” (27 mm x 51 mm)
Strike: 7/8” x 1” (22 mm x 25 mm)
Materials: Tan plastic case
Fasteners: Two (2) #6 x 1/2” TPHWS and one (1) #4 x 1/2” FPHWS
Notes: • Poly bag (1 each) with screws
• Double-sided magnet, self-aligning, 6 lb. pull
• Self aligning magnet insures maximum pull
• BL6439 is Builder’s Pack Poly bag (1 each) with screws

1445
Roller Latch
Hole Diameter: 13/16” (21 mm)
Hole Depth: 1-1/8” (29 mm)
Materials: Zinc alloy base
Fasteners: Two (2) #4 x 3/4” FPHWS
Notes: • Poly bag (1 each) with screws
• Designed for use on cabinets and lightweight doors
• Not intended for heavy weight applications
### 1446 Light Weight Ball Catch

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faceplate</td>
<td>1” x 2-1/4” (25 mm x 57 mm)</td>
</tr>
<tr>
<td>Strike</td>
<td>1-3/8” x 2-1/4” (35 mm x 57 mm)</td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>1” (25 mm)</td>
</tr>
<tr>
<td>Hole Depth</td>
<td>1-1/4” (32 mm)</td>
</tr>
<tr>
<td>Materials</td>
<td>Steel housing, brass strike, plated steel ball</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Four (4) #6 FHWS</td>
</tr>
</tbody>
</table>
| Notes               | - Designed for use on cabinets and light weight doors  
                        - Not intended for heavy weight applications  
                        - Ball adjusts in and out for various door and frame clearances  
                        - Poly bag (1 each) with steel screws |

### 1447 Light Weight Ball Catch

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strike</td>
<td>1-3/8” x 2-1/4” (35 mm x 57 mm)</td>
</tr>
<tr>
<td>Faceplate</td>
<td>1” (25 mm) diameter</td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>15/16” (24 mm)</td>
</tr>
<tr>
<td>Hole Depth</td>
<td>1-1/4” (32 mm)</td>
</tr>
<tr>
<td>Materials</td>
<td>Zinc housing, brass strike, plated steel ball</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Two (2) #6 FHWS</td>
</tr>
</tbody>
</table>
| Notes               | - Designed for use on cabinets and light weight doors  
                        - Not intended for heavy weight applications  
                        - Ball adjusts in and out for various door and frame clearances  
                        - Poly bag (1 each) with steel screws |

### 1448 Strike Plate

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>1-3/8” x 2-1/4” (35 mm x 57 mm)</td>
</tr>
<tr>
<td>Material</td>
<td>Brass</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Two (2) #6 FHWS</td>
</tr>
<tr>
<td>Notes</td>
<td>For use with 1446 and 1447 ball catches</td>
</tr>
</tbody>
</table>

### 1449 Drive In Ball Catch

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faceplate</td>
<td>1” (25 mm) diameter</td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>15/16” (24 mm)</td>
</tr>
<tr>
<td>Hole Depth</td>
<td>1-1/4” (32 mm)</td>
</tr>
<tr>
<td>Materials</td>
<td>Zinc housing, plated steel ball</td>
</tr>
<tr>
<td>Finishes</td>
<td>US4</td>
</tr>
<tr>
<td>Packaging</td>
<td>100 per box</td>
</tr>
</tbody>
</table>
| Notes               | - Ball catch designed for use on cabinets and light weight doors  
                        - Not intended for heavyweight applications  
                        - Ball adjusts in and out for various door and frame clearances |
BL6793
Pole Sockets
Outside Diameter: 2-7/16” (62 mm)
Materials: Steel
Notes: • For poles up to 1-3/8” (35 mm) diameter
• Flange design prevents accidental knock out of pole
• Poly bag (2 each) with screws

BL6794
Pole Sockets
Outside Diameter: 2-3/16” (56 mm)
Materials: Plastic
Notes: • For poles up to 1-3/8” (35 mm) diameter
• Poly bag (2 each) with screws

1795
Closet Rod
Pole Diameter: 1” (25 mm)
Available Lengths: 18” - 30”
30” - 48”
48” - 72”
72” - 96”
96” - 150”
Materials: Steel with bright zinc finish
Finishes: White enamel
Fasteners: Six (6) #8 x 1” TPH tapping screws
Notes: • Quick mount end
• High strength lock seam tubing
• Poly bag (1 each) with screws

1797
Shelf Bracket with 2-1/2” Drop
Materials: Steel ANSI B04051
Finishes: White Enamel
Fasteners: Two (2) #8 x 5/8” PPH tapping screws and two (2) #10 x 1-1/2” PPH tapping screws
Notes: • For shelf and rod support
• Heavy gauge steel construction embossed for added strength
• Holds 1-3/8” (35 mm) diameter rod
• Supports 12” (305 mm) shelf
• Bulk with screws
• 150 lbs. load rating
1798
Shelf Bracket with 3” Drop
Materials: Steel ANSI B04051
Finishes: White Enamel
Fasteners: Two (2) #8 x 5/8” PPH tapping screws and two (2) #10 x 1-1/2” PPH tapping screws
Notes:
• For shelf and rod support
• Heavy gauge steel construction embossed for added strength
• Holds 1-3/8” (35 mm) diameter rod
• Supports 12” (305 mm) shelf
• Bulk with screws
• 150 lbs. load rating

1799
Shelf Bracket - Adjustable
Materials: Steel ANSI B04051
Finishes: White Enamel
Fasteners: Two (2) #8 x 3/4” PPH tapping screws and two (2) #10 x 1-1/2” PPH tapping screws
Notes:
• Adjustable shelf and rod support
• Heavy gauge steel construction embossed for added strength
• Holds 1-3/8” (35 mm) diameter rod
• Supports 12” (305 mm) shelf
• 3/4” (19 mm) adjustability
• Bulk with screws

1801
Shelf Bracket
Materials: Steel ANSI B04051
Finishes: White Enamel
Fasteners: Two (2) #8 x 5/8” PPH tapping screws and two (2) #10 x 1-1/2” PPH tapping screws
Notes:
• Less rod support
• Heavy gauge steel construction embossed for added strength
• Supports 12” (305 mm) shelf
• Bulk with screws

6601
Handrail Bracket
Projection: 3-1/4” (82.5 mm)
Base to Center of Rail: 2-3/4” (70 mm)
Materials: Cast aluminum
Fasteners: Three (3) #8 x 1-1/2” OPHWS and two (2) #8 x 3/4” OPHWS
Notes: Poly bag (1 each) with wood screws and rail bracket

BL6610
Coat and Hat Hook
Upper Projection: 2-13/16” (71 mm)
Lower Projection: 1-5/16” (33 mm)
Material: Cast steel
Fasteners: Two (2) #6 x 3/4” FPHWS
Notes:
• Poly bag (1 each) with screws
• Builder’s pack
Hager Companies offers a complete line of thresholds & weatherstripping products for virtually any type of door application. What’s more, each meets or exceeds ANSI-grade quality, durability, and performance levels. For enhanced levels of safety and security, we also offer intumescent products for positive pressure solutions, including edge sealing and smoke control systems. All of which make Hager threshold, weatherstripping, and door bottom products an excellent choice for standard or custom applications in schools, hospitals, office buildings, and more.

Table of Contents

General Information .......................................................... 2

Thresholds
Saddle .............................................................................. 6
Thermal Barrier Saddle ....................................................... 8
Half Saddle ...................................................................... 9
Elevator and Bumper Strips ................................................ 10
Residential and Carpet..................................................... 11
Bumpers and ADA Ramps ............................................... 12
Floor Plate Assembly ..................................................... 13
Panic ........................................................................... 14
Thermal Barrier Panic ...................................................... 15
Interlocking ................................................................... 16
Abrasive Cast Aluminum ................................................ 17
Floor Closer .................................................................. 18
Cover Plate and Anchors ............................................... 19
Vinyl Thresholds .......................................................... 19

Weatherstripping
Interlocking/Overhead Drip Guards .............................. 20
Press-On Gasketing ...................................................... 21
Door Bottoms ............................................................... 23
Automatic Door Bottoms ............................................. 25
Door Bottom Sweeps.................................................... 26
Jamb Weatherstripping ................................................ 29
Astragals/Meeting Stiles ................................................ 35
PRODUCT PRESENTATION
Dimensions on bronze and stainless steel extrusions may differ slightly than those detailed. Questions regarding any dimensions should be directed to Hager Companies Customer Service.

Drawings or illustrations used in the catalog are subject to change without notice. Questions on any dimensions should be obtained by contacting Hager Companies Customer Service.

FABRICATION OPTIONS
• Bevel one edge of threshold
• Rip one edge width of threshold
• L-notch both ends of threshold
• U-notch both ends of threshold
• Tack weld one line of threshold
• Pan for water return of threshold
• Sure Step Non-Slip Abrasive Coating – A rugged, durable coating that can be applied to all Hager Companies’ metal thresholds. Ideal for thresholds being used in wet, oily or corrosive environments.

MATERIALS & FINISHES
Metals
All aluminum extrusions are of alloy 6063-T5. All bronze extrusions are of alloy CDA385 brass specified as Architectural Bronze in the industry.

For stock finishes, refer to the code listed below each individual item throughout the catalog. Please inquire for the availability on nonstock finishes.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Gasketing</th>
<th>Size</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>515S</td>
<td>W-pile</td>
<td>36” (914 mm)</td>
<td>MIL - mill finish aluminum</td>
</tr>
<tr>
<td>599S</td>
<td>V-vinyl</td>
<td>48” (1219 mm)</td>
<td>DBA - dark bronze anodized aluminum</td>
</tr>
<tr>
<td>750S</td>
<td>S-silicone</td>
<td>36” (914 mm)</td>
<td>32D - matte stainless steel</td>
</tr>
<tr>
<td>870S</td>
<td>N-neoprene</td>
<td>36” x 84” (914 mm x 2133 mm)</td>
<td>CLR - clear anodized aluminum</td>
</tr>
<tr>
<td>882S</td>
<td>B-nylon Brush</td>
<td>48” x 96” (1219 mm x 2438 mm)</td>
<td>OOO - gasket only</td>
</tr>
<tr>
<td>881S</td>
<td>N-neoprene</td>
<td>48” x 84” (914 mm x 2133 mm)</td>
<td>MIB - mill finish bronze</td>
</tr>
</tbody>
</table>

Gaskets
Gasketing is available in a wide variety of materials. Vinyl is an economical choice and remains flexible down to -40°F (-40°C). EPDM gasketing is supplied both as a solid (dense) and as a closed cell sponge with a tough outer skin. It remains flexible down to -50°F (-49°C). Silicone gasketing provides the best resistance to cold by remaining flexible down to -70°F (-57°C). Refer to the price book for a list of available replacement gaskets. Gasketing codes are listed below.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>nylon brush</td>
</tr>
<tr>
<td>F</td>
<td>vinyl with fins</td>
</tr>
<tr>
<td>N</td>
<td>neoprene</td>
</tr>
<tr>
<td>S</td>
<td>silicone</td>
</tr>
<tr>
<td>V</td>
<td>vinyl</td>
</tr>
<tr>
<td>W</td>
<td>pile (thread may be removed to allow expansion)</td>
</tr>
</tbody>
</table>

ORDERING INFORMATION
When ordering, please specify by product number, length, quantity, finish and fasteners required. Thresholds & weatherstripping are fabricated in standard sizes with 1/2” (12.7 mm) extra on thresholds 50” (1270 mm) and under. Thresholds over 50” (1270 mm) are supplied with 1” (25 mm) extra length for fitting. Exact lengths are available upon request (specify CTEL).

Example: 891S V 36 x 84 MIL
FASTENERS
Standard
All products are furnished with appropriate fasteners as listed, except where noted. Most thresholds are furnished with mounting holes and #10 x 1-1/2” flat head sheet metal screws. Most weatherstripping products are furnished with slotted holes and #6 x 5/8” pan head sheet metal screws.

Optional
Thresholds
• #10 wood screws and plastic anchors
• #10 wood screws and lead anchors
• #10 machine screws and lead anchors
• #10 stainless steel wood screws
• #10 stainless steel wood screws and plastic anchors
• #10 stainless steel wood and lead anchors
• 1/4-20 stainless steel machine screws and lead anchors
• 1/4-20 machine screws and lead anchors
• 1/4-20 x 2” flat head sleeve anchor
• #10 torx sheet metal screws
• #10 stainless steel torx wood screws
• #10-24 x 1-1/2” stainless steel torx machine screw with lead anchor
• #10-stainless steel spanner head wood screw with lead anchor
• Cast-on anchors (cast products only)
• Tap-con type (1/4” x 1-3/4”)

Weatherstripping
• #6 x 5/8” pan-head stainless steel screws
• #6 x 5/8” self-drilling (TEK) screws (Steel-zinc plated)
• #6 x 5/8” pan-head torx sheet metal screws
• #6 x 5/8” stainless steel self-drilling (TEK) screws
• 1/4 - 20 x 1-1/4” sex bolts
• Two-way self-adhesive tape

GENERAL INSTALLATION INSTRUCTIONS FOR PRESS-ON PRODUCTS:
• Product returnable within first 6 months after purchase date
• Installation should take place after construction has been completed, and final cleaning has taken place
• The frame should be cleaned; isopropyl alcohol is recommended
• Not recommended for unsealed or porous applications
• Do not store these products in extreme heat/cold or for prolonged periods of time

CERTIFICATIONS
Handicap Accessibility
Products denoted by this symbol are designed for applications where handicap accessibility is specified. These products are no greater than 1/2” (12.7 mm) in height and have no more than 1/4” (6.3 mm) vertical rise or with slope proportions no greater than 1:2 slope. Offset floor conditions greater than 1/2” (12.7 mm) require a 1:12 slope.

Air Infiltration
Products denoted by this symbol have been tested with air/smoke infiltration, all within the (0.500 cfm/ sq. ft. for double doors and .300 cfm for single doors) maximum allowable leakage at a pressure of a 25 mph wind (1.56 psf). The tests were conducted in accordance with ASTM test procedures and meet ASTM: E283-91.

Sound Tested
Products denoted by this symbol have been sound tested and received the appropriate STC rating. The tests were conducted in accordance with ASTM test procedures and meet ASTM: E90-90 & ASTM: E413-87.

<table>
<thead>
<tr>
<th>STC Rating</th>
<th>Static Door</th>
<th>Operable Door</th>
<th>Perimeter Seal</th>
<th>Door Bottom</th>
<th>Corner Pad</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>49</td>
<td>41</td>
<td>737 &amp; 866S</td>
<td>743S</td>
<td>709</td>
<td>417S</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>37</td>
<td>738 &amp; 737</td>
<td>743S</td>
<td>709</td>
<td>417S</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>40</td>
<td>726</td>
<td>743S</td>
<td>709</td>
<td>520S</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>40</td>
<td>738 &amp; 737</td>
<td>774S</td>
<td>709</td>
<td>417S</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>40</td>
<td>737 &amp; 866S</td>
<td>774S</td>
<td>709</td>
<td>417S</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>39</td>
<td>726(2)</td>
<td>743S</td>
<td>709</td>
<td>520S</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>35</td>
<td>738 &amp; 737</td>
<td>774S</td>
<td>709</td>
<td>417S</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>35</td>
<td>726 &amp; 736</td>
<td>774S</td>
<td>709</td>
<td>417S</td>
<td></td>
</tr>
</tbody>
</table>

BHMA Certified
BHMA Certification Program was developed as a means for manufacturers of builders hardware to indicate compliance with American National Standards sponsored by BHMA. Participating manufacturers certify compliance with the standards based on a continuing program of passing the prescribed tests.
Underwriter’s Laboratories
Products denoted by this symbol are classified and labeled by Underwriter's Laboratories, Inc.® as gasket material for use on listed steel frames and/or classified swinging type fire doors of the hollow metal or steel covered composite type rated up to 3 hours, or wood core fire doors rated up to 1-1/2 hours. Test results show these products do not adversely affect the fire resistance of the door or frame according to its UL rating. All products are regularly checked under a labeling and listing service. The clearance between the door and the frame and between the meeting edges of doors swinging in pairs shall be 1/8" ± 1/16" (3.18 mm ± 1.59 mm) for steel doors and shall not exceed 1/8" (3.2 mm) for wood doors.

- UL 10C (Positive Pressure) complies with IBC, NFPA 80 and NFPA 252 for hollow metal fire doors rated up to 3 hours and wood fire doors rated up to 90 minutes.
- UL 10B complies with NFPA 80 and NFPA 252 for hollow metal fire doors rated up to 3 hours and wood fire doors rated up to 90 minutes.

Notes: Ratings on some items may vary and are noted on the individual products. For a more complete look at classifications on individual products, please visit www.ul.com/database and reference R13647.

THE INTERNATIONAL BUILDING CODE (IBC)
The International Building Code (IBC) requires swinging fire doors to be tested in accordance with ANSI/UL 10C or NFPA 252, with the neutral pressure level established at 40 inches or less above the sill. This causes “positive pressure” forces against the door assembly above 40 inches.

The result is hot gases and smoke leak out between the door and frame above this level, posing a serious threat to life-safety; and on wood doors rapidly deteriorating the integrity of the door edges, requiring either a built-in or supplemental “edge sealing system” to pass the test.

Fire door assemblies in corridors and smoke barrier walls are required to be smoke and draft control assemblies tested in accordance with UL1784 allowing a maximum air leakage of 3 cubic feet per minute per square foot of door opening at ambient temperature (75°F) and elevated temperature (400°F). These assemblies require the letter “S” on the fire rating label of the door indicating compliance “when listed or labeled gasketing is also installed.”

Fire doors are classified based upon their construction and edge sealing system requirements. Fire-rated gasketing is classified as follows:

- Category G - Edge-sealing system
- Category H - Smoke and draft control gasketing
- Category J - Gaskets other than category G or H

Below are some key phrases that indicate positive pressure requirements:
- IBC 2003 (and later) - International Building Code
- UL 10-C - Positive Pressure Fire Test
- ASTM E2074-00 - Fire Test of Door Assemblies
- Shall meet positive pressure requirements
- Intumescent seals - imply positive pressure

The www.iccsafe.org web site of the International Code Council (ICC) has a map of code adoption by state. This site is frequently updated and by clicking on a state, you can see what codes they have adopted.
New and existing fire doors are classified/labeled by one of the following designation systems:

- Hourly rating designation
- Alphabetical letter designation
- A combination of both

Common Applications for Hager Positive Pressure Edge Sealing & Smoke Seal Systems

<table>
<thead>
<tr>
<th>Wall Rating</th>
<th>Door and Frame Rating</th>
<th>Door Application and Use</th>
<th>Door Types</th>
<th>Fire Doors Edge Sealing System</th>
<th>Smoke Doors &quot;S&quot; Label Smoke Seal</th>
<th>Fire &amp; Smoke Doors Combination Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Hr.</td>
<td>3 Hour (A Label) 180 Minute</td>
<td>Openings in fire walls and walls that divide a single building into fire areas</td>
<td>Hollow Metal Pairs Hollow Metal Singles</td>
<td>— 721, 726, 736, 737</td>
<td>721, 726, 736, 737</td>
<td>—</td>
</tr>
<tr>
<td>2 Hr.</td>
<td>1 1/2 Hour (B Label) 90 minute</td>
<td>Openings to stairwells and elevator shafts; vertical communication or egress through a building, including 2-hr. rated partitions providing horizontal fire separations</td>
<td>Wood Composite Pairs Hollow Metal Pairs Wood Composite Singles Hollow Metal Singles</td>
<td>724, 729 724, 729</td>
<td>721, 726, 736, 737 721, 726, 736, 737</td>
<td>719, 720, 722, 734 719, 720, 722, 734</td>
</tr>
<tr>
<td>2 Hr.</td>
<td>1 1/2 Hour (D Label) 90 minute</td>
<td>Opening where there is a chance of severe fire exposure from the exterior of the building</td>
<td>Hollow Metal Pairs Hollow Metal Singles</td>
<td>— 721, 726, 736, 737</td>
<td>721, 726, 736, 737</td>
<td>—</td>
</tr>
<tr>
<td>1 Hr.</td>
<td>*1 Hour (B Label) 60 Minutes</td>
<td>Doors that divide occupancies in a building (building less than 4 stories tall)</td>
<td>Wood Composite Pairs Wood Composite Singles</td>
<td>724, 729 724, 729</td>
<td>721, 726, 736, 737 721, 726, 736, 737</td>
<td>719, 720, 722, 734 719, 720, 722, 734</td>
</tr>
<tr>
<td>1 Hr.</td>
<td>1/4 Hour (E Label) 45 Minute</td>
<td>Opening in an exterior wall with the potential to be exposed to moderate to light fire from the outside of the building</td>
<td>Hollow Metal Pairs Hollow Metal Singles</td>
<td>— 721, 726, 736, 737</td>
<td>721, 726, 736, 737</td>
<td>—</td>
</tr>
<tr>
<td>1 Hr.</td>
<td>1/4 Hour (C Label) 45 Minute</td>
<td>Openings in walls or partitions between rooms and corridors</td>
<td>Wood Composite Pairs Wood Composite Singles</td>
<td>724, 729 724, 729</td>
<td>721, 726, 736, 737 721, 726, 736, 737</td>
<td>719, 720, 722, 734 719, 720, 722, 734</td>
</tr>
<tr>
<td>1 Hr.</td>
<td>*1/2 Hour 20 Minute</td>
<td>Openings in corridors where smoke and draft control is required *Does not have letter designation</td>
<td>Wood/Particle Core Pairs Wood/Particle Core Singles</td>
<td>724, 729 724, 729</td>
<td>721, 726, 736, 737 721, 726, 736, 737</td>
<td>719, 720, 722, 734 719, 720, 722, 734</td>
</tr>
</tbody>
</table>

*Currently rating only applies to wood doors.

*All of the labels listed above have the capability of being both fire and smoke barrier openings. However, not all openings require a smoke label. Openings requiring smoke labels are detailed either by the fire authority having jurisdiction, local code, NFPA 101 or NFPA 5000.
To effectively seal out the elements, use in conjunction with a door bottom, sweep, shoe, or bumper strip.

Fasteners: 
#10 x 1-1/2” sheet metal screws, other screw types and anchors available upon request

Options: 
Available with Sure Step Non-Slip Abrasive Coating

Notes:  
- MIL finish thresholds are supplied with zinc plated screws  
- Color anodized thresholds are supplied with screws plated to match  
- Stainless steel thresholds are supplied with stainless steel screws

**401S**

![401S Diagram](Image)

**402S**

![402S Diagram](Image)

**403S**

![403S Diagram](Image)

**404S**

![404S Diagram](Image)

**405S**

![405S Diagram](Image)

**410S**

![410S Diagram](Image)

**411S**

![411S Diagram](Image)

**412S**

![412S Diagram](Image)

**413S**

![413S Diagram](Image)

**414S**

![414S Diagram](Image)

**415S**

![415S Diagram](Image)

**Finishes:** MIL, DBA, GLD

**Certifications:** BHMA Certified

**411S**

![411S Diagram](Image)

**412S**

![412S Diagram](Image)

**413S**

![413S Diagram](Image)

**414S**

![414S Diagram](Image)

**415S**

![415S Diagram](Image)
### THRESHOLDS - SADDLE

#### 416S
- **Finish:** MIL, DBA, GLD
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 7' [177.8]
  - Width: 1/2' [12.7]

#### 428S
- **Finish:** MIL, DBA, GLD
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 8' [203.2]
  - Width: 1/4' [6.4]

#### 417S
- **Finish:** MIL, DBA, GLD
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 6' [182.9]
  - Width: 1/4' [6.4]

#### 430S
- **Finish:** MIL, DBA, GLD
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 7' [177.8]
  - Width: 1/4' [6.4]

#### 418S
- **Finish:** MIL, DBA, GLD
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 3' [91.4]
  - Width: 1/4' [6.4]

#### 436S
- **Finish:** MIL, DBA
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 2 1/4' [57.2]
  - Width: 3/16' [4.8]

#### 426S
- **Finish:** MIL, DBA, GLD
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 8' [203.2]
  - Width: 1/2' [12.7]

#### 448S
- **Finish:** MIL, DBA
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 10' [254]
  - Width: 5/8' [15.9]

#### 427S
- **Finish:** MIL, DBA
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 5' [127]
  - Width: 1/2' [12.7]

#### 492S
- **Finish:** MIL, DBA, GLD
- **Certifications:** [BHMA Certified]
- **Dimensions:**
  - Length: 5' [127]
  - Width: 1/2' [12.7]
THRESHOLDS - THERMAL BARRIER SADDLE

High strength thermal barrier is permanently bonded in place to block the transfer of heat or cold. To provide a seal, use in conjunction with a door bottom, sweep, shoe or bumper strip.

Fasteners: #10 x 1-1/2" sheet metal screws, other screw types and anchors available upon request
Options: Available with Sure Step non-slip abrasive coating
Notes: • MIL finish thresholds are supplied with zinc plated screws
  • Color anodized thresholds are supplied with screws plated to match

420S

Finishes: MIL, DBA, GLD
Certifications:

<table>
<thead>
<tr>
<th>421S</th>
</tr>
</thead>
</table>

Finishes: MIL, DBA, GLD
Certifications:

<table>
<thead>
<tr>
<th>422S</th>
</tr>
</thead>
</table>

Finishes: MIL, DBA, GLD
Certifications:

<table>
<thead>
<tr>
<th>423S</th>
</tr>
</thead>
</table>

Finishes: MIL, DBA, GLD
Certifications:
Fasteners: #10 x 1-1/2” sheet metal screws, other screw types and anchors available upon request
Options: Available with Sure Step non-slip abrasive coating
Notes: • MIL finish thresholds are supplied with zinc plated screws
• Color anodized thresholds are supplied with screws plated to match

406S
Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD, MIB

407S
Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD

431S
Finishes: MIL, DBA, GLD, MIB
Certifications: MIL, DBA, GLD

432S
Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD

433S
Finishes: MIL, DBA, GLD
Certifications: BHMA

438S
Finishes: MIL, DBA
Certifications: BHMA

572S
Finishes: MIL, DBA, GLD
Certifications: BHMA
Use in conjunction with a threshold

Fasteners: #10 - 24 x 5/8" flat head self-tapping screws to attach bumper strip directly to an existing threshold

**481S**

![Diagram of 481S threshold]

- **Finishes:** MIL, DBA, GLD
- **Insert:** V, N, S, W
- **Certifications:**
  - UL

**484S**

![Diagram of 484S threshold]

- **Finishes:** MIL, DBA, GLD
- **Certifications:**
  - UL
All thresholds appearing in this column are available with Sure Step Non-Slip Abrasive Coating.

**400S**

- **Finishes:** MIL, DBA, GLD
- **Certifications:** UL
- **Notes:** Vinyl gasket eliminates the need for door shoe or sweeps


**408S**

- **Finishes:** MIL, DBA, GLD
- **Certifications:** UL


**419S**

- **Finishes:** MIL, DBA, GLD
- **Certifications:** UL

**Thresholds - Residential**

**Thresholds - Carpet**

- **Fasteners:** #10 x 1-1/2” sheet metal screws, other screw types and anchors available upon request
- **Options:** Available with Sure Step non-slip abrasive coating
- **Notes:**
  - MIL finish thresholds are supplied with zinc plated screws
  - Color anodized thresholds are supplied with screws plated to match
For use with outswinging doors to seal out the elements

Fasteners: #10 x 1-1/2” sheet metal screws, other screw types and anchors available upon request

Options: Available with Sure Step non-slip abrasive coating

Notes: • MIL finish thresholds are supplied with zinc plated screws
• Color anodized thresholds are supplied with screws plated to match

434S

Finishes: MIL, DBA, GLD
Insert: V, N, S, W
Certifications: BHMA Certified

435S

Finishes: MIL, DBA, GLD
Insert: V, N, S, W
Certifications: BHMA Certified

477S

Finishes: MIL, DBA, GLD
Insert: V, N, S, W
Certifications: BHMA Certified

478S

Finishes: MIL, DBA, GLD
Insert: V, N, S, W
Certifications: BHMA Certified

442S

Finishes: MIL, DBA, GLD
Certifications: BHMA Certified

443S

Finishes: MIL, DBA, GLD
Certifications: BHMA Certified

444S

Finishes: MIL, DBA, GLD
Certifications: BHMA Certified

Ramp threshold that provides a 1:12 slope to meet the requirements of the Americans With Disabilities Act

Order: To create a ramp that is a combination of the 442S and 443S, order 444S

Fasteners: #10 x 1-1/2” Flat head wood screws

Options: Available with Sure Step non-slip abrasive coating

Notes: • MIL finish thresholds are supplied with zinc plated screws
• Color anodized thresholds are supplied with screws plated to match
**THRESHOLDS - FLOOR PLATE ASSEMBLY**

Floor plate components for modular threshold system. Used primarily for extra wide door frames or to cover expansion joints or floor joists.

**Fasteners:** Plates and plate supports are furnished without holes and fasteners unless specified.

**Options:**
- Available with Sure Step non-slip abrasive coating
- Beveled Edges are available

**Notes:** Plates may be used fluted or smooth side up.

### Typical Applications

![Typical Applications Diagram]

**440S**
- **1/4” [6.4]**
- **2” [56.4]**
- **3” [76.2]**
- **1 1/2” Exp [38.1]**

Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD

**445S**
- **1/4” [6.4]**
- **3” [76.2]**

Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD

**450S**
- **1/4” [6.4]**
- **4” [101.6]**

Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD

**455S**
- **1/4” [6.4]**
- **5” [127]**

Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD

**460S**
- **1/4” [6.4]**
- **6 1/8” [155.6]**

Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD

**465S**
- **1/4” [6.4]**
- **8” [203.2]**

Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD

**470S**
- **1/2” [12.7]**
- **1 5/16” [33.9]**
- **1 3/4” [44.5]**

Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD

**484S**
- **1/4” [6.4]**
- **1 1/8” [28.6]**

Finishes: MIL, DBA, GLD
Certifications: MIL, DBA, GLD
Use in conjunction with surface applied vertical rod exit device

- **Fasteners:** #10 x 1-1/2" flat head sheet metal screws, other screw types and anchors available upon request
- **Options:** Available with Sure Step non-slip abrasive coating
- **Notes:**
  - MIL finish thresholds are supplied with zinc plated screws
  - Color anodized thresholds are supplied with screws plated to match
  - Special undercuts may be required

### Typical Applications

**520S**

- **Finishes:** MIL, DBA, GLD, MIB
- **Inserts:** V, N, S, W
- **Door Undercut:** Allow 3/8"
- **Certifications:**

**532S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Door Undercut:** Allow 3/4"
- **Certifications:**

**541S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Door Undercut:** Allow 5/8"
- **Certifications:**

**552S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Door Undercut:** Allow 1/2"
- **Certifications:**

**560S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Door Undercut:** Allow 3/4"
- **Certifications:**

**565S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Door Undercut:** Allow 5/8"
- **Certifications:**
**575S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Door Undercut:** Allow 11/16”
- **Certifications:**

**580S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Door Undercut:** Allow 5/8”

**599S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Door Undercut:** Allow 5/8”

**515S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Certifications:**

**516S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Certifications:**

**517S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Certifications:**

**518S**

- **Finishes:** MIL, DBA, GLD
- **Inserts:** V, N, S, W
- **Certifications:**

**Thresholds - Panic**

- **575S**
- **580S**
- **599S**

**Thresholds - Thermal Barrier Panic**

Threshold for latching panic devices that have a thermal barrier permanently bonded in place to effectively block the transfer of heat or cold. Use in conjunction with surface applied vertical rod exit device.

- **Fasteners:** #10 x 1-1/2” Flat head sheet metal screws, other screw types and anchors available upon request
- **Options:** Available with Sure Step non-slip abrasive coating
- **Notes:**
  - MIL finish thresholds are supplied with zinc plated screws
  - Color anodized thresholds are supplied with screws plated to match

- **515S**
- **516S**
- **517S**
- **518S**
Threshold interlocks with hook on the bottom of the door for a superior seal against wind and rain

**Fasteners:** #10 x 1-1/2" Flat head sheet metal screws, other screw types and anchors available upon request

**Options:** Available with Sure Step non-slip abrasive coating

**Notes:**
- MIL finish thresholds are supplied with zinc plated screws
- Color anodized thresholds are supplied with screws plated to match
- Thresholds are supplied with the 701S J-Hook
- Metal doors must have flush bottom for proper J-hook installation

### 600S

**Dimensions:**
- 5/16" [7.9]
- 1 1/2" [38.1]

**Finishes:** MIL, DBA, GLD

**Certifications:**

### 603S

**Dimensions:**
- 1 7/16" [36.3]
- 7/8" [22.2]
- 1" [25.4]

**Finishes:** MIL, DBA

**Certifications:**

### 604S

**Dimensions:**
- 1 7/16" [36.3]
- 1/2" [12.7]
- 5" [12.7]

**Finishes:** MIL, DBA

**Certifications:**

### 701S

**Dimensions:**
- 1" [25.4]
- 5/16" [7.9]
- 1/16" [1.6]

**Finishes:** MIL

**Certifications:**

**Notes:** J-Hook interlocks with threshold to seal against wind and rain
A heavy duty aluminum threshold with silicon carbide granules integrally cast into the surface. Ideal for high traffic areas where maximum durability is required. The abrasive, skid resistant surface works well under wet, dry or oily conditions.

Fasteners: #1/4” flat head zinc plated sheet metal screws with lead anchor

Options: Cast-on anchors available upon request

Notes:
- Furnished with countersunk holes
- Cut with a reinforced abrasive plain surface disk, 1/8” thick, either aluminum oxide or silicon carbide
- Maximum length available is 8 feet, not available for floor closers
- Available in 4”, 5” and 6” widths

### 626S

3/8” [9.5]

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material &lt;not specified&gt;</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Weight: 0.29</td>
<td>626S</td>
<td>1/1/2008</td>
</tr>
</tbody>
</table>

### 627S

1/4” [12.7]

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material &lt;not specified&gt;</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Weight: 0.72</td>
<td>627S</td>
<td>1/1/2008</td>
</tr>
</tbody>
</table>

Finishes: CAL

Certifications:

![UL Mark](https://www.hagerco.com/resources/certifications/ul1566.png)
Used with floor closers on center or offset hung door applications.

**Fasteners:** #10 x 1-1/2” flat head sheet metal screws, other screw types and anchors available upon request

**Options:** Available with Sure Step non-slip abrasive coating

**Order:** Specify closer manufacturer, offset, closer model number, thickness of door, width of door opening and handing

**Notes:**
- MIL finish thresholds are supplied with zinc plated screws
- Color anodized thresholds are supplied with screws plated to match

### 651S - Center Hung

- **Size:** 1/2” x 7” [12.7 x 177.8]

**Finishes:** MIL, DBA

**Certifications:** BHMA

**Notes:**
- Center hung
- Without mitered ends

### 652S - Center Hung

- **Size:** 1/2” x 5” [12.7 x 127]

**Finishes:** MIL, DBA

**Certifications:** BHMA

**Notes:**
- Center hung
- Without mitered ends
Cover Plates are used primarily to cover expansion joints and for situations requiring extra width or strength. Manufactured from solid cold rolled aluminum for extra durability.

Fasteners: Furnished without holes and fasteners unless specified.

Notes: • Available to 96” in length
• Furnished with both edges beveled

### 676S

- **Dimensions:**
  - Width: 3” - 24” (76 - 610)
  - Thickness: 1/8” (3.2)

- **Finishes:** MIL
- **Certifications:**

### 677S

- **Dimensions:**
  - Width: 3” - 24” (76 - 610)
  - Thickness: 1/4” (6.4)

- **Finishes:** MIL
- **Certifications:**

### Vinyl Thresholds

**Transition between different floor types.**

### 902S

- **Dimensions:**
  - Width: 2.73 [69.4]
  - Height: 0.725 [18.4]
  - Thickness: 0.35 [9]

- **Finishes:** Black
- **Certifications:**
- **Notes:** Transition between tile to tile applications.

### 903S

- **Dimensions:**
  - Width: 3.50 [88.9]
  - Height: 0.730 [18.5]
  - Angle: 209°

- **Finishes:** Black
- **Certifications:**
- **Notes:** Transition to carpet.

### 904S

- **Dimensions:**
  - Width: 3.41 [86.6]
  - Height: 0.735 [18.7]
  - Angle: 200°

- **Finishes:** Black
- **Certifications:**
- **Notes:** Transition between carpet to tile applications.

### 905S

- **Dimensions:**
  - Width: 0.37 [9.5]
  - Height: 1.99 [50.4]
  - Thickness: 0.35 [9.5]

- **Finishes:** Black
- **Certifications:**
- **Notes:** Transition between communicating door frames.
WEATHERSTRIPPING - INTERLOCKING/OVERHEAD DRIP GUARDS

Fasteners: #6 x 5/8” pan head sheet metal screws

**717S**

- **Dimensions:**
  - 1 1/8” [28]
  - 3/4” [19.1]

- **Finishes:**
  - MIL, DBA

- **Certifications:**
  - ULm

**718S**

- **Dimensions:**
  - 5/8” [15.9]
  - 1/4” [6.4]
  - 3/4” [19.1]

- **Finishes:**
  - MIL, DBA, GLD

- **Certifications:**
  - V

**709S**

- **Dimensions:**
  - 1 1/4”
  - 3”

- **Finish:**
  - Black

- **Certifications:**
  - BHMA

**810S**

- **Dimensions:**
  - 1 1/2” [38.1]
  - 2 1/2” [63.5]

- **Finishes:**
  - MIL, DBA, GLD

- **Certifications:**
  - BHMA
WEATHERSTRIPPING - PRESS-ON GASKETING

Adhesive Mullion Seal

710S

- 1/16" [0.16]
- 1/8" [0.17]
- 1/8" wide LoMan 370 Adhesive Center on this surface

Finishes: Black Category: H&J
Certifications: 

Notes: 
• Intumescent material
• Requires 1/8" clearance.

Combination Edge-Sealing System with Smoke Control

Field applied edge-sealing system gaskets with integrated smoke fin. Add to the frame of a B, C or 1/3 hour labeled fire door.

719

- 3/8" [0.94]
- 7/16" [1.14]
- 11/16" [1.74]

Finishes: Charcoal, Brown Category: H, G, J
Certifications: 

Notes: 
• Requires 1/8" clearance
• Not recommended for door frames with 1/2" stop or less
• Recommend 3/16" backset - door side hinge
• Intumescent material
• Thermoplastic Elastomer (TPE) material

720

- 1/16" [0.16]
- 1/2" [1.27]

Finishes: Charcoal, Brown, White Category: H, G, J
Certifications: 

Notes: 
• Thin design for doors and frames with tight tolerances
• Intumescent material
• Thermoplastic Elastomer (TPE) material

722

- 1/4" [0.64]
- 1/2" [1.27]

Finishes: Charcoal, Brown Category: H, G, J
Certifications: 

Notes: 
• Requires 1/8" clearance.
• Recommend 3/16" backset - door side hinge
• Intumescent material
• Thermoplastic Elastomer (TPE) material

Edge-Sealing Systems

Field applied edge-sealing system gaskets. Add to the frame of a B, C or 1/3-hour labeled fire doors to comply with positive pressure requirements.

734

- 1/8" [0.32]
- 1 9/16" [4.0]

Finishes: Charcoal, Brown Category: H, G, J
Certifications: 

Notes: 
• Intumescent material
• Thermoplastic Elastomer (TPE) material

721

- 1/2" [1.27]
- 1/4" [0.64]

Finishes: Charcoal, Brown, Gray, White Category: H, J
Certifications: 

Notes: 
• Thermoplastic Elastomer (TPE) material

724

- 1/16" [0.16]
- 1 9/16" [3.96]

Finishes: Charcoal, Brown Category: G
Certifications: 

Notes: 
• Intumescent material
• Thermoplastic Elastomer (TPE) material

729

- 1/2" [1.27]
- 1/16" [0.16]

Finishes: Charcoal, Brown, White Category: G
Certifications: 

Notes: 
• Intumescent material
• Thermoplastic Elastomer (TPE) material
Smoke Seal Systems
Add to the frame of a smoke rated opening to comply with the requirements of NFPA 80, 105, and UL1784. The addition of a smoke seal is necessary to complete installation instructions and validate the “S” label of a smoke control door.

726
1/2" [12.7]
1/4" [6.4]
Finishes: Charcoal, Brown, Tan, White
Category: H, J
Certifications: BHMA
Notes: Sponge neoprene material

727
7/16" [11.4]
Finishes: Charcoal
Category: J
Certifications: BHMA
Notes: Thermoplastic Elastomer (TPE) material

728
40°
7/32" [9.5]
Finishes: Charcoal
Category: J
Certifications: BHMA
Notes: Silicone material

736
3/8" [9.5]
3/16" [4.8]
Finishes: Charcoal, White
Category: H, J
Certifications: BHMA
Notes: Silicone material

737
5/16" [8.1]
1/2" [12.7]
Finishes: Charcoal
Category: H, J
Certifications: BHMA
Notes: Silicone material

Draft Control Gaskets

725
1/2" [12.7]
1/4" [6.4]
Finishes: Charcoal
Category: J
Certifications: BHMA
Notes: Sponge neoprene material
WEATHERSTRIPPING - DOOR BOTTOMS

Provides a seal against weather. For best results, use in conjunction with a threshold.

Fasteners: #6 x 5/8" pan head sheet metal screws

Notes:
- Lengths up to 48" are supplied 1/2" over their stated size to allow for fitting
- Lengths over 48" are supplied 1" over size
- “Cut to exact length,” may be specified
- Constructed of strong extruded 6063-T5 aluminum

774S

Finishes: MIL, DBA
Inserts: V, N
Category: H, J
Certifications:

776S

Finishes: CLR, DBA, GLD
Inserts: N
Category: H, J
Certifications:

777S

Finishes: MIL, DBA, GLD
Inserts: V, N
Category: H, J
Certifications:
WEATHERSTRIPPING - DOOR BOTTOMS

779S

- **Finishes:** MIL, DBA, GLD
- ** Inserts:** V, N
- **Category:** H, J
- **Certifications:**

780S

- **Finishes:** MIL, DBA, GLD
- ** Inserts:** V, N
- **Category:** H, J
- **Certifications:**

782S

- **Finishes:** MIL, DBA, GLD
- ** Inserts:** V, N
- **Category:** H, J
- **Certifications:**

783S

- **Finishes:** MIL, DBA, GLD
- ** Inserts:** V
- **Category:** J
- **Certifications:**

787S

- **Finishes:** MIL
- ** Inserts:** N
- **Category:** H, J
- **Certifications:**

789S

- **Finishes:** MIL, DBA, GLD
- ** Inserts:** W
- **Category:** H, J
- **Certifications:**

906S

- **Finish:** Brown
- **Material:** PVC
- **Certifications:**
WEATHERSTRIPPING - AUTOMATIC DOOR BOTTOMS

Provides an outstanding seal against drafts, light, smoke and sound. For best results, use in conjunction with a threshold. When door fully closes, the gasket extends downward to provide a seal. Gasket retracts when door is opened.

Fasteners:
- #8 x 1-1/4" pan head sheet metal screws furnished with mortise types
- #6 x 5/8" Pan head sheet metal screws furnished with mortise types

Notes:
- Furnished exact length as stated. May be trimmed for fitting (2" maximum).
- Furnished with end cover and strike plates
- DBA/GLD end caps available on MIL or CLR devices (Not available on 742S)

730S - Mortise

- Max Drop: 21/32" (16.7)
- Size: 1 3/4" (44.4)

Finishes: MIL
Inserts: N, S
Category: H, J
Certifications:

740S - Surface

- Max Drop: 3/4" (19.1)
- Size: 1 3/4" (44.7)

Finishes: DBA, GLD, CLR
Inserts: N, S
Category: H, J
Certifications:

742S - Mortise

- Max Drop: 3/4" (19)
- Size: 1 13/16" (46.8)

Finishes: MIL
Inserts: V
Category: J
Certifications:

743S - Mortise

- Max Drop: 3/4" (19.1)
- Size: 1 13/16" (46.8)

Finishes: MIL
Inserts: N
Category: H, J
Certifications:

747S - Surface

- Max Drop: 3/4" (19.1)
- Size: 1 13/16" (46.8)

Finishes: CLR, DBA, GLD
Inserts: N
Category: H, J
Certifications:
Typically door bottom sweeps are used on the exterior of an outswing door.

Fasteners: #6 x 5/8" pan head sheet metal screws furnished with mortise types.

Notes:
- MIL finish weatherstripping is supplied with zinc plated screws.
- Color anodized weatherstripping is supplied with screws plated to match.
- Stainless steel weatherstripping is supplied with stainless steel screws.

750S

1/4" [6.4]

Finishes: DBA, GLD, CLR, US32D
Inserts: N, S
Category: H, J
Certifications: BHMA

752S

1/4" [6.4]

Finishes: MIL, DBA, GLD
Inserts: V
Category: H, J
Certifications: BHMA

753S

1/4" [6.4]

Finishes: MIL, DBA, GLD
Inserts: N
Category: H, J
Certifications: BHMA

754S

1/4" [6.4]

Finishes: DBA, GLD, CLR
Inserts: N
Category: H, J
Certifications: BHMA

756S

1/4" [6.4]

Finishes: MIL, DBA, GLD
Inserts: V
Category: H, J
Certifications: BHMA
WEATHERSTRIPPING - DOOR BOTTOM SWEEPS

759S

1/4" [6.4]
27/32" [21.4]
31/32" [24.6]

Finishes: MIL, DBA, GLD
Inserts: V
Category: H, J
Certifications: BHMA

770S

19/32" [15]
1 1/8" [28.6]
7/8" [22.2]
15/32" [11.9]

Finishes: MIL, DBA, GLD
Inserts: B, V
Category: H, J
Certifications: BHMA

801S

7/16" [11.4]
[25.4]

Finishes: MIL, DBA, GLD
Inserts: B
Category: H, J
Certifications: BHMA

802S

1/4" [6.4]
3/4" [19.1]
1/2" [12.7]

Finishes: MIL, DBA, GLD
Inserts: B
Category: H, J
Certifications: BHMA

806S

1/4" [6.4]
3/4" [19.1]
1 7/16" [36.4]

Finishes: MIL, DBA, GLD
Inserts: B
Category: H, J
Certifications: BHMA

872S

1/4" [6.4]
7/8" [22.2]
5/8" [15.9]

Finishes: DBA, GLD, CLR
Inserts: N
Category: H, J
Certifications: BHMA
### 882S

- **Finish**: DBA, GLD, CLR
- **Inserts**: B
- **Category**: H, J
- **Certifications**:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/16&quot;</td>
<td>0.83</td>
</tr>
<tr>
<td>1&quot;</td>
<td>25.4</td>
</tr>
<tr>
<td>9/16&quot;</td>
<td>14.1</td>
</tr>
</tbody>
</table>

### 884S

- **Finish**: DBA, GLD, CLR
- **Inserts**: V
- **Category**: H, J
- **Certifications**:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/16&quot;</td>
<td>0.83</td>
</tr>
<tr>
<td>1-7/8&quot;</td>
<td>47.6</td>
</tr>
<tr>
<td>7/8&quot;</td>
<td>22.2</td>
</tr>
</tbody>
</table>
WEATHERSTRIPPING - JAMB WEATHERSTRIPPING

Fasteners: #6 x 5/8" pan head sheet metal screws
Notes:
- MIL finish weatherstripping is supplied with zinc plated screws
- Color anodized weatherstripping is supplied with screws plated to match
- Stainless steel weatherstripping is supplied with stainless steel screws

785S

<table>
<thead>
<tr>
<th>Finish</th>
<th>MIL, DBA, GLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert</td>
<td>N</td>
</tr>
<tr>
<td>Category</td>
<td>H, J</td>
</tr>
<tr>
<td>Certifications:</td>
<td>[UL] BHMA</td>
</tr>
</tbody>
</table>

802S

<table>
<thead>
<tr>
<th>Finish</th>
<th>MIL, DBA, GLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert</td>
<td>B</td>
</tr>
<tr>
<td>Category</td>
<td>H, J</td>
</tr>
<tr>
<td>Certifications:</td>
<td>[UL] BHMA</td>
</tr>
</tbody>
</table>

803S

<table>
<thead>
<tr>
<th>Finish</th>
<th>MIL, DBA, GLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert</td>
<td>B</td>
</tr>
<tr>
<td>Category</td>
<td>H, J</td>
</tr>
<tr>
<td>Certifications:</td>
<td>[UL] BHMA</td>
</tr>
</tbody>
</table>

808S

<table>
<thead>
<tr>
<th>Finish</th>
<th>MIL, DBA, GLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert</td>
<td>B</td>
</tr>
<tr>
<td>Category</td>
<td>H, J</td>
</tr>
<tr>
<td>Certifications:</td>
<td>[UL] BHMA</td>
</tr>
</tbody>
</table>
WEATHERSTRIPPING - JAMB WEATHERSTRIPPING

**859S**
- **Finish**: MIL, DBA
- **Category**: H, J
- **Certifications**: [UL] [BHMA]
- **Notes**: Magnetic

**860S**
- **Finish**: MIL, DBA, GLD
- **Inserts**: V, N, S, W
- **Category**: H, J
- **Certifications**: [UL] [BHMA]
- **Notes**: Adjustable

**861S**
- **Finish**: MIL, DBA, GLD
- **Inserts**: N
- **Category**: H, J
- **Certifications**: [UL] [BHMA]

**862S**
- **Finish**: DBA, GLD, CLR
- **Inserts**: N
- **Category**: H, J
- **Certifications**: [UL] [BHMA]

**863S**
- **Finish**: DBA, GLD, CLR
- **Inserts**: N
- **Category**: H, J
- **Certifications**: [UL] [BHMA]
**WEATHERSTRIPPING - JAMB WEATHERSTRIPPING**

**864S**

- Finishes: DBA, GLD, CLR
- Inserts: N
- Category: H, J
- Certifications: 
- Notes: Adjustable

**865S**

- Finishes: MIL, DBA, GLD
- Inserts: N
- Category: H, J
- Certifications: 
- Notes: Adjustable

**866S**

- Finishes: MIL, DBA
- Inserts: N
- Category: H, J
- Certifications: 
- Notes: Spring adjustable

**870S**

- Finishes: DBA, GLD, CLR
- Inserts: N
- Category: H, J
- Certifications: 
- Notes: Adjustable

**871S**

- Finishes: MIL, DBA, GLD
- Inserts: N
- Category: H, J
- Certifications: 

**873S**

- Finishes: MIL, DBA, GLD
- Inserts: N
- Category: H, J
- Certifications: 

---

FOR THE LATEST ENGINEERING AT CALL HAGER WITHOUT NOTICE. CHANGES MAKE DESIGN THE RIGHT TO HAGER RESERVES OF TEMPLATE. REV. DESCRIPTION ECO NO. DATE

---

WEIGHT: 0.13

---

WEIGHT: 0.06

---

WEIGHT: 0.04

---

WEIGHT: 0.05

---

www.hagerco.com
WEATHERSTRIPING - JAMB WEATHERSTRIPING

874S

- Finishes: MIL, DBA, GLD, US32D
- Inserts: N
- Category: H, J
- Certifications: 

875S

- Finishes: DBA, GLD, CLR
- Inserts: N, S, W
- Category: H, J
- Certifications: BHMA Certification

877S

- Finishes: MIL, DBA, GLD
- Inserts: N
- Category: H, J
- Certifications: BHMA Certification

878S

- Finishes: DBA, GLD, CLR
- Inserts: N
- Category: H, J
- Certifications: BHMA Certification

880S

- Finishes: MIL, DBA, GLD
- Inserts: N
- Category: H, J
- Certifications: BHMA Certification

881S

- Finishes: MIL, DBA, GLD
- Inserts: V, N, S, W
- Category: H, J
- Certifications: BHMA Certification
WEATHERSTRIPPING - JAMB WEATHERSTRIPPING

**882S**

- **Finish:** DBA, GLD, CLR
- **Inserts:** B
- **Category:** H, J
- **Certifications:**

**883S**

- **Finish:** DBA, GLD, CLR
- **Inserts:** B
- **Category:** H, J
- **Certifications:**

**885S**

- **Finish:** DBA, GLD, CLR
- **Inserts:** V, N, S, W, F
- **Category:** H, J
- **Certifications:** BHMA CERTIFIED

**890S**

- **Finish:** MIL, DBA, GLD
- **Inserts:** V, N, S
- **Category:** H, J
- **Certifications:** BHMA CERTIFIED
WEATHERSTRIPPING - JAMB WEATHERSTRIPPING

891S


Insert "F" Shown Above

Finishes: MIL, DBA, GLD
Inserts: V, N, S, F
Category: H, J
Certifications: 

892S


Finishes: MIL, DBA, GLD
Inserts: N
Category: H, J
Certifications: 

893S


Finishes: MIL, DBA, GLD
Inserts: W
Category: J
Certifications: 

896S


Finishes: MIL, DBA, GLD
Inserts: V, N, S
Category: H, J
Certifications: 

Note: Scale: 1:2
Fire labeled Astragals & Meeting Stiles should only be mounted on pairs of doors with a gap that meets NFPA 80 2-3.1.7 (1/8” +/- 1/16” for steel doors and not exceeding 1/8” for wood doors)

Fasteners: #6 x 5/8” Pan head sheet metal screws

Notes:
- MIL finish weatherstripping is supplied with zinc plated screws
- Color anodized weatherstripping is supplied with screws plated to match
- Stainless steel weatherstripping is supplied with stainless steel screws

751S

<table>
<thead>
<tr>
<th>Finish</th>
<th>MIL, DBA, GLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inserts</td>
<td>N, V, W</td>
</tr>
<tr>
<td>Category</td>
<td>H, J</td>
</tr>
<tr>
<td>Certifications:</td>
<td>BHMA</td>
</tr>
</tbody>
</table>

Notes: Order two (2) for a set

756S

<table>
<thead>
<tr>
<th>Finish</th>
<th>MIL, DBA, GLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inserts</td>
<td>V</td>
</tr>
<tr>
<td>Category</td>
<td>H, J</td>
</tr>
<tr>
<td>Certifications:</td>
<td>BHMA</td>
</tr>
</tbody>
</table>

Notes: Order two (2) for a set

771S

<table>
<thead>
<tr>
<th>Finish</th>
<th>MIL, DBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inserts</td>
<td>V, W, N, S</td>
</tr>
<tr>
<td>Category</td>
<td>J</td>
</tr>
<tr>
<td>Certifications:</td>
<td>BHMA</td>
</tr>
</tbody>
</table>

Notes: Order two (2) for a set

772S

<table>
<thead>
<tr>
<th>Finish</th>
<th>MIL, DBA, GLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inserts</td>
<td>V, N, W</td>
</tr>
<tr>
<td>Category</td>
<td>H, J</td>
</tr>
<tr>
<td>Certifications:</td>
<td>BHMA</td>
</tr>
</tbody>
</table>

774S

<table>
<thead>
<tr>
<th>Finish</th>
<th>MIL, DBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inserts</td>
<td>V, N</td>
</tr>
<tr>
<td>Category</td>
<td>H, J</td>
</tr>
<tr>
<td>Certifications:</td>
<td>BHMA</td>
</tr>
</tbody>
</table>
WEATHERSTRIPPING - ASTRAGALS/MEETING STILES

776S

- Finishes: DBA, GLD, CLR
- Inserts: N
- Category: H, J
- Certifications: 

802S

- Finishes: MIL, DBA, GLD
- Inserts: B
- Category: H, J
- Certifications: 

Notes: Order two (2) for a set

835S

- Finishes: MIL, DBA, GLD, US32D, USP
- Category: J
- Certifications: BHMA

Notes: 
- Maximum length = 10 feet
- Available with thrubolts

836S

- Finishes: MIL, DBA, GLD
- Inserts: W, V, N, S
- Category: H, J
- Certifications: 

837S

- Finishes: MIL, DBA, GLD
- Inserts: W, V, N, S
- Category: H, J
- Certifications: BHMA

---

DIMENSIONS IN [ ] ARE MILLIMETERS.
PRIMARY DIMENSIONS SHOWN IN INCHES,

REV. DESCRIPTION ECO NO. DATE

SHEET 1 OF 1

© 2016 HAGER COMPANIES

www.hagerco.com
**WEATHERSTRIPPING - ASTRAGALS/MEETING STILES**

**839S**
- **Finish**: MIL
- **Category**: J
- **Notes**: • Magnetic
  • 96” maximum door height
  • Designed for use on 80” to 96” doors only
  • Sets shorter than 80” may not work properly

**849S**
- **Finish**: MIL, DBA
- **Notes**: • Magnetic
  • 96” maximum door height
  • Designed for use on 80” to 96” doors only
  • Sets shorter than 80” may not work properly

**845S | 846S**
- **Finish**: MIL, DBA, GLD
- **Category**: J
- **Notes**: • Adjustable
  • Order two (2) for a set

**845S | 846S**
- **Finish**: MIL, DBA, GLD
- **Category**: J
- **Notes**: • Adjustable
  • Order two (2) for a set

**872S**
- **Finish**: DBA, GLD, CLR
- **Category**: H, J
- **Notes**: • Order two (2) for a set

**847S | 848S**
- **Finish**: MIL, DBA, GLD
- **Category**: J
- **Notes**: • Adjustable
  • Spring loaded
  • Mortise depth = 21/32”
**874S**

- **5/16” [7.9]**
- **1 5/8” [41.3]**
- **7/16” [11.1]**

**Notes:**
- “V” or cushion bronze weatherstrip, for wood or metal doors
- Supplied with fasteners, specify wood or metal application
- Fasteners should be 3” on center

**Finishes:** MIL, DBA, GLD, US32D

**Inserts:** N

**Category:** H, J

**Certifications:**

---

**882S**

- **1/2” [12.7]**
- **1-1/16” [27.4]**
- **3/8” [10.2]**

**Notes:** Order two (2) for a set

**Finishes:** DBA, GLD, CLR

**Inserts:** B

**Category:** H, J

**Certifications:**

---

**Spring Bronze**

**822S**

- **7/8” x 16 EA Nail**

**Notes:**
- “V” or cushion bronze weatherstrip, for wood or metal doors
- Supplied with fasteners, specify wood or metal application
- Fasteners should be 3” on center
Hager Companies offers a full line of high quality, durable sliding door hardware that is the perfect choice for any by-pass, bi-fold, interior wall-mount, decorative barn door and pocket door application your project requires. With Hager’s sliding door hardware, you can choose from hundreds of fully tested products, including jump proof box tracks, self-aligning wheel systems, complete sets and accessories. Just as beneficial, every Hager sliding door hardware product is designed and manufactured to support a broad range of size and weight requirements, and is specified by some of the world’s most demanding architects, designers and builders – meeting or exceeding ANSI requirements.

Table of Contents

General Information .......................................................... 2
By-Pass ........................................................................ 3
9514 & 9583 Packaged By-Pass Sets.............................. 4-5
9614 & 9683 Packaged Sets ........................................ 6-7
9673 & 9674 Packaged Sets ......................................... 8-9
9675 & 9676 Packaged Sets ....................................... 10-11
9110 & 9130 Packaged Sets ....................................... 12-13
9611 & 9612 Packaged Sets ...................................... 14-15
9875 Packaged Sets .................................................. 16-17
9885 & 9886 Packaged Sets ...................................... 18-19
Bi-Fold ........................................................................21
9570 Track ................................................................. 22-23
9860 & 9861 Bi-Fold Sets .......................................... 24-25
9890 & 9891 Packaged Sets ...................................... 26-27
Pocket Door Kits ..........................................................29
9110 & 9130 Packaged Sets ...................................... 30-31
9678 Pocket Door Set .................................................. 32-33
9878 Packaged Sets .................................................. 34-35
9901 Series ................................................................ 36-37
9628 | 9629 | 9630 | 9631 .............................................. 38
9850 ...................................................................... 39
Pocket Door Components .......................................... 40-41
Wall-Mount Hardware ...............................................43
9710 ...................................................................... 44-46
Barn Door Hardware .................................................... 47
9400 Series ............................................................... 48-52
Conestoga Barn Door Hardware Series ...................... 53-57
Optional Components ............................................... 59-63
## GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Pg #</th>
<th>Max Wgt Per Door</th>
<th>Pkgd Sets</th>
<th>Track</th>
<th>Parts Bag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>By-Pass</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>60#</td>
<td>9514</td>
<td>9810</td>
<td>9814</td>
<td>Aluminum track &amp; hardware for 3/4&quot; &amp; 1-3/8&quot; thick doors.</td>
</tr>
<tr>
<td>4-5</td>
<td>60#</td>
<td>9583</td>
<td>9810</td>
<td>9400/9401 hangers</td>
<td>Aluminum track &amp; hardware for 3/4&quot; &amp; 1-3/8&quot; thick doors, for 3 doors.</td>
</tr>
<tr>
<td>6-7</td>
<td>60#</td>
<td>9614</td>
<td>9820</td>
<td>9540</td>
<td>Aluminum track with grooved fascia &amp; hardware for 1-3/8&quot; thick doors.</td>
</tr>
<tr>
<td>6-7</td>
<td>60#</td>
<td>9683</td>
<td>9820</td>
<td>9401 hangers</td>
<td>Aluminum track with grooved fascia &amp; hardware for 1-3/8&quot; thick doors.</td>
</tr>
<tr>
<td>8-9</td>
<td>125#</td>
<td>9673</td>
<td>9603</td>
<td>9679</td>
<td>Heavy duty aluminum box track with grooved fascia &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>10-12</td>
<td>125#</td>
<td>9675</td>
<td>9602</td>
<td>9679</td>
<td>Heavy duty aluminum box track &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>14-15</td>
<td>150#</td>
<td>9611</td>
<td>9821</td>
<td>9892</td>
<td>Aluminum double box track &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>8-9</td>
<td>150#</td>
<td>9674</td>
<td>9603</td>
<td>9680</td>
<td>Heavy duty aluminum box track with grooved fascia &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>10-11</td>
<td>150#</td>
<td>9676</td>
<td>9602</td>
<td>9680</td>
<td>Heavy duty aluminum box track &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>12-13</td>
<td>175#</td>
<td>9110</td>
<td>9101</td>
<td>9109</td>
<td>Heavy duty aluminum I-beam track and hardware for 1&quot; thick doors and up. <em>Must order 2 per by pass.</em></td>
</tr>
<tr>
<td>14-15</td>
<td>250#</td>
<td>9612</td>
<td>9821</td>
<td>9893</td>
<td>Aluminum double box track &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>16-17</td>
<td>250#</td>
<td>9875</td>
<td>9801</td>
<td>9827 hangers</td>
<td>Heavy duty aluminum double track &amp; hardware for 1-3/8&quot; thick doors.</td>
</tr>
<tr>
<td>18-19</td>
<td>250#</td>
<td>9885</td>
<td>9803</td>
<td>9827 hangers</td>
<td>Heavy duty aluminum double track with smooth fascia &amp; hardware for 1-3/8&quot; thick doors.</td>
</tr>
<tr>
<td>18-19</td>
<td>250#</td>
<td>9886</td>
<td>9803</td>
<td>9827 hangers</td>
<td>Heavy duty aluminum double track with smooth fascia &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>30-31</td>
<td>275#</td>
<td>9130</td>
<td>9101</td>
<td>9129</td>
<td>Heavy duty aluminum I-beam track and hardware for 1&quot; thick doors and up. <em>Must order 2 per by pass.</em></td>
</tr>
<tr>
<td><strong>Bi-Fold Sets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-23</td>
<td>50#</td>
<td>9570</td>
<td>9601</td>
<td>9569</td>
<td>Aluminum track &amp; hardware for 1-1/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>24-25</td>
<td>125#</td>
<td>9860/9850</td>
<td>9821</td>
<td>9894</td>
<td>Heavy duty aluminum box track &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>24-25</td>
<td>125#</td>
<td>9861</td>
<td>9821</td>
<td>9894</td>
<td>Heavy duty aluminum box track &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>26-27</td>
<td>125#</td>
<td>9890/9891</td>
<td>9801</td>
<td>9827 &amp; 9828</td>
<td>Heavy duty aluminum double track &amp; hardware for 1-1/8&quot; and 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td><strong>Pocket Door Sets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32-33</td>
<td>125#</td>
<td>9678</td>
<td>9601</td>
<td>9632</td>
<td>Heavy duty aluminum box track &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>34-35</td>
<td>150#</td>
<td>9678</td>
<td>9101</td>
<td>9633</td>
<td>Heavy duty aluminum box track &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>30-31</td>
<td>175#</td>
<td>9110</td>
<td>9101</td>
<td>9109</td>
<td>Heavy duty aluminum I-beam track &amp; hardware for 1&quot; thick doors and up.</td>
</tr>
<tr>
<td>34-35</td>
<td>250#</td>
<td>9878</td>
<td>9801</td>
<td>9742</td>
<td>Heavy duty aluminum double track &amp; hardware for 1-3/8&quot; and 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>36-37</td>
<td>250#</td>
<td>9901</td>
<td>9821</td>
<td>9895</td>
<td>Extra heavy duty aluminum box track &amp; hardware for 1-3/8&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
<tr>
<td>30-31</td>
<td>275#</td>
<td>9130</td>
<td>9101</td>
<td>9129</td>
<td>Heavy duty aluminum I-beam track &amp; hardware for 1&quot; thick doors and up.</td>
</tr>
<tr>
<td><strong>Pocket Door Frame Kits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>125#</td>
<td>9631</td>
<td>9601</td>
<td>9605 hangers</td>
<td>Pocket door packaged sets for 30&quot; wide 6'8&quot; high door</td>
</tr>
<tr>
<td>38</td>
<td>150#</td>
<td>9628</td>
<td>9601</td>
<td>9606 hangers</td>
<td>Pocket door packaged sets for 30&quot; wide 7'0&quot; high door</td>
</tr>
<tr>
<td>38</td>
<td>150#</td>
<td>9629</td>
<td>9601</td>
<td>9606 hangers</td>
<td>Pocket door packaged sets for 30&quot; wide 8'0&quot; high door</td>
</tr>
<tr>
<td>38</td>
<td>150#</td>
<td>9630</td>
<td>9601</td>
<td>9606 hangers</td>
<td>Pocket door packaged sets for 30&quot; wide 9'0&quot; high door</td>
</tr>
<tr>
<td>39</td>
<td>250#</td>
<td>9850</td>
<td>9801</td>
<td>9827 hangers</td>
<td>Pocket door packaged sets for 40&quot; wide 8'0&quot; high door</td>
</tr>
<tr>
<td>39</td>
<td>250#</td>
<td>9850</td>
<td>9801</td>
<td>9827 hangers</td>
<td>Pocket door packaged sets for 40&quot; wide 8'6&quot; high door</td>
</tr>
<tr>
<td><strong>Wall Mount Sets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44-46</td>
<td>250#</td>
<td>9710</td>
<td>9703</td>
<td>9711</td>
<td>Heavy duty aluminum track &amp; hardware for 1&quot; &amp; 1-3/4&quot; thick doors.</td>
</tr>
</tbody>
</table>
Hager offers a full-range of trouble-free, sturdy and quiet motion by-pass Sliding Door Hardware sets. Featuring heavy-duty aluminum tracks and a selection of decor complementing fascia designs, Hager’s by-pass components and door hardware sets can be ordered for 2-, 3- and 4-door configurations to fit rough openings from 4 ft to 8 ft wide.

Hager’s Sliding Door Hardware sets are built to last and simple to install. They support doors from 50 lb to 275 lb capacity and offer an ideal space-saving solution for closets, pantries, room-dividing doors, etc.

By-pass door hardware is available in kits, track, or individual components.
FEATURES

- Aluminum track with and hardware
- Conforms to ANSI A156.14
- Type: D8742

SPECIFICATIONS

- For 3/4” - 1-3/8” (19 mm - 35 mm) thick doors
- Up to 60 lbs (27 kg) per door with single wheel hangers 9400 or 9401
- Up to 75 lbs (34 kg) per door with twin wheel hangers 9202 or 9203, sold separately
- Track is extruded aluminum jump-proof style with "V" shaped rails
- Hangers have 7/8” (22 mm) diameter wheels

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9514-48</td>
<td>By-Pass Set - For two 24” (610 mm) doors</td>
</tr>
<tr>
<td>9514-60</td>
<td>By-Pass Set - For two 30” (762 mm) doors</td>
</tr>
<tr>
<td>9514-72</td>
<td>By-Pass Set - For two 36” (914 mm) doors</td>
</tr>
<tr>
<td>9514-96</td>
<td>By-Pass Set - For two 48” (1219 mm) doors</td>
</tr>
<tr>
<td>9583-96</td>
<td>By-Pass Set - For three 32” (813 mm) doors</td>
</tr>
</tbody>
</table>

Use the chart below to select the correct hanger offset combination for your application.

**Side Mount Selection Chart**

<table>
<thead>
<tr>
<th>Door Thickness</th>
<th>3/4” (19 mm)</th>
<th>1” (25.4 mm)</th>
<th>1-1/8” (29 mm)</th>
<th>1-3/8” (35 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Hanger</td>
<td>A</td>
<td>B</td>
<td>A or B</td>
<td>A</td>
</tr>
<tr>
<td>Rear Hanger</td>
<td>A</td>
<td>A</td>
<td>Same as front</td>
<td>B</td>
</tr>
<tr>
<td>Door Gap</td>
<td>3/4”</td>
<td>1/2”</td>
<td>11/16”</td>
<td>9/16”</td>
</tr>
</tbody>
</table>

**Item #** Description

- Hanger A 9200 Single wheel hanger-offset A
- Hanger B 9201 Single wheel hanger-offset B
- Hanger B* 9202 Twin wheel hanger-offset B
- Hanger A* 9203 Twin wheel hanger-offset A
- Hanger A 9400 Micro cam hanger-offset A
- Hanger B 9401 Micro cam hanger-offset B

* For use with doors 60 - 75 lbs., sold separately
**BY-PASS - 9514 & 9583 PACKAGED SET COMPONENTS**

### 9810 Aluminum Track
- **Materials:** Extruded aluminum
- **Gauge:** 0.050” (1.3 mm) thick
- **Track:** 1” x 2” (25 mm x 51 mm)
- **Lengths:** 48” (1219 mm) to 144” (3658 mm)
- **Notes:**
  - For doors up to 75 lbs (34 kg)
  - One piece track

### 9814 Parts Bag
Includes two (2) 9400 hangers, two (2) 9401 hangers, two (2) 2610-US3 pulls, and one (1) 9353 guide

### 9400* | 9401** Micro Adjust Hanger
- **Materials:** Zinc plated steel with molded Celcon wheels
- **Gauge:** 0.075” (2 mm)
- **Wheel:** 7/8” (22 mm) diameter
- **Notes:**
  - Side mounted with precise cam adjustment
  - For use on doors weighting up to 60 lbs (27 kg)
  - For use with 9810, 9820, and 9840 track
  - Hanger is stamped “A” or “B” for easy identification
  - 9400 is A offset of 3/8” (9.5 mm)
  - 9401 is B offset of 11/16” (17.5 mm)

### 2610 Flush Cup Finger Pull
- **Overall Diameter:** 31/32” (25 mm)
- **Finger Pull Diameter:** 3/4” (19 mm)
- **Depth:** 5/16” (8 mm)
- **Projection:** 1/32” (.8 mm)
- **Materials:** Solid brass
- **Notes:**
  - Built-in prong design eliminates the need for screws or brads

### 9353 Adjustable Door Guide
- **Materials:** High density polyethylene
- **Notes:**
  - Adjustable guide from 3/4” (19 mm) to 1-3/8” (35 mm)
  - Included with 9841 parts bag

### 9841 Optional Parts Bag
- Includes four (4) 9401 hangers, two (2) 9865 pulls, one (1) 9351 guide
- For use with 1” - 1-1/8” thick doors

### 9865 Flush Cup Pull
- **Overall Diameter:** 1-31/32” (50 mm)
- **Finger Pull Diameter:** 1-19/32” (41 mm)
- **Depth:** 11/32” (9 mm)
- **Projection:** 5/64” (2 mm)
- **Materials:** Tan color ABS plastic
- **Notes:**
  - Built-in prong design eliminates the need for screws or brads

### 9351 Guide
- **Materials:** High density polyethylene
- **Guide:** 4-9/16” x 1” x 11-3/16” (116 mm x 25 mm x 46 mm)
- **Notes:**
  - One piece fixed guide for 1-3/8” (35 mm) doors
  - Included with 9841 parts bag

### Optional Components
- **9200 | 9201** Hanger
- **9202 | 9203** Hanger
- **2630** Pull
- **9909** Adjustable Guide
- **9354** 3/4” Riser
- **9815** Bumper Stop
- **9880** Door Stop

For optional components see pages 59-63
BY-PASS - 9614 & 9683 PACKAGED SETS

FEATURES
- Aluminum track with 1-3/4” (44 mm) fascia and hardware
- Conforms to ANSI A156.14
- Type: D8742

SPECIFICATIONS
- For doors up to 1-3/8” (35 mm) thick
- Up to 60 lbs (27 kg) per door with single wheel 9201 or 9401 hangers
- Up to 75 lbs (34 kg) per door with twin wheel 9202 hangers
- Track is extruded aluminum jump-proof style with integral 1-3/4” (44 mm) fascia
- Hangers have one or two side mounted 7/8” (22 mm) diameter wheels
- Uses all B offset hangers
- Grooved fascia, ideal for painting

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9614-48</td>
<td>By-Pass Set - For two 24” (610 mm) door hangers, two (2) 2610-US3 pulls, one (1) 9351 floor guide</td>
</tr>
<tr>
<td>9614-60</td>
<td>By-Pass Set - For two 30” (762 mm) door pulls, one (1) 9351 floor guide</td>
</tr>
<tr>
<td>9614-72</td>
<td>By-Pass Set - For two 36” (914 mm) doors</td>
</tr>
<tr>
<td>9683-96</td>
<td>By-Pass Set - For three 32” (813 mm) doors</td>
</tr>
</tbody>
</table>

Interchanges with Stanley 8139 track, BP75-06, 8400 Series sets, 40-3340 and Cox 12-400 Series.

Use the chart below to select the correct hanger offset combination for your application.

<table>
<thead>
<tr>
<th>Side Mount Selection Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door Thickness</td>
</tr>
<tr>
<td>Front Hanger</td>
</tr>
<tr>
<td>Rear Hanger</td>
</tr>
<tr>
<td>Door Gap</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9200</td>
<td>Single wheel hanger-offset A</td>
</tr>
<tr>
<td>9201</td>
<td>Single wheel hanger-offset B</td>
</tr>
<tr>
<td>9202</td>
<td>Twin wheel hanger-offset B</td>
</tr>
<tr>
<td>9203</td>
<td>Twin wheel hanger-offset A</td>
</tr>
<tr>
<td>9400</td>
<td>Micro cam hanger-offset A</td>
</tr>
<tr>
<td>9401</td>
<td>Micro cam hanger-offset B</td>
</tr>
</tbody>
</table>

Notes:
Hanger is stamped "A" or "B" for easy identification
For consideration for 9514, 9583, 9614, 9683, 9844 and 9845 By-Pass packaged sets.

Hanger mount selection example:
Door thickness: 1-1/8”  Door weight: 60 lbs
Select single, twin or micro cam hanger
Front hanger: 9400  Rear hanger: 9400
BY-PASS - 9614 & 9683 TRACK COMPONENTS

9820
Aluminum Track with 1-3/4” (44 mm) Fascia
Materials: Extruded aluminum
Gauge: 0.050” (1.3 mm)
Track: 1-3/4” x 3” (44 mm x 76 mm)
Lengths: 48” (1219 mm) to 144” (3658 mm)
Notes: • For doors up to 75 lbs (34 kg)
• For use on doors up to 1-3/8” (35 mm)
• For use with 7/8” (22 mm) diameter hanger wheels
• One piece track with built-in grooved fascia

9351
Guide
Materials: High density polyethylene
Guide: 4-9/16” x 1” x 11-3/16” (116 mm x 25 mm x 46 mm)
Notes: One piece fixed guide for 1-3/8” (35 mm) doors

Optional Part Bags

9544
Parts Bag
Includes four (4) 9202 hangers, two (2) 2630-US3 pulls, and one (1) 9351 guide

9841
Parts Bag
Includes four (4) 9401 hangers, two (2) 9865 pulls, and one (1) 9351 guide

9842
Parts Bag
Includes four (4) 9401 hangers, two (2) 2630-US3 pulls, and one (1) 9351 guide

9843
Parts Bag
Includes four (4) 9202 hangers, two (2) 9865 pulls, and one (1) 9351 guide

9401 "B" Offset Hanger
Micro Adjust Hanger
Materials: Zinc plated steel with molded Celcon wheels
Gauge: 0.075” (2 mm)
Wheel: 7/8” (22 mm) diameter
Notes: • Side mounted with precise cam adjustment
• For use on doors weighting up to 60 lbs (27 kg)
• For use with 9810, 9820, and 9840 track

9540
Parts Bag
Includes four (4) 9401 hangers, two (2) 2610-US3 pulls, and one (1) 9351 guide

2610
Flush Cup Finger Pull
Overall Diameter: 31/32” (25 mm)
Finger Pull Diameter: 3/4” (19 mm)
Depth: 5/16” (8 mm)
Projection: 1/32” (.8 mm)
Materials: Solid brass
Finishes: US3
Notes: Built-in prong design eliminates the need for screws or brads

Optional Components
9200 | 9201 Hanger
9202 | 9203 Hanger
2630 Pull
9865 Pull
9909 Adjustable Guide
9353 Adjustable Guide
9354 3/4” Riser
9815 Bumper Stop
9880 Door Stop

For optional components see pages 59-63
BY-PASS - 9673 & 9674 PACKAGED SETS

FEATURES
- Heavy duty aluminum track with 2-5/8” (66 mm) Built-In Grooved Fascia and Hardware
- Conforms to ANSI A156.14
- Type: D8751, D8752

SPECIFICATIONS
- For doors 1-3/8” - 1-3/4” (35 mm - 44 mm) thick
- 9673 packaged sets for up to 125 lbs (57 kg) per door
- 9674 packaged sets for up to 150 lbs (68 kg) per door
- Track is extruded aluminum jump-proof style with "V" shaped rails and integral 2-5/8” (66 mm) fascia
- Hangers have four (4) 7/8” (22 mm) diameter wheels
- Integral 2-5/8” grooved fascia
- Grooved fascia, ideal for painting

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9673-48</td>
<td>By-Pass Set - For two 24” (610 mm) doors</td>
</tr>
<tr>
<td>9673-60</td>
<td>By-Pass Set - For two 30” (762 mm) doors</td>
</tr>
<tr>
<td>9673-72</td>
<td>By-Pass Set - For two 36” (914 mm) doors</td>
</tr>
<tr>
<td>9673-96</td>
<td>By-Pass Set - For two 48” (1219 mm) doors</td>
</tr>
<tr>
<td>9674-48</td>
<td>By-Pass Set - For two 24” (610 mm) door</td>
</tr>
<tr>
<td>9674-60</td>
<td>By-Pass Set - For two 30” (762 mm) door</td>
</tr>
<tr>
<td>9674-72</td>
<td>By-Pass Set - For two 36” (914 mm) door</td>
</tr>
<tr>
<td>9674-96</td>
<td>By-Pass Set - For two 48” (1219 mm) door</td>
</tr>
</tbody>
</table>

Includes one (1) 9603 track and one (1) 9679 parts bag: four (4) 9605 hangers, four (4) 9610 plates, and one (1) 9909 guide
For doors up to 125 lbs (57 kg)

Includes one (1) 9603 Packaged Set track and one (1) 9680 parts bag: four (4) 9606 hangers, four (4) 9610 plates, and one (1) 9909 guide
For doors up to 150 lbs (68 kg)

Interchanges with Stanley S1700F Series/BP150F; Johnson 134F/138F; and Lawrence F581 track, HDF520 Series sets.
**BY-PASS - 9673 & 9674 TRACK COMPONENTS**

**9603 Heavy Duty Aluminum Double Box Track**
- Materials: Extruded aluminum
- Gauge: 0.050” (1.3 mm)
- Track: 1-1/16” x 4” (27 mm x 102 mm)
- Lengths: 48” (1219 mm) to 144” (3658 mm)
- Notes: • Grooved fascia for painting  
  • Jump proof double twin channel design  
  • One piece track with built-in grooved fascia

**9605 4-Wheel Hanger**
- For 125 lbs (57 kg) doors
- Materials: Steel with brass-tone dichromate finish
- Wheel: 7/8” (22 mm) diameter
- Notes: • Wheels are self aligning to allow consistent contact with track  
  • Pre-lubricated Celcon wheels  
  • Up to 125 lbs (57 kg) per door  
  • Use in conjunction with 9601, 9602 or 9603 track

**9606 4-Wheel Ball Bearing Hanger**
- For 150 lbs (68 kg) doors
- Materials: Steel with brass-tone dichromate finish
- Wheel: 7/8” (22 mm) diameter
- Notes: • Wheels are self aligning to allow consistent contact with track  
  • Pre-lubricated Celcon wheels mounted on steel ball bearing shafts  
  • For doors up to 150 lbs (68 kg)  
  • Used in conjunction with 9607, 9608 or 9610 top door plate and 9599, 9601 or 9602 track

**9610 Replacement Top Mount Plate**
- Materials: Bright zinc plated steel
- Gauge: 1/8” (3 mm)
- Size: 1-3/8” (35 mm) x 2-13/16” (72 mm)
- Notes: Replacement for four wheel hangers 9605, 9606, 9575, 9824, 9825 and 9827

**9679 Parts Bag**
- For 125 lbs (57 kg) per door - Includes four (4) 9605 hangers with quick release top mount plate, four (4) 9610 plates, and one (1) 9909 guide

**9909 Adjustable Guide**
- Materials: Steel with bright zinc finish
- Posts: Molded Celcon/Nylon
- Gauge: 0.060” (1.5 mm)
- Guide: 4-7/8” x 1-5/8” x 1-3/16” (124 mm x 41 mm x 30 mm)
- Notes: For doors 3/4” to 1-3/4” (19 mm to 44 mm) thick and up to 275 lbs (125 kg)

**9680 Parts Bag**
- For 150 lbs (68 kg) doors - Includes four (4) 9606 ball bearing hangers, four (4) 9610 plates, and one (1) 9909 guide
  
  Note: Up to 125 lbs (57 kg) per door

**Optional Components**
- 2610 Pull
- 2630 Pull
- 9865 Pull
- 9610 Top Mount Plate
- 9351 Adjustable Guide
- 9353 Adjustable Guide
- 9354 3/4” Riser
- 9815 Bumper Stop
- 9880 Door Stop

For optional components see pages 59-63
BY-PASS - 9675 & 9676 PACKAGED SETS

FEATURES

• Heavy duty aluminum double box track and hardware
• Conforms to ANSI A156.14
• Type: D8731, D8741, D8751

SPECIFICATIONS

• For doors 1-3/8” - 1-3/4” (35 mm - 44 mm) thick
• Up to 100 lbs (45 kg) with 9572 hangers
• 9675 packaged sets for up to 125 lbs (57 kg) per door
• 9676 packaged sets for up to 150 lbs (68 kg) per door
• Track is extruded aluminum jump-proof style with "V" shaped rails
• Hangers have four (4) 7/8” (22 mm) diameter wheels

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9675 Packaged Set</td>
<td>Includes one (1) 9602 track and one (1) 9679 parts bag: four (4) 9605 hangers, four (4) 9609 plates, and one (1) 9909 guide For doors up to 125 lbs (57 kg) per door</td>
</tr>
<tr>
<td>9675-48</td>
<td>By-Pass Set - For two 24” (610 mm) doors</td>
</tr>
<tr>
<td>9675-60</td>
<td>By-Pass Set - For two 30” (762 mm) doors</td>
</tr>
<tr>
<td>9675-72</td>
<td>By-Pass Set - For two 36” (914 mm) doors</td>
</tr>
<tr>
<td>9675-96</td>
<td>By-Pass Set - For two 48” (1219 mm) doors</td>
</tr>
<tr>
<td>9676 Packaged Set</td>
<td>Includes one (1) 9602 track and one (1) 9680 parts bag: four (4) 9606 hangers, four (4) 9609 plates, and one (1) 9909 guide For doors up to 150 lbs (68 kg) per door</td>
</tr>
<tr>
<td>9676-48</td>
<td>By-Pass Set - For two 24” (610 mm) door</td>
</tr>
<tr>
<td>9676-60</td>
<td>By-Pass Set - For two 30” (762 mm) door</td>
</tr>
<tr>
<td>9676-72</td>
<td>By-Pass Set - For two 36” (914 mm) door</td>
</tr>
<tr>
<td>9676-96</td>
<td>By-Pass Set - For two 48” (1219 mm) door</td>
</tr>
</tbody>
</table>

Interchanges with Stanley 1755, 40-3664, 40-3855/BP150; Johnson 134F/138F; Grant 7000 Series, Cox 15-220 Series; and Lawrence 581 track, HD520 hardware.
9602
Heavy Duty Aluminum Double Box Track
Materials: Extruded aluminum
Gauge: 0.050" (1.3 mm) thick
Track: 1-1/16" x 3-1/8"
(27 mm x 79 mm)
Lengths: 46" (1168 mm) to 142"
(3607 mm)
Notes: Jump proof double twin channel design

9679
Parts Bag
Includes four (4) 9605 hangers with quick release top mount plate, and one (1) 9909 guide
Note: Up to 125 lbs (57 kg) per door

9605
4-Wheel Hanger
For 125 lbs (57 kg) doors
Materials: Steel with brass-tone dichromate finish
Wheel: 7/8" (22 mm) diameter
Notes: • Wheels are self aligning to allow consistent contact with track
• Pre-lubricated Celcon wheels
• Up to 125 lbs (57 kg) per door
• Use in conjunction with 9601, 9602 or 9603 track

9606
4-Wheel Ball Bearing Hanger
For 150 lbs (68 kg) doors
Materials: Steel with brass-tone dichromate finish
Wheel: 7/8" (22 mm) diameter
Notes: • Wheels are self aligning to allow consistent contact with track
• Pre-lubricated Celcon wheels mounted on steel ball bearing shafts
• For doors up to 150 lbs (68 kg)
• Used in conjunction with 9607, 9608 or 9610 top door plate and 9599, 9601 or 9602 track

9610
Replacement Top Mount Plate
Materials: Bright zinc plated steel
Gauge: 1/8" (3 mm)
Size: 1-3/8" (35 mm) x 2-13/16"
(72 mm)
Notes: Replacement for four wheel hangers 9605, 9606, 9575, 9824, 9825 and 9827

9909
Adjustable Guide
Materials: Steel with bright zinc finish
Posts: Molded Celcon/Nylon
Gauge: 0.060" (1.5 mm)
Guide: 4-7/8" x 1-5/8" x 1-3/16"
(124 mm x 41 mm x 30 mm)
Notes: For doors 3/4" to 1-3/4"
(19 mm to 44 mm) thick and up to 275 lbs (125 kg)

9680
Parts Bag
For 150 lbs (68 kg) doors - Includes four (4) 9606 ball bearing hangers, four (4) 9610 plates, and one (1) 9909 guide
Note: Up to 125 lbs (57 kg) per door

Optional Components
9709 Fascia
2610 Pull
2630 Pull
9865 Pull
9610 Top Mount Plate
9351 Adjustable Guide
9353 Adjustable Guide
9354 3/4” Riser
9815 Bumper Stop
9880 Door Stop

For optional components see pages 59-63
BY-PASS - 9110 & 9130 PACKAGED SETS

FEATURES
- Heavy duty aluminum I-beam track and hardware
- Conforms to ANSI A156.14/Type: D8731

SPECIFICATIONS
- For doors 1” - 1-3/4” (25 mm - 45 mm) thick
- 9110 Series for doors weighing up to 175 lbs (79.5 kg) per door
- 9130 Series for doors weighing up to 275 lbs (124.7 kg) per door
- Track is extruded aluminum jump-proof style with “I” shaped rails
- Hangers have 1” (25 mm) diameter wheels with steel ball bearings
- Order two sets per opening per by pass

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9110 Series Set</td>
<td>Includes one (1) 9101 track and one (1) 9109 parts bag: two (2) 9102 hangers, and one (1) 9115 floor guide. For doors up to 175 lbs (79.5 kg) per door</td>
</tr>
<tr>
<td>9110-60</td>
<td>5’ (1524 mm) By-Pass Set - For one 2’6” (762 mm) door</td>
</tr>
<tr>
<td>9110-72</td>
<td>6’ (1839 mm) By-Pass Set - For one 3’0” (914 mm) door</td>
</tr>
<tr>
<td>9110-84</td>
<td>7’ (2134 mm) By-Pass Set - For one 3’6” (1067 mm) door</td>
</tr>
<tr>
<td>9110-96</td>
<td>8’ (2438 mm) By-Pass Set - For one 4’0” (1219 mm) door</td>
</tr>
<tr>
<td>9110-120</td>
<td>10’ (3048 mm) By-Pass Set - For one 5’0” (1529 mm) door</td>
</tr>
<tr>
<td>9110-144</td>
<td>12’ (3658 mm) By-Pass Set - For one 6’0” (1829 mm) door</td>
</tr>
<tr>
<td>9130 Series Set</td>
<td>Includes one (1) 9101 track and one (1) 9129 parts bag: two (2) 9105 hangers, and one (1) 9115 floor guide. For doors up to 275 lbs (125 kg)</td>
</tr>
<tr>
<td>9130-60</td>
<td>5’ (1524 mm) By-Pass Set - For one 2’6” (762 mm) door</td>
</tr>
<tr>
<td>9130-72</td>
<td>6’ (1839 mm) By-Pass Set - For one 3’0” (914 mm) door</td>
</tr>
<tr>
<td>9130-84</td>
<td>7’ (2134 mm) By-Pass Set - For one 3’6” (1067 mm) door</td>
</tr>
<tr>
<td>9130-96</td>
<td>8’ (2438 mm) By-Pass Set - For one 4’0” (1219 mm) door</td>
</tr>
<tr>
<td>9130-120</td>
<td>10’ (3048 mm) By-Pass Set - For one 5’0” (1529 mm) door</td>
</tr>
<tr>
<td>9130-132</td>
<td>11’ (3353 mm) By-Pass Set - For one 5’6” (1676 mm) door</td>
</tr>
<tr>
<td>9130-144</td>
<td>12’ (3658 mm) By-Pass Set - For one 6’0” (1829 mm) door</td>
</tr>
</tbody>
</table>

TRACKS - Two sets required for by-pass opening - 0.125” (3 mm) thick aluminum

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9101-72</td>
<td>72” (1829 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-84</td>
<td>84” (2134 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-96</td>
<td>96” (2438 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-120</td>
<td>120” (3048 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-144</td>
<td>144” (3658 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-192</td>
<td>192” (4877 mm) Aluminum I-Beam Track</td>
</tr>
</tbody>
</table>
**BY-PASS - 9110 & 9130 TRACK COMPONENTS**

### 9101
**I Beam Track**
- **Materials:** Extruded aluminum
- **Gauge:** 0.125” (3 mm)
- **Lengths:** 72” (1829 mm) to 192” (4877 mm)
- **Notes:** Mounting holes are prepunched for ease of installation

### 9102
**2 Wheel Hanger**
- **Materials:** Zinc plated steel
- **Wheels:** Nylon with steel ball bearings
- **Hanger:** 1-13/16” x 2” x 1-1/8” (46 mm x 51 mm x 29 mm)
- **Bolt:** 3/8” x 2-5/16” (10 mm x 59 mm)
  (Bolt not same as 9105)
- **Top Plate:** 1” x 3-1/2” x 3/16” (25 mm x 89 mm x 5 mm)
- **Notes:** Use with 9101 track, with doors weighing up to 175 lbs (79 kg)

### 9105
**4 Wheel Hanger**
- **Materials:** Zinc plated steel
- **Wheels:** Nylon with steel ball bearings
- **Hanger:** 4” x 2” x 1-3/4” (102 mm x 51 x 45 mm)
- **Bolt:** 3/8” x 2-5/16” (10 mm x 59 mm)
- **Top Plate:** 1” x 3-1/2” x 3/16” (25.4 mm x 89 mm x 5 mm)
- **Notes:** • Use with 9101 track, with doors weighing up to 275 lbs (125 kg)
  • Four wheel hanger is self-aligning to allow consistent contact with track

### 9109
**Parts Bag**
- Includes two (2) 9102 2-wheel hangers and one (1) 9115 floor guide

### 9115
**Bottom Door Guide**
- **Materials:** Die cast zinc aluminum alloy
- **Guide:** 7/8” x 3/4” x 3” (22 mm x 19 mm x 76 mm)
- **Notes:** Door bottom prep requires 1/4” (6 mm) wide kerf and 9/16” (14 mm) depth

### 9129
**Parts Bag**
- Includes two (2) 9105 4-wheel hangers and one (1) 9115 floor guide

### 9122
**Optional Components**
- 9111 Fixed Bottom Door Guide
- 9113 Door Stop
- 9114 Bottom Guide Rail
- 9121 Bottom Door Guide
- 9122 Bottom Guide Channel
- 9909 Adjustable Guide

For optional components see pages 59-63
FEATURES
- Heavy duty aluminum box double track and hardware
- Conforms to ANSI A156.14
- Type: D8731, D8751

SPECIFICATIONS
- For doors 1-3/8” (35 mm) thick doors (top figure)
  - no spacer kit required
- For doors 1-3/4” (45 mm) thick with tracks spaced 3/8” (10 mm)
  apart using 9573 (bottom figure)
- 9611 Packaged Sets for doors weighing up to 150 lbs (68 kg) per door
- 9612 Packaged Sets for doors weighing up to 250 lbs (113 kg)
  per door
- Quick release hangers allow easy door hanging and removal
- Hangers have 1” (25 mm) diameter wheels
- Universal extruded aluminum track interchanges with Stanley
  and Johnson hangers and track

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9611 Packaged Set</td>
<td>Includes two (2) 9821 tracks and one (1) 9892 parts bag: four (4) 9824 hangers, one (1) 9909 guide, and one (1) 9573 spacer For doors up to 150 lbs (68 kg) per door</td>
</tr>
<tr>
<td>9611-60</td>
<td>By-Pass Set - For two 30” (762 mm) doors</td>
</tr>
<tr>
<td>9611-72</td>
<td>By-Pass Set - For two 36” (914 mm) doors</td>
</tr>
<tr>
<td>9611-96</td>
<td>By-Pass Set - For two 48” (1219 mm) doors</td>
</tr>
<tr>
<td>9612 Series Set</td>
<td>Includes two (2) 9821 tracks and one (1) 9893 parts bag: four (4) 9825 hangers, one (1) 9909 guide, and one (1) 9573 spacer For doors up to 250 lbs (113 kg) per door</td>
</tr>
<tr>
<td>9612-60</td>
<td>By-Pass Set - For two 30” (762 mm) door</td>
</tr>
<tr>
<td>9612-72</td>
<td>By-Pass Set - For two 36” (914 mm) door</td>
</tr>
<tr>
<td>9612-96</td>
<td>By-Pass Set - For two 48” (1219 mm) door</td>
</tr>
</tbody>
</table>

Optional Bottom Track
9121 - 9122

Installation note: Clearance between door bottom and top of 9122 track must be 7/8” (22 mm) minimum to 1-3/4” (44 mm) maximum.
BY-PASS - 9611 & 9612 TRACK COMPONENTS

9821 Aluminum Box Track
Materials: Extruded aluminum
Gauge: 0.06” (2 mm) thick
Track: 1-5/8” x 1-1/16” (41 mm x 27 mm)
Lengths: 59” (1499 mm) to 144” (3658 mm)
Notes:
• Jump proof twin channel design
• Two-piece required for by-pass

9824 4 Wheel Hanger with Quick Release Top Mount Plate
Materials: Zinc plated steel
Wheels: Self aligning to allow consistent contact with track
Wheel: 1” (25 mm) diameter
Notes:
• Pre-lubricated Celcon wheels
• Up to 150 lbs (68 kg) per door
• For use with 9821 track
• Quick release feature allows easy door hanging and removal

9909 Adjustable Guide
Materials: Steel with bright zinc finish
Posts: Molded Celcon/Nylon
Gauge: 0.060” (1.5 mm)
Guide: 4-7/8” x 1-5/8” x 1-3/16” (124 mm x 41 mm x 30 mm)
Notes:
For doors 3/4” to 1-3/4” (19 mm to 44 mm) thick and up to 275 lbs (125 kg)

9573 Celcon Plastic Spacer Kit
Materials: Celcon plastic
Notes:
• Includes screws
• Properly spaces two single tracks for 1-3/4” (44 mm) doors

9893 Parts Bag
Includes four (4) 9825 4-wheel ball bearing hangers with quick release top mount plate, one (1) 9909 guide, and one (1) 9573 spacer kit
Note: Up to 250 lbs per door

9825 4 Wheel Ball Bearing Hanger with Quick Release Top Mount Plate
Materials: Zinc plated steel
Wheels: Self aligning to allow consistent contact with track with steel ball bearings
Wheel: 1” (25 mm) diameter
Notes:
• Pre-lubricated Celcon wheels
• Up to 250 lbs (113 kg) per door
• For use with 9821 track
• Quick release feature allows easy door hanging and removal

Optional Components
9709 Fascia
2610 Pull
2630 Pull
9865 Pull
9121 Bottom Door Guide
9122 Bottom Guide Channel
9351 Adjustable Guide
9353 Adjustable Guide
9354 3/4” Riser
9815 Bumper Stop
9880 Door Stop

For optional components see pages 59-63
BY-PASS - 9875 PACKAGED SETS

FEATURES
- Heavy duty aluminum box double track and hardware
- Conforms to ANSI A156.14
- Type: D8731, D8751

SPECIFICATIONS
- For doors 1-3/8” - 1-3/4” (35 mm - 44 mm) thick (top figure)
- For doors 1-3/4” (44 mm) thick, tracks are spaced 3/8” (10 mm) apart using 9574 (bottom figure)
- Up to 250 lbs (113 kg) per panel
- Track is extruded aluminum jump-proof style with “V” shaped rails
- Hangers have four (4) 1-1/4” (32 mm) diameter wheels

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
</table>
| 9875 Series Set | Packaged set for doors up to 1-3/4” (44 mm) thick  
Includes two (2) 9801 tracks, four (4) 9827 hangers, one (1) 9574 spacer, and one (1) 9909 guide |
| 9875-48 | By-Pass Set - 4’ (1219 mm) opening for two doors |
| 9875-60 | By-Pass Set - 5’ (1524 mm) opening for two doors |
| 9875-72 | By-Pass Set - 6’ (1829) opening for two doors |
| 9875-96 | By-Pass Set - 8’ (2438 mm) opening for two doors |

TRACKS - 0.075” (1.9 mm) thick aluminum

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9801-72</td>
<td>72” (1829 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-96</td>
<td>96” (2438 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-120</td>
<td>120” (3048 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-144</td>
<td>144” (3658 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-192</td>
<td>192” (4877 mm) Aluminum Box Track</td>
</tr>
</tbody>
</table>

FASCIA - 2-3/4” (70 mm) high with 5/8” (16 mm) lip

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9809-72</td>
<td>72” (1829 mm) 3-7/8” (98 mm) Aluminum Fascia</td>
</tr>
<tr>
<td>9809-96</td>
<td>96” (2438 mm) 3-7/8” (98 mm) Aluminum Fascia</td>
</tr>
</tbody>
</table>

Interchanges with Stanley 57/58.
BY-PASS - 9875 TRACK COMPONENTS

9801
Heavy Duty Aluminum Box Track

Material: Extruded aluminum  
Gauge: 0.075” (1.9 mm)  
Track: 1-5/8” x 1-3/4”  
(41 mm x 44 mm)  
Lengths: 72” (1829 mm) to 192”  
(4877 mm)  
Notes:  
• For doors up to 250 lbs (113 kg)  
• Jump proof twin channel design

9809
Aluminum Fascia

Materials: Extruded aluminum  
Gauge: 0.072” (1.8 mm)  
Lip: 1-3/4” (44 mm)  
Fascia: 3-7/8” (98 mm)  
Lengths: 72” (1829 mm) and 96” (2438 mm) lengths  
Notes:  
• Grooved fascia for painting  
• Pre-punched holes for easy installation

9574
Track Spacer Kit

Materials: Celcon plastic  
Notes:  
• Includes screws  
• Properly spaces two single tracks for 1-3/4” (44 mm) doors  
• For use with 9801 track

9827
Four Wheel Ball Bearing Hanger

Materials: Zinc plated steel  
Wheels: Self aligning to allow consistent contact with track  
Wheel: 1-1/4” (32 mm) diameter  
Notes:  
• For doors up to 250 lbs (113 kg)  
• Pre-lubricated Celcon wheels on steel shafts with steel ball bearings  
• Ball bearing axles  
• For use with 9801 Track

9909
Adjustable Guide

Materials: Steel with bright zinc  
Posts: Molded Celcon/Nylon  
Gauge: 0.060” (1.5 mm)  
Guide: 4-7/8” x 1-5/8” x 1-3/16”  
(124 mm x 41 mm x 30 mm)  
Notes:  
For doors 3/4” to 1-3/4”  
(19 to 44 mm) thick and up to 275 lbs (125 kg)

Optional Components

- 330D Pocket Door Latch  
- 330L Pocket Door Privacy Latch  
- 330M Pocket Door Privacy Latch  
- 2630 Flush Cup Pull  
- 9881 Bumper  
- 9883 Two Piece Pocket Door Guide  
- 9884 Pocket Door Edge Pull  
- 9815 Bumper Stop  
- 9884 Pocket Edge Pull  
- 9889 Non-Adjustable Floor Guide

For optional components see pages 59-63
BY-PASS - 9885 & 9886 PACKAGED SETS

FEATURES
- Heavy duty aluminum double box track with 3-1/2” (89 mm) smooth fascia and hardware
- Conforms to ANSI A156.14
- Type: D8731, D8751

SPECIFICATIONS
- For doors 1-3/8" - 1-3/4” (35 mm - 44 mm) thick
- Up to 250 lbs (113 kg) per door
- Track is extruded aluminum jump-proof style with "V" shaped rails and integral 3-1/2” (88 mm) fascia
- Integral 3-1/2” (88 mm) smooth fascia
- Smooth fascia mount to be accompanied by decorative trim
- Hangers have four (4) 1-1/4” (32 mm) diameter wheels
- Smooth finish fascia

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9885-48</td>
<td>By-Pass Set - 4’ (1219 mm) opening for two doors</td>
</tr>
<tr>
<td>9885-60</td>
<td>By-Pass Set - 5’ (1524 mm) opening for two doors</td>
</tr>
<tr>
<td>9885-72</td>
<td>By-Pass Set - 6’ (1829 mm) opening for two doors</td>
</tr>
<tr>
<td>9885-96</td>
<td>By-Pass Set - 8’ (2438 mm) opening for two doors</td>
</tr>
</tbody>
</table>

- 9886 Packaged Set for four doors up to 250 lbs. (113 kg.) each
  Includes eight (8) 9827 hangers, and one (1) 9909 guide, and two (2) 9880 bumper stops

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9886-96</td>
<td>By-Pass Set - 8’ (2438 mm) opening for four doors</td>
</tr>
</tbody>
</table>

TRACKS - 0.06” (1.5 mm) thick aluminum

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9821-59</td>
<td>59” (1499 mm) Heavy Duty Aluminum Box Track</td>
</tr>
<tr>
<td>9821-71</td>
<td>71” (1803 mm) Heavy Duty Aluminum Box Track</td>
</tr>
<tr>
<td>9821-96</td>
<td>96” (2438 mm) Heavy Duty Aluminum Box Track</td>
</tr>
<tr>
<td>9821-144</td>
<td>144” (3658 mm) Heavy Duty Aluminum Box Track</td>
</tr>
</tbody>
</table>
### 9803
**Heavy Duty Aluminum Double Box Track with 3-1/2” (89 mm) Smooth Fascia**

**Materials:** Extruded aluminum  
**Gauge:** 0.075” (1.9 mm) thick  
**Track:** 3-1/2” x 4-1/2”  
(89 mm x 114 mm)  
**Lengths:** 48” (1219 mm) to 144”  
(3658 mm)  
**Notes:**  
- Up to 250 lbs (113 kg) per door  
- Jump proof twin channel design  
- One piece track with built-in smooth fascia  
- Smooth fascia meant to be accompanied by decorative trim  
- Hager does not offer decorative trim

### 9827
**Four Wheel Ball Bearing Hanger**

**Materials:** Zinc plated steel  
**Wheels:** Self aligning to allow consistent contact with track  
**Wheel:** 1-1/4” (32 mm) diameter  
**Notes:**  
- For doors up to 250 lbs (113 kg)  
- Pre-lubricated Celcon wheels on steel shafts with steel ball bearings  
- Ball bearing axles  
- For use with 9801 track

### 9909
**Adjustable Guide**

**Materials:** Steel with bright zinc  
**Posts:** Molded Celcon/Nylon  
**Gauge:** 0.060” (1.5 mm)  
**Guide:** 4-7/8” x 1-5/8” x 1-3/16”  
(124 mm x 41 mm x 30 mm)  
**Notes:** For doors 3/4” to 1-3/4”  
(19 mm to 44 mm) thick and up to 275 lbs (125 kg)

### 9880
**Door Stop**

**Materials:** Zinc plated steel and rubber  
**Gauge:** 0.090” (2.3 mm)  
**Stop:** 1-1/4” x 1-1/4” x 7/8”  
(32 mm x 32 mm x 22 mm)  
**Notes:**  
- For doors up to 175 lbs (79 kg)  
- Keeps rear door pull exposed  
- Mounts on door  
- Not included in sets

### Optional Components

- 2610 Pull  
- 2630 Pull  
- 9865 Pull  
- 9351 Adjustable Guide  
- 9353 Adjustable Guide  
- 9354 3/4” Riser  
- 9815 Bumper Stop  
- 9880 Door Stop  
- 9268 By-Pass Door Keyed Lock  
- 9900 Rev. Side Mount Bracket

For optional components see pages 59-63
Hager Companies Bi-Fold (by-fold) door hardware is, the smoother the operation of your doors will be—over the lifetime of the installation. Contractors, specification writers and architects insist on Hager’s hardware sets and components to ensure trouble-free installation and reliable performance.

Hager offers a wide range of classic Bi-Fold door hardware sets featuring heavy-duty aluminum tracks in 2- and 4-door configurations. Our tracks accommodate rough openings from three to eight feet and support doors up to 125 lbs.
BI-FOLD - 9570 TRACK

FEATURES
- Standard duty aluminum box track and hardware
- Conforms to ANSI A156.14
- Type: D8621, D8642, D8652, D8662

SPECIFICATIONS
- For doors 1-1/8" (28.6 mm - 44 mm) to 1-3/4" (44 mm) thick
- Up to 50 lbs (57 kg) per panel bi-fold
- Up to 30 lbs (34 kg) per panel multi-fold
- Track is extruded aluminum jump-proof style with "V" shaped rails
- Hangers have four 7/8" (22 mm) diameter wheels
- Top and bottom pivots are heavy duty with solid brass bottom socket assembly for smooth, long lasting operation
- Note: Loose pin full mortise hinges 1741/1279 are recommended – not included (3 required for 9162, 6 required for 9164)

**Part Number** | **Description**
--- | ---
9570 Series Set - For two doors
Includes one (1) 9601 track and one (1) 9571 parts bag
9570-36 | Bi-Fold Set - 3' (914 mm) opening for two 18" (457 mm) doors
9570 Series Set - For four doors
Includes one (1) 9601 track and two (2) 9571 parts bag
9570-48 | Bi-Fold Set - 4' (1219 mm) opening for four 12" (305 mm) doors
9570-60 | Bi-Fold Set - 5' (1524 mm) opening for four 15" (381 mm) doors
9570-72 | Bi-Fold Set - 6' (1829 mm) opening for four 18" (457 mm) doors
9570-96 | Bi-Fold Set - 8' (2438 mm) opening for four 24" (610 mm) doors

**TRACKS - 0.050" (1.3 mm) thick aluminum**

**Part Number** | **Description**
--- | ---
Tracks for use with 9570 Series
9601-35 | 35" (889 mm) Aluminum Box Track
9601-47 | 47" (1194 mm) Aluminum Box Track
9601-59 | 59" (1499 mm) Aluminum Box Track
9601-63 | 63" (1600 mm) Aluminum Box Track
9601-71 | 71" (1803 mm) Aluminum Box Track
9601-96 | 96" (2438 mm) Aluminum Box Track
9601-120 | 120" (3048 mm) Aluminum Box Track
9601-144 | 144" (3658 mm) Aluminum Box Track

**Installation note:** Clearance between door bottom and top of 9122 track must be 7/8" (22 mm) minimum to 1-3/4" (44 mm) maximum.
**BI-FOLD - 9570 TRACK COMPONENTS**

- **9601 Aluminum Box Track**
  - Materials: Extruded aluminum
  - Gauge: 0.050” (1.3 mm)
  - Track: 1-1/16” x 1-3/8” (27 mm x 35 mm)
  - Lengths: 35” (889 mm) to 144” (2657 mm)
  - Notes:
    - Refer to series pages for weight capacities
    - Jump proof twin channel design

- **9571 Parts Bag**
  - Includes one (1) 9572 hanger, one (1) 9618 pivot set, one (1) 9559 aligner, one (1) 9558 knob, and one (1) 9815 bumper stop

- **9572 Four Wheel Hanger with Top Mount Plate**
  - Materials: Steel with brass-tone dichromate finish
  - Wheel: 7/8” (22 mm) diameter
  - Notes:
    - Wheels are self aligning to allow consistent contact with track
    - Pre-lubricated Celcon wheels
    - Includes wrench
    - For use on doors weighing up to 100 lbs (45 kg) each
    - For use with 9601, 9602, and 9603 track

- **9618 Pivot Set**
  - Materials: Zinc plated steel
  - Notes:
    - For doors up to 50 lbs (23 kg)
    - Thumb wheel vertical adjustment
    - Top and bottom pivots require 3/8” (10 mm) diameter holes
    - For use with 9601

- **9558 Wood Knob**
  - Diameter: 1-1/2” (38 mm)
  - Materials: Solid wood
  - Notes: Will accept paint or stain

- **9559 Aligner**
  - Materials: Steel with brass-tone dichromate finish
  - Notes:
    - Keeps lead doors aligned when closed
    - Use one on each lead door

- **9815 Bumper Stop**
  - Materials: Zinc plated steel and rubber
  - Notes:
    - Fits all Hager track styles except 9101
    - Screws onto track
    - Included in bi-fold sets 9570 and 9890

- **Optional Part Bags**
  - **9569 Parts Bag**
    - Includes one (1) 9572 hanger, one (1) 9618 pivot set, one (1) 9559 aligner, one (1) 9558 knob, and one (1) 9815 bumper stop, and three (3) 9220 hinges

- **9220 Bi-Fold Door Hinge**
  - Materials: Steel with dichromate zinc finish
  - Hinge: 3” x 1” (76 mm x 25 mm)
  - Hole Locations: 1/2” (13 mm) from the center lines of holes to center of barrel
  - Notes: Non-mortise and easy to install

- **Optional Components**
  - 9121 Adj. Bottom Door Guide
  - 9122 Bottom Guide Channel

For optional components see pages 59-63
BI-FOLD - 9860 & 9861 BI-FOLD SETS

FEATURES
- Heavy duty aluminum box track and hardware
- Conforms to ANSI A156.14
- Type: D8621, D8641, D8651, D8661

SPECIFICATIONS
- For doors 1-3/8” - 1-3/4” (35 mm - 44 mm) thick
- Up to 125 lbs (57 kg) per panel bi-fold
- Up to 75 lbs (34 kg) per panel multi-fold
- Quick release hangers allow easy door hanging and removal
- Universal extruded aluminum track interchanges with Stanley & Johnson track and hangers
- Hangers have 1” (25 mm) diameter wheels

Part Number Description
9860 Bi-Fold Set - For two doors
Includes one (1) 9821 track, one (1) 9894 parts bag, and three (3) 1741 3.5” x 3.5” US2D hinges
9860-30 Bi-Fold Set - 30” (762 mm) opening for two doors
9860-36 Bi-Fold Set - 36” (914 mm) opening for two doors
9860-48 Bi-Fold Set - 48” (1219 mm) opening for two doors
9861 Bi-Fold Set - For four doors
Includes one (1) 9821 track, two (2) 9894 parts bags, and six (6) 1741 3.5” x 3.5” US2D hinges
9861-48 Bi-Fold Set - 48” (1219 mm) opening for four doors
9861-60 Bi-Fold Set - 60” (1524 mm) opening for four doors
9861-72 Bi-Fold Set - 72” (1829 mm) opening for four doors
9861-96 Bi-Fold Set - 96” (2438 mm) opening for four doors

TRACKS - 0.06” (1.5 mm) thick aluminum

Part Number Description
Tracks for use with 9800 Series
9821-59 59” (1499 mm) Heavy Duty Aluminum Box Track
9821-71 71” (1803 mm) Heavy Duty Aluminum Box Track
9821-96 96” (2438 mm) Heavy Duty Aluminum Box Track
9821-144 144” (3658 mm) Heavy Duty Aluminum Box Track

Interchanges with Stanley 125/250 Series and Johnson 100 Series.

Optional Bottom Track
9121 - 9122

Installation note: Clearance between door bottom and top of 9122 track must be 7/8” (22 mm) minimum to 1-3/4” (44 mm) maximum.
### BI-FOLD - 9860 & 9861 TRACK COMPONENTS

**9821 Aluminum Box Track**
- **Materials:** Extruded aluminum
- **Gauge:** 0.06” (1.55 mm)
- **Track:** 1-5/8” x 1-1/16” (41 x 27 mm)
- **Lengths:** 59” (1499 mm) to 144” (3658 mm)
- **Notes:**
  - For doors up to 250 lbs (113 kg)
  - Jump proof twin channel design

**9825 Four Wheel Ball Bearing Quick Release Hanger**
- **Materials:** Zinc plated steel
- **Wheels:** Self aligning to allow consistent contact with track
- **Wheel:** 1” (25 mm) diameter
- **Notes:**
  - For doors up to 125 lbs (57 kg)
  - For bi-fold applications
  - Pre-lubricated Celcon wheels
  - For use with 9821 track
  - Quick release feature allows easy door hanging and removal

**9828 Bi-Fold Pivot Set**
- **Materials:** Zinc plated steel
- **Notes:**
  - For doors up to 125 lbs (57 kg)
  - Track pivot bearing mounts up inside track - no track cutting required
  - Bottom pivot socket has ball bearing raceway
  - Top and bottom pivots require 1/2” (13 mm) diameter and 1-3/4” (44 mm) deep holes
  - For use with 9801 and 9821 track

**9828 Bi-Fold Pivot Set**
- **Materials:** Zinc plated steel
- **Notes:**
  - For doors up to 125 lbs (57 kg)
  - Track pivot bearing mounts up inside track - no track cutting required
  - Bottom pivot socket has ball bearing raceway
  - Top and bottom pivots require 1/2” (13 mm) diameter and 1-3/4” (44 mm) deep holes
  - For use with 9801 and 9821 track

**9894 Parts Bag**
- Includes one (1) 9825 4-wheel ball bearing hanger with quick release top mount plate, one (1) 9559 aligner, one (1) 9828 bi-fold pivot set with one (1) 9815 bumper stop

**9815 Bumper Stop**
- **Materials:** Zinc plated steel and rubber
- **Notes:**
  - Fits all Hager track styles except 9101
  - Screws onto track
  - Included in bi-fold sets 9570 and 9890

**Optional Components**
- 1741 Full Mortise Hinge
- 9220 Bi-Fold Hinge
- 9121 Adj. Bottom Door Guide
- 9122 Bottom Guide Channel
- 9558 Wood Knob

For optional components see pages 59-63

---

2016
www.hagerco.com
BI-FOLD - 9890 & 9891 PACKAGED SETS

FEATURES
- Heavy duty aluminum box track and hardware
- Conforms to ANSI A156.14
- Type: D8621, D8641, D8651, D8661

SPECIFICATIONS
- For doors 1-1/8” - 1-3/4” (29 mm - 44 mm) thick
- Quick release hanger allows easy door hanging and removal
- Up to 125 lbs (57 kg) per panel bi-fold
- Up to 75 lbs (34 kg) per panel multi-fold
- Track is extruded aluminum jump-proof style with "V" shaped rails
- Hangers have four 1-1/4” (32 mm) diameter wheels
- Top and bottom pivots are heavy duty with ball bearing bottom socket assembly for smooth, long lasting operation
- Note: 9890 Series requires 1741 loose pin hinges – included

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9890 Series Set - For two doors</td>
<td></td>
</tr>
<tr>
<td>Includes one (1) 9801 track, one (1) 9827 hanger, one (1) 9828 pivot, and three (3) 1741 3.5” x 3.5” US2D hinges</td>
<td></td>
</tr>
<tr>
<td>9890-30</td>
<td>Bi-Fold Set - 30” (762 mm) opening for two doors</td>
</tr>
<tr>
<td>9890-36</td>
<td>Bi-Fold Set - 36” (914 mm) opening for two doors</td>
</tr>
<tr>
<td>9890-48</td>
<td>Bi-Fold Set - 48” (1219 mm) opening for two doors</td>
</tr>
<tr>
<td>9891 Series Set - For four doors</td>
<td></td>
</tr>
<tr>
<td>Includes one (1) 9801 track, one (1) 9827 hanger, one (1) 9828 pivot, and six (6) 1741 3.5” x 3.5” US2D hinges</td>
<td></td>
</tr>
<tr>
<td>9891-48</td>
<td>Bi-Fold Set - 48” (1219 mm) opening for four doors</td>
</tr>
<tr>
<td>9891-60</td>
<td>Bi-Fold Set - 60” (1524 mm) opening for four doors</td>
</tr>
<tr>
<td>9891-72</td>
<td>Bi-Fold Set - 72” (1829 mm) opening for four doors</td>
</tr>
<tr>
<td>9891-96</td>
<td>Bi-Fold Set - 96” (2438 mm) opening for four doors</td>
</tr>
</tbody>
</table>

TRACKS - 0.075” (1.9 mm) thick aluminum

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracks for use with 9890 Series</td>
<td></td>
</tr>
<tr>
<td>9801-72</td>
<td>72” (1829 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-96</td>
<td>96” (2438 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-120</td>
<td>120” (3048 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-144</td>
<td>144” (3658 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-192</td>
<td>192” (4877 mm) Aluminum Box Track</td>
</tr>
</tbody>
</table>

Installation note: Clearance between door bottom and top of 9122 track must be 7/8” (22 mm) minimum to 1-3/4” (44 mm) maximum.
BI-FOLD - 9890 & 9891 TRACK COMPONENTS

**9801 Heavy Duty Aluminum Box Track**
- **Materials:** Extruded aluminum
- **Gauge:** 0.075” (1.9 mm)
- **Track:** 1-5/8” x 1-3/4”
  (41 mm x 44 mm)
- **Lengths:** 72” (1829 mm) to 192”
  (4877 mm)
- **Notes:**
  - For doors up to 250 lbs
    (113 kg)
  - Jump proof twin channel design

**9815 Bumper Stop**
- **Materials:** Zinc plated steel and rubber
- **Notes:**
  - Fits all Hager track styles except 9101
  - Screws onto track
  - Included in bi-fold sets 9570 and 9890

**1741 Full Mortise, Five Knuckle, Plain Bearing Hinge**
- **Materials:** Steel with steel pin (ANSI A5134)
- **Notes:**
  - Reversible
  - Square corners
  - Removable pin
  - 3-1/2” x 3-1/2” (89 mm x 89 mm)
  - US2D

**9827 Four Wheel Ball Bearing Quick Release Hanger**
- **Materials:** Zinc plated steel
- **Wheels:** Self aligning to allow consistent contact with track
- **Wheel:** 1-1/4” (32 mm) diameter
- **Notes:**
  - For doors up to 125 lbs
    (57 kg)
  - Pre-lubricated Celcon wheels
  - Ball bearing axles
  - For doors up to 250 lbs
    (113 kg) for by-pass and pocket applications
  - For use with 9801 track
  - Quick release feature allows easy door hanging and removal

**9828 Bi-Fold Pivot Set**
- **Materials:** Zinc plated steel
- **Notes:**
  - For doors up to 125 lbs
    (57 kg)
  - Track pivot bearing mounts up inside track - no track cutting required
  - Bottom pivot socket has ball bearing raceway
  - Top and bottom pivots require 1/2” (13 mm) diameter and 1-3/4”
    (44 mm) deep holes
  - For use with 9801 and 9821 track

**9559 Aligner**
- **Materials:** Steel with brass-tone dichromate finish
- **Notes:**
  - Keeps lead doors aligned when closed
  - Use one on each lead door

**Optional Components**
- 9121 Adj. Bottom Door Guide
- 9122 Bottom Guide Channel
- 9566 Knob
- 9567 Rose
- 9558 Wood Knob

For optional components see pages 59-63
Pocket door aka “doors that vanish”— Hager Companies offer innovative design options for saving space and complementing classic and contemporary decors.

Hager’s pocket-door hardware is ideal for single and bi-parting pocket-door configurations in rough openings from two to four feet.

Steel or aluminum tracks support doors up to 250 lbs. and are designed for simple installation and durable performance. Hager’s 4-wheel spring carrier design provides an ultra-smooth gliding movement.

Pocket door hardware is available in kits (by opening length) or individual components.

Pocket frame kits include all the framing and hardware components to make installing pocket doors easy.
POCKET - 9110 & 9130 PACKAGED SETS

FEATURES
- Extra heavy duty aluminum I-beam track and hardware
- Conforms to ANSI A156.14
- Type: D8681, D8711

SPECIFICATIONS
- For doors 1” - 1-3/4” (25 mm - 44 mm) thick doors
- 9110 Packaged Sets up to 175 lbs (80 kg) per door
- 9130 Packaged Sets up to 275 lbs (125 kg) per door
- Track is extruded aluminum jump-proof style with “I” beam track
- Hangers have 1” (25 mm) diameter wheels

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9110-60</td>
<td>Pocket Door Set - 5’ (1524 mm) for 2’6” (762 mm) door</td>
</tr>
<tr>
<td>9110-72</td>
<td>Pocket Door Set - 6’ (1829 mm) for 3’0” (914 mm) door</td>
</tr>
<tr>
<td>9110-84</td>
<td>Pocket Door Set - 7’ (2134 mm) for 3’6” (1067 mm) door</td>
</tr>
<tr>
<td>9110-96</td>
<td>Pocket Door Set - 8’ (2438 mm) for 4’0” (1219 mm) door</td>
</tr>
<tr>
<td>9110-120</td>
<td>Pocket Door Set - 10’ (3048 mm) for 5’0” (1524 mm) door</td>
</tr>
<tr>
<td>9110-144</td>
<td>Pocket Door Set - 12’ (3658 mm) for 6’0” (1829 mm) door</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9130-60</td>
<td>Pocket Door Set - 5’ (1524 mm) for 2’6” (762 mm) door</td>
</tr>
<tr>
<td>9130-72</td>
<td>Pocket Door Set - 6’ (1829 mm) for 3’0” (914 mm) door</td>
</tr>
<tr>
<td>9130-84</td>
<td>Pocket Door Set - 7’ (2134 mm) for 3’6” (1067 mm) door</td>
</tr>
<tr>
<td>9130-96</td>
<td>Pocket Door Set - 8’ (2438 mm) for 4’0” (1219 mm) door</td>
</tr>
<tr>
<td>9130-120</td>
<td>Pocket Door Set - 10’ (3048 mm) for 5’0” (1524 mm) door</td>
</tr>
<tr>
<td>9130-132</td>
<td>Pocket Door Set - 11’ (3353 mm) for 5’6” (1676 mm) door</td>
</tr>
<tr>
<td>9130-144</td>
<td>Pocket Door Set - 12’ (3658 mm) for 6’0” (1829 mm) door</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9101-72</td>
<td>72” (1829 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-84</td>
<td>84” (2134 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-96</td>
<td>96” (2438 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-120</td>
<td>120” (3048 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-144</td>
<td>144” (3658 mm) Aluminum I-Beam Track</td>
</tr>
<tr>
<td>9101-192</td>
<td>192” (4877 mm) Aluminum I-Beam Track</td>
</tr>
</tbody>
</table>

Installation note: Clearance between door bottom and top of 9122 track must be 7/8” (22 mm) minimum to 1-3/4” (44 mm) maximum.
POCKET - 9110 & 9130 TRACK COMPONENTS

9101
Aluminum I-Beam Track
Materials: Extruded aluminum
Gauge: 0.125” (3 mm) thick
Lengths: 72” (1829 mm) to 192” (4877 mm)
Notes: • Mounting holes are pre-punched for ease of installation
• Requires two sets for by-pass opening

9109
Parts Bag
Includes two (2) 9102 2-wheel hangers and one (1) 9115 floor guide
Note: Up to 175 lbs (79 kg) per door

9102
2 Wheel Hanger
Materials: Zinc plated steel
Wheels: • Nylon with Steel Ball Bearings
• Two self-aligning wheel hangers allow consistent contact with track
Hanger: 1-3/16” x 2” x 1-1/8”
(46 mm x 51 mm x 29 mm)
Bolt: 3/8” x 2-5/16”
(10 mm x 59 mm)
(Bolt not same as 9105)
Top Plate: 1” x 3-1/2” x 3/16”
(25 mm x 89 mm x 5 mm)
Notes: • Use with 9101 track
• Up to 175 lbs (79 kg) per door

9115
Bottom Door Guide
Materials: Die cast zinc aluminum alloy
Guide: 7/8” x 3/4” x 3”
(22 mm x 19 mm x 76 mm)
Notes: Door bottom prep requires 1/4” (6 mm) wide kerf and 9/16” (14 mm) depth

3835
Small Case Deadbolt
See page 63 for details

Optional Part Bags

9129
Parts Bag
Includes two (2) 9105 2-wheel hangers and one (1) 9115 floor guide
Note: Up to 275 lbs (125 kg) per door

9105
4 Wheel Hanger
Materials: Zinc plated steel
Wheels: Nylon with steel ball bearings
Hanger: • 4” x 2” x 1-3/4”
(102 mm x 51 mm x 45 mm)
• Up to 275 lbs (125 kg) per door
Bolt: 3/8” x 2-5/16”
(10 mm x 59 mm)
Top Plate: 1” x 3-1/2” x 3/16”
(25 mm x 89 mm x 5 mm)
Notes: • Use with 9101 track, with doors weighing up to 275 lbs (125 kg)
• Four self-aligning wheel hangers allow consistent contact with track

Optional Components
9111 Fixed Bottom Guide
9113 Stop
9114 Bottom Guide Rail
9884 Pocket Door Edge Pull

For optional components see pages 59-63
POCKET - 9678 POCKET DOOR SET

FEATURES
- Heavy duty aluminum box track and hardware
- Conforms to ANSI A156.14
- Type: D8681, D8711

SPECIFICATIONS
- For doors 1-1/8” - 1-3/4” (29 mm - 44 mm) thick
- Up to 125 lbs (57 kg) per door with 9605 hangers
- Up to 150 lbs (68 kg) per door with 9606 hangers
- Track is extruded aluminum jump-proof style with “V” shaped rails
- Hangers have four 7/8” (22 mm) diameter wheels for 9605 and wheels mounted on ball bearing shafts for 9606

Part Number Description
9678 Pocket Door Set for 125 lb. doors
Includes one (1) 9601 track and one (1) 9632 parts bag: two (2) 9605 hangers, two (2) 9883 guides, and one (1) 9881 bumper
9678-72 Pocket Door Set - 6’ (1829 mm) for 3’0” (914 mm) door
9678-96 Pocket Door Set - 8’ (2438 mm) for 4’0” (1219 mm) door

TRACKS - 0.05” (1.3 mm) thick aluminum

Part Number Description
Tracks for use with 9601 Series
9601-35 35” (889 mm) Aluminum Box Track
9601-47 47” (1194 mm) Aluminum Box Track
9601-55 55” (1397 mm) Aluminum Box Track
9601-59 59” (1499 mm) Aluminum Box Track
9601-63 63” (1600 mm) Aluminum Box Track
9601-71 71” (1803 mm) Aluminum Box Track
9601-96 96” (2438 mm) Aluminum Box Track
9601-120 120” (3048 mm) Aluminum Box Track
9601-144 144” (3658 mm) Aluminum Box Track
POCKET - 9678 TRACK COMPONENTS

9601 Aluminum Box Track
Materials: Extruded aluminum
Gauge: 0.050” (1.3 mm)
Track: 1-1/16” x 1-3/8”
(27 mm x 35 mm)
Lengths: 35” (889 mm) to 144”
(3657 mm)
Notes: • Refer to series pages
      for weight capacities
      • Jump proof twin channel design

9605 4-Wheel Hanger
Materials: Steel with brass-tone
dichromate finish
Wheel: 7/8” (22 mm) diameter
Notes: • Up to 125 lbs (57 kg)
      per door
      • Self-aligning to allow
      consistent contact
      with track
      • Pre-lubricated Celcon
      wheels mounted on steel
      ball bearing shafts
      • Can be used on pivot set
      • Use in conjunction with
      9601 or 9602 track

9632 Parts Bag
Includes two (2) 9605 hangers, two (2)
9883 guides, and one (1) 9881 bumper

9883 Two Piece Pocket Door Guide
Materials: Polyethylene
Guide: 1-3/16” x 3/4” x 1-1/8”
(21 mm x 19 mm x 29 mm)
Notes: • Two pieces per door
      required
      • Screws to jamb to guide
      door and prevent rubbing

9881 Bumper
Materials: Rubber
Stop: 1/2” diameter x 3/8” deep
(13 mm x 10 mm)
Notes: With screws

3835 Small Case Deadlock
See page 63 for details

Optional Part Bags
9633 Parts Bag
Includes two (2) 9606 hangers, two (2)
9883 guides, and one (1) 9881 bumper
* For doors weighing up to 150 lbs. (68 kg)

9606 4-Wheel Ball Bearing Hanger
Materials: Steel with brass-tone
dichromate finish
Wheel: 7/8” (22 mm) diameter
Notes: • Up to 150 lbs (68 kg)
      per door
      • Self-aligning to allow
      consistent contact
      with track
      • Pre-lubricated Celcon
      wheels mounted on steel
      ball bearing shafts
      • Used in conjunction with
      9607, 9608 or 9610 top
door plate and 9599, 9601 or
      9602 track

Optional Components
330D Pocket Door Latch
330L Pocket Door Privacy Latch
330M Pocket Door Privacy Latch
2630 Flush Cup Pull
9884 Pocket Door Edge Pull
9815 Bumper Stop
9889 Non-Adjustable Floor Guide

For optional components see pages 59-63
POCKET - 9878 PACKAGED SETS

FEATURES
- Extra heavy duty aluminum box track and hardware
- Conforms to ANSI A156.14
- Type: D8681, D8711

SPECIFICATIONS
- For doors 1-3/8” - 1-3/4” (35 mm - 44 mm) thick
- Up to 250 lbs (113 kg) per door
- Track is extruded aluminum jump-proof style with "V" shaped rails
- Hangers have four 1-1/4” (32 mm) diameter wheels

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9878 Series Set</td>
<td>Includes one (1) 9801 track and one (1) 9742 parts bag</td>
</tr>
<tr>
<td>9878-72</td>
<td>Pocket Door Set - 6' (1829 mm) for 3'0&quot; (914 mm) door</td>
</tr>
<tr>
<td>9878-96</td>
<td>Pocket Door Set - 8' (2438 mm) for 4'0&quot; (1219 mm) door</td>
</tr>
</tbody>
</table>

TRACKS - 0.075” (1.9 mm) thick aluminum

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9801-72</td>
<td>72&quot; (1829 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-96</td>
<td>96&quot; (2438 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-120</td>
<td>120&quot; (3048 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-144</td>
<td>144&quot; (3658 mm) Aluminum Box Track</td>
</tr>
<tr>
<td>9801-192</td>
<td>192&quot; (4877 mm) Aluminum Box Track</td>
</tr>
</tbody>
</table>

Interchanges with Stanley 57/58.
**9801**

**Extra Heavy Duty Box Track**
- **Materials:** Extruded aluminum
- **Gauge:** 0.075” (1.9 mm)
- **Track:** 1-5/8 “x 1-3/4” (41 mm x 44 mm)
- **Lengths:** 72” (1829 mm) to 192” (4877 mm)
- **Notes:**
  - For doors up to 250 lbs (113 kg)
  - Jump proof twin channel design

**9742**

**Parts Bag**
- Includes two (2) 9827 hangers, two (2) 9883 guides, and one (1) 9881 bumper

**9827**

**Four Wheel Ball Bearing Hanger**
- **Materials:** Zinc plated steel
- **Wheels:** Self aligning to allow consistent contact with track
- **Wheel:** 1-1/4” (32 mm) diameter
- **Notes:**
  - For doors up to 75 lbs (34 kg)
  - Pre-lubricated Celcon wheels on steel shafts with steel ball bearings
  - Ball bearing axles
  - For use with 9801 track

**9881**

**Bumper**
- **Materials:** Rubber
- **Stop:** 1/2” diameter x 3/8” deep (13 mm x 10 mm)
- **Notes:** With screws

**9883**

**Two Piece Pocket Door Guide**
- **Materials:** Polyethylene
- **Guide:** 1-3/16” x 3/4” x 1-1/8” (21 mm x 19 mm x 29 mm)
- **Notes:**
  - Two pieces per door required
  - Screws to jamb to guide door and prevent rubbing

**3835**

**Small Case Deadlock**
- **Thumbturn:** Meet ADA Requirements, “No pinch,” “No grasp.”
- **Lock Case:** Heavy wrought steel with zinc dichromate finish - 4-5/16” x 3-9/16” x 1” (110 mm x 90 mm x 25 mm)
- **Armor Front:** 1-1/4” x 5-5/8” x 7/32” (32 mm x 143 mm x 5 mm)
- **Keys:** Two operating keys supplied per lock
- **Cylinder:**
  - Brass - keyed different - C keyway - Standard
  - Other keying options, including keyed 6-pin, available from factory
  - SFIC uncombined or combined, brass 6- or 7-pin sold separately
  - Drilled 6-pin, keyed 5-pin - Standard
  - Small Format Interchangeable Core housing available
  - Schlage “L” cam - Standard
- **Door Thickness:**
  - 1-3/8” - 2-1/2” (35mm-64mm) - steel door
  - 1-3/4” - 2-1/2” (45mm-64mm) - wood door
  - Must specify door thickness if greater than 1-3/4” (45mm)
- **Backset:** 2-3/4” (70 mm) only
- **Deadbolt:** 1” (25 mm) throw - stainless steel
- **Strike:** 1 1/8” wide x 3 1/2” (29mm x 89mm) NO LIP
- **Finishes:** US26D
- **Functions:** 35-Cylinder x Thumbturn, 36-Single Cylinder, 37-Double Cylinder, 38-Thumbturn Only, 39-Thumbturn w/ Emergency Key

**Optional Components**
- 330D Pocket Door Latch
- 330L Pocket Door Privacy Latch
- 330M Pocket Door Privacy Latch
- 2630 Flush Cup Pull
- 9884 Pocket Door Edge Pull
- 9815 Bumper Stop
- 9884 Pocket Door Edge Pull
- 9889 Non-Adjustable Floor Guide

For optional components see pages 59-63
POCKET - 9901 SERIES

FEATURES
- Extra heavy duty aluminum box track and hardware
- Conforms to ANSI A156.14
- Type: D8681

SPECIFICATIONS
- For doors 1-3/8" - 1-3/4" (35 mm - 44 mm) thick
- Up to 250 lbs (113 kg) per door
- Quick release hangers allow easy door hanging and removal
- Hangers interchange with Stanley & Johnson track and hangers
- Universal extruded aluminum track interchanges with Stanley & Johnson track and hangers
- Hangers have 1” (25 mm) diameter ball bearing wheels

Part Number Description
9901 Series Set
Includes one (1) 9821 track and one (1) 9895 parts bag: two (2) 9825 hangers, two (2) 9883 guides, and one (1) 9881 bumper
9901-72 Pocket Door Set - 6’ (1829 mm) for 3’0” (914 mm) door
9901-96 Pocket Door Set - 8’ (2438 mm) for 4’0” (1219 mm) door

TRACKS - 0.06” (1.5 mm) thick aluminum

Part Number Description
Tracks for use with 9901 Series
9821-59 59” (1499 mm) Aluminum Box Track
9821-71 71” (1803 mm) Aluminum Box Track
9821-96 96” (2438 mm) Aluminum Box Track
9821-144 144” (3658 mm) Aluminum Box Track

Interchanges with Stanley 125/250 Series and Johnson 100 Series.
9821
Aluminum Box Track
Materials: Extruded aluminum
Gauge: 0.06" (1.55 mm)
Track: 1-5/8" x 1-1/16" (41 mm x 27 mm)
Lengths: 59" (1499 mm) to 144" (3658 mm)
Notes: • For doors up to 250 lbs (113 kg)
• Jump proof twin channel design

9895
Parts Bag
Includes two (2) 9825 4-wheel ball bearing hangers with quick release top plate, two (2) 9883 guides, and one (1) 9881 bumper

9825
4 Wheel Ball Bearing Hanger with Quick Release Top Mount Plate
Materials: Zinc plated steel
Wheels: Self aligning to allow consistent contact with track
Wheel: 1" (25 mm) diameter
Notes: • Pre-lubricated Celcon wheels
• Up to 250 lbs (113 kg) doors
• For use with 9821 track
• Quick release feature allows easy door hanging and removal

9883
Two Piece Pocket Door Guide
Materials: Polyethylene
Guide: 1-3/16” x 3/4” x 1-1/8” (21 mm x 19 mm x 29 mm)
Notes: • Two pieces per door required
• Screws to jamb to guide door and prevent rubbing

9881
Bumper
Materials: Rubber
Stop: 1/2” diameter x 3/8” deep (13 mm x 10 mm)
Notes: With screws

3858
Small Case Deadlock
Thumbturn: Meet ADA Requirements, “No pinch,” No grasp.”
Lock Case: Heavy wrought steel with zinc dichromate finish - 4-5/16" x 3-9/16” x 1” (110 mm x 90 mm x 25 mm)
Armor Front: 1-1/4” x 5-5/8” x 7/32” (32 mm x 143 mm x 5 mm)
Keys: Two operating keys supplied per lock
Cylinder: • Brass - keyed different - C keyway - Standard
• Other keying options, including keyed 6-pin, available from factory
• SFIC uncombined or combined, brass 6- or 7-pin sold separately
• Drilled 6-pin, keyed 5-pin - Standard
• Small Format Interchangeable Core housing available
• Schlage “L” cam - Standard
Door Thickness:
• 1-3/8” - 2-1/2” (35mm-64mm) - steel door
• 1-3/4” - 2-1/2” (45mm-64mm) - wood door
• Must specify door thickness if greater than 1-3/4” (45mm)
Backset: • 2-3/4” (70 mm) only
Deadbolt: • 1” (25 mm) throw - stainless steel
Strike: • 1 1/8” wide x 3 1/2” (29mm x 89mm) NO LIP
Finishes: US26D
Functions: 35-Cylinder x Thumbturn, 36-Single Cylinder, 37-Double Cylinder, 38-Thumbturn Only, 39-Thumbturn w/ Emergency Key

Optional Components
330D Pocket Door Latch
330L Pocket Door Privacy Latch
330M Pocket Door Privacy Latch
2630 Flush Cup Pull
9559 Aligner
9815 Bumper Stop
9884 Pocket Door Edge Pull
9889 Non-Adjustable Floor Guide

For optional components see pages 59-63
POCKET - 9628 | 9629 | 9630 | 9631

FEATURES

- Heavy duty pocket door kit
- Conform to ANSI A156.14
- Type: D8671, D8701

SPECIFICATIONS

- Jump proof track and rollers
- Pre-assembled header assembly goes up quickly
- Easy door installation and removal for painting and repair
- Real wood split studs, size 3/4” x 1-5/8” (19 mm x 26 mm) length relative to height, steel encased for rigidity and to prevent fastener penetration into the pocket
- Track header unit attaches to rough framing at both ends - split studs nail or screw to track header - no connections to rough header
- 2 pair of split studs with wood inserts
- See chart below for appropriate kit

<table>
<thead>
<tr>
<th>Part #</th>
<th>Max Door Weight</th>
<th>Door Thickness*</th>
<th>Door Width</th>
<th>Door Height</th>
<th>Hanger Bearings</th>
</tr>
</thead>
<tbody>
<tr>
<td>9628</td>
<td>150 lbs (68 kg)</td>
<td>1-3/8” - 1-3/4” (35 mm - 44 mm)</td>
<td>3’0” (914 mm)</td>
<td>9’0” (2743 mm)</td>
<td>9606 Steel Ball</td>
</tr>
<tr>
<td>9629</td>
<td>150 lbs (68 kg)</td>
<td>1-3/8” - 1-3/4” (35 mm - 44 mm)</td>
<td>3’0” (914 mm)</td>
<td>8’0” (2438 mm)</td>
<td>9606 Steel Ball</td>
</tr>
<tr>
<td>9630</td>
<td>150 lbs (68 kg)</td>
<td>1-3/8” - 1-3/4” (35 mm - 44 mm)</td>
<td>3’0” (914 mm)</td>
<td>7’0” (2134 mm)</td>
<td>9606 Steel Ball</td>
</tr>
<tr>
<td>9631</td>
<td>125 lbs (57 kg)</td>
<td>1-3/8” - 1-3/4” (35 mm - 44 mm)</td>
<td>3’0” (914 mm)</td>
<td>6’8” (2032 mm)</td>
<td>9605 Molded Celcon</td>
</tr>
</tbody>
</table>

* 9634 adapter kit is recommended for 1-3/4” (45 mm) doors (sold separately).

Installation Note: For bi-parting doors, use Hager double pocket door kit 9639 (sold separately).

Joins two pocket door frames to make one large doorway. Rough opening width changes to door width multiplied by four.

Note: 9634 adapter kit (sold separately) recommended for doors 1-3/4” (45 mm) thick.
POCKET - 9850

FEATURES
• Heavy duty pocket door kit
• Conform to ANSI A156.14
• Type: D8671, D8701

SPECIFICATIONS
• For doors 1-3/8” - 1-3/4” (35 mm - 44 mm) thick, up to 4’0” (1219 mm) wide and 8’0” (2438 mm) or 8’6” (2591 mm) high, weighing up to 250 lbs (112 kg)
• Jump proof track and rollers
• 9801 heavy duty aluminum box track
• Pre-assembled header assembly goes up quickly
• Easy door installation and removal for painting and repair
• Real wood split studs, size 3/4” x 1-5/8” (19 mm x 26 mm) length relative to height, steel encased for rigidity and to prevent fastener penetration into the pocket
• Track header unit attaches to rough framing at both ends - split studs nail or screw to track header - no connections to rough header
• 3 pair of split studs with wood inserts

<table>
<thead>
<tr>
<th>Part #</th>
<th>Max Door Weight</th>
<th>Door Thickness*</th>
<th>Door Width</th>
<th>Door Height</th>
<th>Hanger Bearings</th>
</tr>
</thead>
<tbody>
<tr>
<td>9850</td>
<td>250 lbs (57 kg)</td>
<td>1-3/8” - 1-3/4” (35 mm - 44 mm)</td>
<td>4’0” (1219 mm)</td>
<td>8’0” (2438 mm)</td>
<td>9829 Steel Ball</td>
</tr>
</tbody>
</table>

Installation Note: For bi-parting doors, use Hager double pocket door kit 9639 (sold separately).

Joins two pocket door frames to make one large doorway. Rough opening width changes to door width multiplied by four.

Contents
<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Header assembly</td>
</tr>
<tr>
<td>3</td>
<td>Pair of split studs</td>
</tr>
<tr>
<td>2</td>
<td>Heavy duty hangers</td>
</tr>
<tr>
<td>2</td>
<td>Door hanger plates</td>
</tr>
<tr>
<td>1</td>
<td>Bumper</td>
</tr>
<tr>
<td>1</td>
<td>Pair of door guides</td>
</tr>
<tr>
<td>1</td>
<td>Adjusting wrench</td>
</tr>
<tr>
<td>3</td>
<td>Floor plates</td>
</tr>
<tr>
<td>1</td>
<td>Doorway end bracket</td>
</tr>
<tr>
<td>1</td>
<td>Pocket end bracket</td>
</tr>
</tbody>
</table>
### 330D Pocket Door Latch

Certification: Meets ANSI A156.14 for D0821.1

Size: 2-3/4” x 2-1/2” (70 mm x 64 mm)

Finger Piece: 1-3/8” (35 mm) extension

Materials: Brass


Fasteners: Two (2) #6 x 5/8” OPHWS; (2) #6 x 3/4” FPHWS

Notes: For use with 1-3/8” to 1-3/4” (35 mm to 45 mm) door

### 2610 Flush Cup Finger Pull

Overall Diameter: 31/32” (25 mm)

Finger Pull: 3/4” (19 mm) diameter

Depth: 5/16” (8 mm)

Projection: 1/32” (.8 mm)

Materials: Solid brass


Notes: Built-in prong design eliminates the need for screws or brads.

### 330L Pocket Door Privacy Latch

Size: 2-3/4” x 2-1/2” (70 mm x 64 mm)

Finger Piece: 1-3/8” (35 mm) extension

Strike Size: 1” x 2-1/4” (25 mm x 57 mm)

Materials: Brass


Fasteners: Two (2) #6 x 5/8” OPHWS; (2) #6 x 3/4” FPHWS

Notes: For use with 1-3/8” door

### 330M Pocket Door Privacy Latch

Certifications: Meets ANSI A156.14 for D0831

Size: 2-3/4” x 2-1/2” (70 mm x 64 mm)

Finger Piece: 1-3/8” (35 mm) extension

Strike Size: 1” x 2-1/4” (25 mm x 57 mm)

Materials: Brass


Fasteners: Two (2) #6 x 5/8” OPHWS; (2) #6 x 3/4” FPHWS

Notes: For use with 1-3/4” door

### 2630 Flush Cup Pull

Overall Diameter: 2-7/16” (62 mm)

Finger Pull: 2-1/16” (52 mm) diameter

Depth: 11/32” (9 mm)

Projection: 3/32” (2 mm)

Materials: Solid brass


Notes: Built-in prong design eliminates the need for screws or brads.

### 9605 4-Wheel Hanger

Materials: Steel with brass-tone dichromate finish

Wheel: 7/8” (22 mm) diameter

Notes: • For doors up to 125 lbs (57 kg)

• Wheels are self aligning to allow consistent contact with track

• Pre-lubricated Celcon wheels mounted on steel ball bearing shafts

• Can be used on pivot set

• Use in conjunction with 9601 or 9602 track
9606
4-Wheel Ball Bearing Hanger with Top Mount Plate
Materials: Steel with brass-tone dichromate finish
Wheels: 7/8” (22 mm) diameter
Notes: • Self aligning to allow consistent contact with track
• Pre-lubricated Celcon wheels mounted on steel ball bearing shafts
• Up to 150 lbs (68 kg) per door
• Use with 9601, 9602, or 9603 track

9632
Parts Bag
Includes: • Two (2) 9605 hangers
• Two (2) 9883 guides
• One (1) 9881 bumper

9633
Parts Bag
Includes: • Two (2) 9606 hangers
• Two (2) 9883 guides
• One (1) 9881 bumper

9827
Four Wheel Ball Bearing Hanger
Materials: Zinc plated steel
Wheels: Self aligning to allow consistent contact with track
Wheel: 1-1/4” (32 mm) diameter
Notes: • For doors up to 75 lbs (34 kg)
• Pre-lubricated Celcon wheels on steel shafts with steel ball bearings
• Ball bearing axles
• For use with 9801 track

3835
Small Case Deadlock
Thumbturn: Meet ADA Requirements, “No pinch,” No grasp.”
Lock Case: Heavy wrought steel with zinc dichromate finish - 4-5/16” x 3-9/16” x 1” (110 mm x 90 mm x 25 mm)
Armor Front: 1-1/4” x 5-5/8” x 7/32” (32 mm x 143 mm x 5 mm)
Keys: Two operating keys supplied per lock
Cylinder: • Brass - keyed different - C keyway - Standard
• Other keying options, including keyed 6-pin, available from factory
• SFIC uncombined or combined, brass 6- or 7-pin sold separately
• Drilled 6-pin, keyed 5-pin - Standard
• Small Format Interchangeable Core housing available
• Schlage “L” cam - Standard
Door Thickness:
• 1-3/8” - 2-1/2” (35mm-64mm) - steel door
• 1-3/4” - 2-1/2” (45mm-64mm)- wood door
• Must specify door thickness if greater than 1-3/4” (45mm)
Backset: • 2-3/4” (70 mm) only
Deadbolt: • 1” (25 mm) throw - stainless steel
Strike: • 1 1/8” wide x 3 1/2” (29mm x 89mm) NO LIP
Finishes: US26D
Functions: 35-Cylinder x Thumbturn, 36-Single Cylinder, 37-Double Cylinder, 38-Thumbturn Only, 39-Thumbturn w/ Emergency Key

Optional Components
9610 Replacement Top Mount Plate
9634 Pocket Door Adaptor Kit
9639 Dbl. Pocket Door Adapter Kit
9865 Flush Cup Pull
9881 Bumper
9883 Two Piece Pocket Door Guide
9884 Pocket Door Edge Pull
9889 Non-Adjustable Floor Guide
9262 Pocket Door Keyed Lock
9877 Door Guide

For optional components see pages 59-63
Architecturally designed wall-mount system for commercial or residential spaces

Hager Companies wall-mount sliding door hardware is designed to blend seamlessly with any interior décor — from a contemporary uptown loft, to any more traditional environment. This architecturally focused design delivers a clean, finished look to any interior doorway or room divider (from two to six opening feet) while providing maximum space utilization.

Hager’s 9710 Wall-Mount system is available in clear anodized and dark bronze finishes. Quiet four-wheel ball bearing carriers support doors up to 250 lbs. Hardware supports one- and two-door applications.

Wall-mount door hardware is available in kits (by track length) or individual components.
## WALL MOUNT - 9710

### FEATURES
- Heavy duty aluminum box track and hardware
- Conforms to ANSI BHMA A156.14-2007
- Grade 1, D8011, D8681, D8691
- Grade 2, D8012, D8692
- Bi-parting Grade 1, D8711
- Grade 2, D8721

### SPECIFICATIONS
- For doors 1” - 1-3/4” (25 mm - 45 mm) thick
- Up to 250 lbs (113 kg) per door
- Track is extruded aluminum jump-proof style
- Hangers have four 1-1/4” (32 mm) diameter wheels

### TRACKS
One track required for each Wall Mount opening. .125 (3.2 mm) thick aluminum

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Stock#</th>
</tr>
</thead>
<tbody>
<tr>
<td>9710 Packaged Set</td>
<td>Includes one (1) 9703 track, one (1) 9704 anodized fascia, one (1) 9705 end caps and one (1) 9711 parts bags.</td>
<td></td>
</tr>
<tr>
<td>9710-60</td>
<td>Wall Mount Packaged Set- Aluminum 5’ (1524mm) for 1 Door</td>
<td>160955</td>
</tr>
<tr>
<td>9710-72</td>
<td>Wall Mount Packaged Set- Aluminum 5’ (1524mm) for 1 Door</td>
<td>160958</td>
</tr>
<tr>
<td>9710-96</td>
<td>Wall Mount Packaged Set- Aluminum 8’ (1219mm) for 1 Door</td>
<td>160959</td>
</tr>
<tr>
<td>9710-144</td>
<td>Wall Mount Packaged Set- Aluminum 12’ (1829mm) for 1 Door</td>
<td>160991</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Stock#</th>
</tr>
</thead>
<tbody>
<tr>
<td>9710 Packaged Set</td>
<td>Includes one (1) 9703 track, one (1) 9704 anodized fascia, one (1) 9705 end caps and one (1) 9711 parts bags.</td>
<td></td>
</tr>
<tr>
<td>9710-60</td>
<td>Wall Mount Packaged Set- Dark Bronze 5’ (1524mm) for 1 Door</td>
<td>160961</td>
</tr>
<tr>
<td>9710-72</td>
<td>Wall Mount Packaged Set- Dark Bronze 5’ (1524mm) for 1 Door</td>
<td>160962</td>
</tr>
<tr>
<td>9710-96</td>
<td>Wall Mount Packaged Set- Dark Bronze 8’ (1219mm) for 1 Door</td>
<td>160963</td>
</tr>
<tr>
<td>9710-144</td>
<td>Wall Mount Packaged Set- Dark Bronze 12’ (1829mm) for 1 Door</td>
<td>160989</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Stock#</th>
</tr>
</thead>
<tbody>
<tr>
<td>9703 Wall Mount Etched Aluminum Finish Tracks for use with 9710 Series</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9703-60</td>
<td>Wall Mount Track- Aluminum 5’ (1524mm) for 1 Door</td>
<td>160984</td>
</tr>
<tr>
<td>9703-72</td>
<td>Wall Mount Track- Aluminum 6’ (1839 mm) for 1 Door</td>
<td>160985</td>
</tr>
<tr>
<td>9703-96</td>
<td>Wall Mount Track- Aluminum 8’ (1219mm) for 1 Door</td>
<td>160986</td>
</tr>
<tr>
<td>9703-144</td>
<td>Wall Mount Track- Aluminum 12’ (1829mm) for 1 Door</td>
<td>160988</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Stock#</th>
</tr>
</thead>
<tbody>
<tr>
<td>9703 Wall Mount Dark Bronze Finish Tracks for use with 9710 Series</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9703-60</td>
<td>Wall Mount Track- Dark Bronze 5’ (1524mm) for 1 Door</td>
<td>160993</td>
</tr>
<tr>
<td>9703-72</td>
<td>Wall Mount Track- Dark Bronze 6’ (1839 mm) for 1 Door</td>
<td>160994</td>
</tr>
<tr>
<td>9703-96</td>
<td>Wall Mount Track- Dark Bronze 8’ (1219mm) for 1 Door</td>
<td>160995</td>
</tr>
<tr>
<td>9703-144</td>
<td>Wall Mount Track- Dark Bronze 12’ (1829mm) for 1 Door</td>
<td>160996</td>
</tr>
</tbody>
</table>
FASCIA  One anodized fascia required for each Wall Mount opening-.825 (2.1 mm) thick aluminum

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Stock#</th>
</tr>
</thead>
<tbody>
<tr>
<td>9704</td>
<td>Wall Mount Anodized Aluminum Finish Fascia for use with 9710 Series</td>
<td></td>
</tr>
<tr>
<td>9704-60</td>
<td>Wall Mount Fascia- Anodized Aluminum 5’ (1524mm) for 1 Door</td>
<td>160984</td>
</tr>
<tr>
<td>9704-72</td>
<td>Wall Mount Fascia- Anodized Aluminum 6’ (1839 mm) for 1 Door</td>
<td>160985</td>
</tr>
<tr>
<td>9704-96</td>
<td>Wall Mount Fascia- Anodized Aluminum 8’ (1219mm) for 1 Door</td>
<td>160986</td>
</tr>
<tr>
<td>9704-144</td>
<td>Wall Mount Fascia- Anodized Aluminum 12’ (1829mm) for 1 Door</td>
<td>160988</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Stock#</th>
</tr>
</thead>
<tbody>
<tr>
<td>9704</td>
<td>Wall Mount Anodized Dark Bronze finish Fascia for use with 9710 Series</td>
<td></td>
</tr>
<tr>
<td>9704-60</td>
<td>Wall Mount Fascia- Anodized Dark Bronze 5’ (1524mm) for 1 Door</td>
<td>160993</td>
</tr>
<tr>
<td>9704-72</td>
<td>Wall Mount Fascia- Anodized Dark Bronze 6’ (1839 mm) for 1 Door</td>
<td>160994</td>
</tr>
<tr>
<td>9704-96</td>
<td>Wall Mount Fascia- Anodized Dark Bronze 8’ (1219mm) for 1 Door</td>
<td>160995</td>
</tr>
<tr>
<td>9704-144</td>
<td>Wall Mount Fascia- Anodized Dark Bronze 12’ (1829mm) for 1 Door</td>
<td>160996</td>
</tr>
</tbody>
</table>

9703 Extra Heavy Duty Box Track
Materials: Extruded aluminum
Guage: .125 (3.2 mm) thick
Lengths: 60” (1524 mm) to 144” (1829 mm)
Notes: • For doors up to 250 lbs (113 kg)
• Jump proof track with twin channel design

9705 End Cap Sets
Materials: Anodized aluminum
Notes: • Concealed fasteners provide a finished look
• One each left and right end cap and hardware

9704 Smooth Anodized Fascia
Materials: Anodized aluminum
Guage: .0620 (1.6 mm)
Fascia: 4 3/8” (111 mm)
Lengths: 60” (1524 mm) to 144” (1829 mm)

9711 Parts Bag
Includes: Two (2) each 9827 four wheel ball bearing hanger and quick release top mount plate, One (1) each 9115 bottom door guide, and four (4) each 9815 bumper stop
9827

Four Wheel Ball Bearing Hanger
Materials: Zinc plated steel
Wheels: Self aligning to allow consistent contact with track
Wheel: 1-1/4” (32 mm) diameter
Notes: • For doors up to 250 lbs (113 kg)
• Pre-lubricated Celcon wheels on steel shafts with steel ball bearings
• Ball bearing axles
• For use with 9703 and 9801 track

9115

Bottom Door Guide
Materials: Die cast zinc aluminum alloy
Guide: 7/8” x 3/4” x 3”
(22 mm x 19 mm x 76 mm)
Notes: • For doors up to 250 lbs (113 kg)
• Pre-lubricated Celcon wheels on steel shafts with steel ball bearings
• Ball bearing axles
• For use with 9703 and 9801 track

9815

Bumper Stop
Materials: Zinc plated steel and rubber
Notes: • Fits all Hager track styles except 9101
• Screws onto track
• Included in 9710 wall mount sets
• Included in bi-fold sets 9570 and 9890

Optional Components
9610 Replacement Top Mount Plate
330D Pocket Door Latch
330L Pocket Door Privacy Latch
330M Pocket Door Privcay Latch
9884 Pocket Door Edge Pull

For optional components see pages 59-63
Hager Companies introduces our new premium Stainless Steel Sliding Barn Door Hardware System with versatile options for glass or wood doors. A seamless fit for commercial or residential applications, the Stainless Steel Sliding Barn Door Hardware System offers seven styles of door hangers complimenting any décor.
# 9400 SERIES BARN DOOR HARDWARE

## FEATURES
- 304 stainless steel track and hangers nylon coated rollers
- Conforms to ANSI BHMA A156.14-2007
- Grade 1 for sliding doors by exceeding 100,000 cycles in operation

## SPECIFICATIONS
- Door weight up to 250 lbs
- Wood doors 1-3/4” thick - top-mount hangers
- Door bottom 3/8” undercut
- Glass doors 3/8” to 1/2” thick - face-mount hangers

## STOCK NUMBERS

### Stainless Steel 78” Kits

<table>
<thead>
<tr>
<th>Stock Number</th>
<th>Hager Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>183635</td>
<td>9432-78</td>
<td>Top Mount Stick 2m (78-3/4”) SS Round Rail</td>
</tr>
<tr>
<td>183637</td>
<td>9433-78</td>
<td>Top Mount Dual Wheel 2m (78-3/4”) SS Round Rail</td>
</tr>
<tr>
<td>183683</td>
<td>9462-78</td>
<td>Flat Rail Stick Strap SS 6’ Flat track</td>
</tr>
<tr>
<td>183641</td>
<td>9435-78</td>
<td>Top Mount Spoke Wheel 2m (78-3/4”) SS Round Rail</td>
</tr>
</tbody>
</table>

### Face Mount

<table>
<thead>
<tr>
<th>Stock Number</th>
<th>Hager Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>183643</td>
<td>9436-78</td>
<td>Face mount Strap Stick 2m (78-3/4”) SS Round Rail</td>
</tr>
<tr>
<td>183646</td>
<td>9437-78</td>
<td>Face mount Strap Dual Wheel 2m (78-3/4”) SS Round Rail</td>
</tr>
<tr>
<td>183650</td>
<td>9438-78</td>
<td>Face mount Strap Triangle 2m (78-3/4”) SS Round Rail</td>
</tr>
</tbody>
</table>

### Stainless Steel 96” Kits - Subject to Extended Lead Times

<table>
<thead>
<tr>
<th>Stock Number</th>
<th>Hager Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>183636</td>
<td>9432-96</td>
<td>Top Mount Stick 2m (96-3/4”) SS Round Rail</td>
</tr>
<tr>
<td>183638</td>
<td>9433-96</td>
<td>Top Mount Dual Wheel 2m (96-3/4”) SS Round Rail</td>
</tr>
<tr>
<td>183640</td>
<td>9462-96</td>
<td>Flat Rail Stick Strap SS 8’ Flat track</td>
</tr>
<tr>
<td>183642</td>
<td>9435-96</td>
<td>Top Mount Spoke Wheel 2m (96-3/4”) SS Round Rail</td>
</tr>
</tbody>
</table>

### Accessories

<table>
<thead>
<tr>
<th>Stock Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>183156</td>
<td>Tool set for 05WG; 06WG; 07WG (Round Rail)</td>
</tr>
<tr>
<td>183163</td>
<td>Tool set for 01W; 02W (Round Rail)</td>
</tr>
<tr>
<td>183164</td>
<td>End Cap</td>
</tr>
<tr>
<td>183165</td>
<td>Guide for Wooded Door</td>
</tr>
<tr>
<td>183166</td>
<td>Door Stop</td>
</tr>
<tr>
<td>183167</td>
<td>Guide for Glass Door</td>
</tr>
<tr>
<td>183168</td>
<td>Top Mount Stick Sliding Door Roller for Wood, SS304 Satin</td>
</tr>
<tr>
<td>183170</td>
<td>Top Mount Dual Wheel Sliding Door Roller for Wood, SS304 Satin</td>
</tr>
<tr>
<td>183171</td>
<td>Top Mount Spoke Wheel Sliding Door Roller for Wood, SS304 Satin</td>
</tr>
<tr>
<td>183172</td>
<td>Strap Stick Sliding Door Roller for Wood and Glass, SS304 Satin</td>
</tr>
<tr>
<td>183173</td>
<td>Strap Dual Wheel Sliding Door Roller for Wood and Glass, SS304 Satin</td>
</tr>
<tr>
<td>183176</td>
<td>Strap Triangle Sliding Door Roller for Wood and Glass, SS304 Satin</td>
</tr>
<tr>
<td>183179</td>
<td>Flat Rail Stick Sliding Door Carrier for Wood SS304 Satin</td>
</tr>
<tr>
<td>183180</td>
<td>Flat Rail Door Stopper Left, SS304 Satin</td>
</tr>
<tr>
<td>183181</td>
<td>Flat Rail Door Stopper Right, SS304 Satin</td>
</tr>
<tr>
<td>183182</td>
<td>Flat Rail Anti Jump</td>
</tr>
<tr>
<td>181901</td>
<td>Round Rail Connector SS304 Satin Nickel</td>
</tr>
<tr>
<td>181902</td>
<td>Flat Rail Connector SS304 Satin Nickel</td>
</tr>
</tbody>
</table>
9400 SERIES BARN DOOR HARDWARE

9432 PACKAGED SETS
Top Mount Stick 2m SS Round Rail

FEATURES
Materials: 304 stainless steel track and hangers with nylon coated rollers

System Includes:
- Stainless steel track (78” or 96”) with two end caps
- Hangers with wall brackets
- One door bottom guide
- Two track stops
- Mounting and installation hardware

Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
- Door weight up to 250 lbs.
- Wood doors 1-3/4” thick (top-mount hangers)
- Door bottom 3/8” undercut

9433 PACKAGED SETS
Dual Wheel 2m SS Round Rail

FEATURES
Materials: 304 stainless steel track and hangers with nylon coated rollers

System Includes:
- Stainless steel track (78” or 96”) with two end caps - available in round or flat rail
- Hangers with wall brackets
- One door bottom guide
- Two track stops
- Mounting and installation hardware

Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
- Door weight up to 250 lbs.
- Wood doors 1-3/4” thick (top-mount hangers)
- Door bottom 3/8” undercut
9400 SERIES BARN DOOR HARDWARE

9435 PACKAGED SETS
Top Mount Spoke Wheel 2m SS Round Rail

FEATURES
Materials: 304 stainless steel track and hangers with nylon coated rollers

System Includes:
- Stainless steel track (78” or 96”) with two end caps - available in round or flat rail
- Hangers with wall brackets
- One door bottom guide
- Two track stops
- Mounting and installation hardware

Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
- Door weight up to 250 lbs.
- Wood doors 1-3/4” thick (top-mount hangers)
- Door bottom 3/8” undercut

9436 PACKAGED SETS
Face Mount Stick 2m SS Round Rail

FEATURES
Materials: 304 stainless steel track and hangers with nylon coated rollers

System Includes:
- Stainless steel track (78” or 96”) with two end caps - available in round or flat rail
- Hangers with wall brackets
- One door bottom guide
- Two track stops
- Mounting and installation hardware

Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
- Door weight up to 250 lbs.
- Wood doors 1-1/4” - 1-3/4” thick
- Door bottom 3/8” undercut
- Glass doors 3/8” to 1/2” thick
9400 SERIES BARN DOOR HARDWARE

9437 PACKAGED SETS
Face Mount Dual Wheel 2m SS Round Rail

FEATURES
Materials: 304 stainless steel track and hangers with nylon coated rollers

System Includes:
- Stainless steel track (78” or 96”) with two end caps - available in round or flat rail
- Hangers with wall brackets
- One door bottom guide
- Two track stops
- Mounting and installation hardware

Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
- Door weight up to 250 lbs.
- Wood doors 1-1/4” - 1-3/4” thick
- Door bottom 3/8” undercut
- Glass doors 3/8” to 1/2” thick

9438 PACKAGED SETS
Face Mount Triangle 2m SS Round Rail

FEATURES
Materials: 304 stainless steel track and hangers with nylon coated rollers

System Includes:
- Stainless steel track (78” or 96”) with two end caps - available in round or flat rail
- Hangers with wall brackets
- One door bottom guide
- Two track stops
- Mounting and installation hardware

Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
- Door weight up to 250 lbs.
- Wood doors 1-1/4” - 1-3/4” thick
- Door bottom 3/8” undercut
- Glass doors 3/8” to 1/2” thick
9400 SERIES BARN DOOR HARDWARE

9462 PACKAGED SET
Flat Stick Strap 2m SS Round Rail

FEATURES
Materials: 304 stainless steel track and hangers with nylon coated rollers

System Includes:
- Stainless steel track (72” or 96”) with two end caps - available in round or flat rail
- Hangers with wall brackets
- One door bottom guide
- Two track stops
- Mounting and installation hardware

Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
- Door weight up to 250 lbs.
- Wood doors 1-3/8” thick
- Door bottom 3/8” undercut
**9400 SERIES BARN DOOR HARDWARE - CONESTOGA SERIES**

**FEATURES**
- Durable powder-coated black rail and Conestoga Style, Barn Door Hangers
- Conforms to ANSI BHMA A156.14-2007
- Grade 1 for sliding doors by exceeding 100,000 cycles in operation

**SPECIFICATIONS**
- Door weight up to 250 lbs.
- Wood doors up to 1-3/4” thick

<table>
<thead>
<tr>
<th>Stock Number</th>
<th>Hager Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conestoga Barn Door Rail Only</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>186242</td>
<td>9450-48</td>
<td>48” Black Powder Coated, Flat Rail</td>
</tr>
<tr>
<td>186243</td>
<td>9450-72</td>
<td>72” Black Powder Coated, Flat Rail</td>
</tr>
<tr>
<td>186251</td>
<td>9450-96</td>
<td>96” Black Powder Coated, Flat Rail</td>
</tr>
<tr>
<td><strong>Hanger Kits Less Rail, All Kits Include two carriers, stops, floor guide and rail mounting brackets and fasteners</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>188467</td>
<td>9452</td>
<td>3” Black Powder Coated Hook Carrier Kit Less Rail</td>
</tr>
<tr>
<td>188468</td>
<td>9453</td>
<td>5” Black Powder Coated Hook Carrier Kit Less Rail</td>
</tr>
<tr>
<td>188469</td>
<td>9454</td>
<td>3” Black Powder Coated Strap Carrier Kit Less Rail</td>
</tr>
<tr>
<td>188470</td>
<td>9455</td>
<td>3” Black Powder Coated Top Mount Carrier Kit Less Rail</td>
</tr>
</tbody>
</table>

**Optional Components**

<table>
<thead>
<tr>
<th>Stock Number</th>
<th>Hager Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Privacy Latch and Pull</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>186296</td>
<td>1-269-8693</td>
<td>Sliding Door Privacy Latch &amp; Strike Plate</td>
</tr>
<tr>
<td>186299</td>
<td>1-269-8694</td>
<td>4” x 1-3/4” x 7/16” Flush Pull</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>186289</td>
<td>1-269-8689</td>
<td>Bracket Kit: Includes 1 Wall Mount Bracket with Fastener</td>
</tr>
<tr>
<td>186290</td>
<td>1-269-8690</td>
<td>Stop Kit: Includes 2 End Stops with Fasteners</td>
</tr>
<tr>
<td>186292</td>
<td>1-269-8691</td>
<td>Splice Kit: Includes Splice Components and Fasteners for Joint Rails</td>
</tr>
</tbody>
</table>
9400 SERIES BARN DOOR HARDWARE - CONESTOGA SERIES - HOW TO ORDER

IMPORTANT:

1. Track is ordered separately from hardware kit.
2. Track and Carrier Hardware are shipped in separate cartons.

Single Door Solution:

1) **9450 Track:** Specify length (48”, 72” or 96”).

2) **Carrier Hardware Kit:** Specify style – Includes all mounting hardware

Example:

9450 - 48
9450 - 72
9450 - 96

Bi-Part Door Solution:

If using two doors that are 3’ wide, order a 6’ track per door, for a total of 12’. This allows the doors to clear the door opening when in the open position. Order one carrier hardware kit per door and one Splice Kit.

To Order:

1) **9450 Track:** Specify quantity and length.

2) **Carrier Hardware Kit:** Specify quantity and carrier style. Example: Order 2 of part number 9453, 5” hook carrier style – Includes all mounting hardware.

3) **Splice Kit:** Order 1 of part number 1-269-8691 Flat Rail Splice Kit.
9400 SERIES BARN DOOR HARDWARE - CONESTOGA SERIES

9450
Durable Black Powder-Coated Rail

FEATURES
Materials: Durable powder-coated black aluminum
Available in: 48", 72" and 96" lengths

9452
3” Hook Carrier (Rail Not Included)

FEATURES
Materials: Durable powder-coated black aluminum
System Includes:
• Two carriers
• Two stops
• Floor guide
• Rail mounting brackets and fasteners
Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
• Door weight up to 250 lbs.
• Wood doors up to 1-3/4” thick

9453
5” Hook Carrier (Rail Not Included)

FEATURES
Materials: Durable powder-coated black aluminum
System Includes:
• Two carriers
• Two stops
• Floor guide
• Rail mounting brackets and fasteners
Standards: Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
• Door weight up to 250 lbs.
• Wood doors up to 1-3/4” thick
9400 SERIES BARN DOOR HARDWARE - CONESTOGA SERIES

**9454**
3” Strap Carrier (Rail Not Included)

**FEATURES**
- Materials: Durable powder-coated black aluminum

**System Includes:**
- Two carriers
- Two stops
- Floor guide
- Rail mounting brackets and fasteners

**Standards:** Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

**DOOR SPECIFICATIONS**
- Door weight up to 250 lbs.
- Wood doors up to 1-3/4” thick

---

**9455**
3” Top Mount Carrier (Rail Not Included)

**FEATURES**
- Materials: Durable powder-coated black aluminum

**System Includes:**
- Two carriers
- Two stops
- Floor guide
- Rail mounting brackets and fasteners

**Standards:** Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

**DOOR SPECIFICATIONS**
- Door weight up to 250 lbs.
- Wood doors up to 1-3/4” thick
9400 SERIES BARN DOOR HARDWARE - CONESTOGA SERIES - OPTIONAL COMPONENTS

FEATURES
- Non-handed.
- 2-1/4” or 3-1/2” backset options (see specifications for corresponding wall thickness).
- Drive in bolt casing diameter: 1” (25mm).
- Lock bolt: 1/2” (13mm) diameter, stainless Steel material.
- Lock bolt has 1” projection allowing up to 1/2” door to wall gap. Extra spacer ring accommodates up to 3/4” gap between barn door and wall.
- 1-1/4” diameter spring-loaded dust proof strike provides ample space to receive 1/2” bolt, allows easy locking from privacy side. Strike mounted in barn door for standard door.
- 1/4” diameter emergency release feature allows bolt to be unlocked from outside under emergency situation. Simple design, minimum aesthetic impact on door surface.

Standards:
- ADA Compliant thumb turn for commercial applications.

DOOR SPECIFICATIONS
- For 1-3/8” (35mm) to 1-3/4”(40mm) thick doors standard.

9458 Series
Barn Door Privacy Lock

Available Options

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Finish</th>
<th>Backset</th>
</tr>
</thead>
<tbody>
<tr>
<td>94582D-32D</td>
<td>Round ADA TT Stainless</td>
<td>2-1/4” Backset</td>
<td></td>
</tr>
<tr>
<td>94582D-10B</td>
<td>Round ADA TT Oil Rubbed Bronze</td>
<td>2-1/4” Backset</td>
<td></td>
</tr>
<tr>
<td>945835-32D</td>
<td>Round ADA TT Black 2-1/4” Backset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>945835-10B</td>
<td>Round ADA TT Oil Rubbed Bronze</td>
<td>3-1/2” Backset</td>
<td></td>
</tr>
<tr>
<td>945835-BLK</td>
<td>Round ADA TT Black 3-1/2” Backset</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9400 SERIES BARN DOOR HARDWARE - eCONESTOGA SERIES

Durable Black Powder-Coated Rail

FEATURES
Materials:  Durable powder-coated black aluminum
Available in:  
- 72” and 96” track lengths
- 1-269-8648 - 72”
- 1-269-8647 - 96”

9456 Top Mount Track Kit

FEATURES
Materials:  
- Durable powder-coated black aluminum
- Black steel rail (72” or 96”)
System Includes:  
- Two carriers
- Two stops
- Floor guide
- Rail mounting brackets and fasteners
Standards:  
- Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
- Door weight up to 250 lbs.
- Wood doors up to 1-3/4” thick

3” Hook Track Kit

FEATURES
Materials:  
- Durable powder-coated black aluminum
- Black steel rail (72” or 96”)
System Includes:  
- Two carriers
- Two stops
- Floor guide
- Rail mounting brackets and fasteners
Standards:  
- Meets performance requirements of ANSI/BHMA 156.14 (Grade 1) for sliding doors by exceeding 100,000 cycles

DOOR SPECIFICATIONS
- Door weight up to 250 lbs.
- Wood doors up to 1-3/4” thick

OPTIONAL: 1-269-8646 Flat Rail Soft Close Mechanism
Details:  
- Gently guides door to open or closed position
- Door weight up to 176 lbs.

OPTIONAL: 1-269-8650 Spring-Loaded Cushion Stop
Details:  
- Description: Spring loaded cushion stop
- Finish/material: 32D
- Door thickness: Up to 1-3/4” wood door
- Gently absorbs the hanger and cushions the landing of the door
Optional Components

330D
Pocket Door Latch
Certification: Meets ANSI A156.14 for D0821.1
Size: 2-3/4” x 2-1/2” (70 mm x 64 mm)
Finger Piece: 1-3/8” (35 mm) extension
Materials: Brass
Fasteners: Two (2) #6 x 5/8” OPHWS; (2) #6 x 3/4” FPHWS
Notes: For use with 1-3/8” to 1-3/4” (35 mm to 45 mm) door

330L
Pocket Door Privacy Latch
Size: 2-3/4” x 2-1/2” (70 mm x 64 mm)
Finger Piece: 1-3/8” (35 mm) extension
Strike Size: 1” x 2-1/4” (25 mm x 57 mm)
Materials: Brass
Fasteners: Two (2) #6 x 5/8” OPHWS; (2) #6 x 3/4” FPHWS
Notes: For use with 1-3/8” door

330M
Pocket Door Privacy Latch
Certifications: Meets ANSI A156.14 for D0831
Size: 2-3/4” x 2-1/2” (70 mm x 64 mm)
Finger Piece: 1-3/8” (35 mm) extension
Strike Size: 1” x 2-1/4” (25 mm x 57 mm)
Materials: Brass
Fasteners: Two (2) #6 x 5/8” OPHWS; (2) #6 x 3/4” FPHWS
Notes: For use with 1-3/4” door

1741
Full Mortise, Five Knuckle, Plain Bearing Hinge
• Steel with steel pin (ANSI A5134)
• Reversible
• Square corners
• Removable pin
• 3.5” x 3.5”
• US2D

2610
Flush Cup Finger Pull
Overall Diameter: 31/32” (25 mm)
Finger Pull Diameter: 3/4” (19 mm)
Depth: 5/16” (8 mm)
Projection: 1/32” (.8 mm)
Materials: Solid brass
Notes: Built-in prong design eliminates the need for screws or brads

2630
Flush Cup Pull
Overall Diameter: 2-7/16” (62 mm)
Finger Pull: 2-1/16” (52 mm) diameter
Depth: 11/32” (9 mm)
Projection: 3/32” (2 mm)
Materials: Solid brass
Notes: Built-in prong design eliminates the need for screws or brads

9111
Fixed Bottom Door Guide
Materials: Zinc plated steel with bronze roller
Guide: 2” x 3/4” x 3/32” (51 mm x 19 mm x 2.4 mm)
Roller: 1-7/32” x 1/2” (14 mm x 13 mm)
Notes: • Door mortising is not required
• Use with 9122 guide channel
## OPTIONAL COMPONENTS

### 9113 Stop
- **Materials:** Zinc plated steel and rubber
- **Stop:** 1-5/8" x 1-1/2" x 5/8" x 1-3/4" (41 mm x 38 mm x 16 mm x 45 mm)
- **Notes:** Use with 9105 hanger

### 9114 Bottom Guide Rail
- **Materials:** Aluminum
- **Guide:** 7/8" x 1/2" (22 mm x 13 mm)
- **Lengths:** 72" (1829 mm), 96" (2438 mm), 144" (3658 mm)
- **Notes:**
  - Door bottom prep requires 1/4" (6 mm) wide kerf and 9/16" (14 mm) depth
  - Pre-punched for use with flat head screws

### 9121 Adjustable Bottom Door Guide
- **Materials:** Zinc plated steel with bronze roller
- **Guide:** 1" x 3-1/2" x 3/16"
  (25 mm x 89 mm x 5 mm)
- **Post:** 2-1/2" x 5/16" (64 mm x 8 mm)
- **Notes:** Use with 9122 guide channel

### 9122 Bottom Guide Channel
- **Materials:** Extruded aluminum
- **Gauge:** 0.093 (2.4 mm)
- **Lengths:** 48" (1219 mm) to 192" (4877 mm)
- **Channel:** 5/8" x 3/4"
  (16 mm x 19 mm)
- **Notes:**
  - Screws not provided
  - Mortised into floor or surface mounted

### 9169 Top Pivot Assembly
- **Materials:** Zinc plated steel
- **Top Pivot:** 1" x 3-1/2" x 1-7/16" (25 mm x 89 mm x 37 mm)
- **Notes:** Inserts into 9155 top pivot clamp assembly

### 9200* | 9201** Single Wheel Hanger
- **Materials:** Zinc plated steel with molded Celcon wheels
- **Gauge:** 0.075" (2 mm)
- **Wheel:** 7/8" (22 mm) diameter
- **Notes:**
  - For use on doors weighing up to 60 lbs (27 kg)
  - For use with 9810, 9820, and 9840 track
  - Side mounted with slot adjust offset
  - Hanger is stamped “A” or “B” for easy identification
  - 9200 is A offset of 3/8” (9.5 mm)
  - 9201 is B offset of 11/16” (17.5 mm)

### 9202* | 9203** Two Wheel Hanger
- **Materials:** Zinc plated steel with molded Celcon wheels
- **Gauge:** 0.075" (2 mm)
- **Wheel:** 7/8" (22 mm) diameter
- **Notes:**
  - For use on doors weighing up to 75 lbs (34 kg)
  - For use with 9810, 9820, and 9840 track
  - Side mounted with slot adjust offset
  - Hanger is stamped “A” or “B” for easy identification
  - 9202 is B offset of 11/16” (17.5 mm)
  - 9203 is A offset of 3/8” (9.5 mm)

### 9220 Bi-Fold Door Hinge
- **Materials:** Steel with bright zinc finish
- **Hinge:** 3” x 1” (76 mm x 25 mm) hole
- **Hole Locations:** 1/2” (13 mm) from the center lines of holes to center of barrel
- **Notes:** Non-mortise and easy to install
### OPTIONAL COMPONENTS

**9262**

**Pocket Door Keyed Lock**

**Materials:** Steel

**Notes:**
- For doors 1-3/8” (35 mm) to 1-3/4” (44 mm) thick
- Lock cylinder fits in one 1” (25 mm) hole
- Available keyed alike

**9264**

**Keyed Lock**

**Materials:** Steel

**Notes:**
- Lock cylinder fits 1” (25 mm) hole
- Available keyed alike

**9351**

**Guide**

**Materials:** High density polyethylene

**Guide:** 4-9/16” x 1” x 11-3/16”

(116 mm x 25 mm x 46 mm)

**Notes:**
- One piece fixed guide for 1-3/8” (35 mm) doors

**9353**

**Adjustable Door Guide**

**Materials:** High density polyethylene

**Notes:**
- Adjustable guide from 3/4” (19 mm) to 1-3/8” (35 mm)

**9354**

**3/4” (19 mm) Riser**

**Materials:** Steel with bright zinc finish

**Rise:** 3/4” (19 mm)

**Notes:**
- For mounting 9351 and 9353 floor guides over carpeting

**9558**

**Wood Knob**

**Diameter:** 1-1/2” (38 mm)

**Materials:** Solid wood

**Notes:**
- Will accept paint or stain

**9559**

**Aligner**

**Materials:** Steel with brass-tone dichromate finish

**Notes:**
- Keeps lead doors aligned when closed
- Use one on each lead door

**9572**

**4-Wheel Hanger and Door Bracket**

For 100 lbs (45 kg) doors

**Materials:** Steel with bright zinc

**Wheel:** 7/8” (22 mm) diameter

**Notes:**
- Wheels are self aligning to allow consistent contact with track
- Pre-lubricated Celcon wheels
- Includes wrench
- For use on doors weighing up to 100 lbs (45 kg) per door
- For use with 9601, 9602, and 9603 track

**9575**

**Parts Bag**

Includes four (4) 9572 hangers with quick release top mount plate, one (1) 9909 guide

**Note:** Up to 125 lbs (57 kg) per door

**9605**

**4-Wheel Hanger with Top Mount Plate**

**Materials:** Steel with brass-tone dichromate finish

**Wheels:** 7/8” (22 mm) diameter

**Notes:**
- Self aligning to allow consistent contact with track
- Pre-lubricated Celcon wheels mounted on steel ball bearing shafts
- Can be used on pivot set
- Up to 125 lbs (57 kg) per door
- Use in conjunction with 9601, 9602, or 9603 track

**9606**

**4-Wheel Ball Bearing Hanger with Top Mount Plate**

**Materials:** Steel with brass-tone dichromate finish

**Wheels:** 7/8” (22 mm) diameter

**Notes:**
- Self aligning to allow consistent contact with track
- Pre-lubricated Celcon wheels mounted on steel ball bearing shafts
- Up to 150 lbs (68 kg) per door
- Use with 9601, 9602, or 9603 track
OPTIONAL COMPONENTS

**9610**  
Replacement Top Mount Plate  
Materials: Bright zinc plated steel  
Gauge: 1/8” (3 mm)  
Size: 1-3/8” (35 mm) x 2-13/16” (72 mm)  
Notes: • Replacement for four wheel hangers 9605, 9606, 9575, 9824, 9825 and 9827

**9634**  
Pocket Door Adapter Kit  
Materials: Galvanized steel and wood shims  
Clearance: 1/8” (3 mm) on each side of a 1-3/4” (44 mm) door  
Notes: • Used with 1-3/4” (44 mm) doors by allowing additional clearance between door and jamb  
• Includes wider floor plates and shims for spacing split studs for an additional 3/16” (4.8 mm) on each side of a 1-3/4” (44 mm) door

**9639**  
Double Pocket Door Adapter Kit  
Materials: Zinc plated steel and rubber bumper stops  
Notes: • Joins two frames in the middle of the doorway  
• For joining 9629, 9630, 9631 or 9850 pocket door kits  
• Fits both KD and Built Up frames  
• Lag bolt for attaching to rough header  
• Bumpers included to stop doors in center of doorway

**9680**  
Parts Bag  
Includes four (4) 9606 ball bearing hangers and one (1) 9909 guide  
Note: Up to 150 lbs (68 kg) per door

**9709**  
Aluminum Fascia  
Materials: Extruded aluminum  
Gauge: 0.062” (1.6 mm)  
Lip: 5/8” (16 mm)  
Fascia: 2-3/4” (70 mm)  
Lengths: 48” (1219 mm) to 144” (3658 mm)  
Notes: • Grooved fascia for painting  
• Pre-punched holes for easy installation

**9815**  
Bumper Stop  
Materials: Zinc plated steel and rubber  
Notes: • Fits all Hager track styles except 9101  
• Screws onto track  
• Included in bi-fold sets 9570 and 9890

**9865**  
Flush Cup Pull  
Overall Diameter: 1-31/32” (50 mm)  
Finger Pull Diameter: 1-19/32” (41 mm)  
Depth: 11/32” (9 mm)  
Projection: 5/64” (2 mm)  
Materials: Tan color ABS plastic  
Notes: • Built-in prong design eliminates the need for screws or brads

**9877**  
Door Guide  
Materials: Plastic  
Notes: • For doors 1-3/8” (35 mm) to 1-3/4” (44 mm) thick  
• Two pieces required per door

**9880**  
Door Stop  
Materials: Zinc plated steel and rubber  
Gauge: 0.090” (2.3 mm)  
Stop: 1-1/4” x 1-1/4” x 7/8” (32 mm x 32 mm x 22 mm)  
Notes: • For doors up to 175 lbs (79 kg)  
• Keeps rear door pull exposed  
• Mounts on door  
• Not included in sets
OPTIONAL COMPONENTS

9881
Bumper
Materials: Rubber
Stop: 1/2" diameter x 3/8" deep (13 mm x 10 mm)
Notes: With screws

9883
Two Piece Pocket Door Guide
Materials: Polyethylene
Guide: 1-3/16" x 3/4" x 1-1/8" (21 mm x 19 mm x 29 mm)
Notes: Two pieces per door required
Screws to jamb to guide door and prevent rubbing

9884
Pocket Door Edge Pull
Finger Pull Extends: 1-1/16" (27 mm)
Faceplate: 21/32" x 3-1/2" (17 mm x 89 mm)
Materials: Die cast zinc
Finishes: US3
Fasteners: Two (2) #6 x 5/8" FPHWS
Notes: Ideal for narrow and standard door thicknesses.

9889
Non-Adjustable Floor Guide
Materials: Polyethylene
Guide: 2-3/8" x 2-1/2" x 7/8" (60 mm x 64 mm x 22 mm)
Notes: For 1-3/8" (35 mm) doors

9909
Adjustable Guide
Materials: Steel with bright zinc
Posts: Molded Celcon/Nylon
Gauge: 0.060" (2 mm)
Guide: 4-7/8" x 1-5/8" x 1-3/16" (124 mm x 41 mm x 30 mm)
Notes: For doors 3/4" to 1-3/4" (19 mm to 44 mm) thick with steel base, celcon, and nylon posts

9928
Reversible Side Mount Bracket
Materials: Steel with bright zinc
Posts: Molded Celcon/Nylon
Gauge: 0.060" (1.5 mm)
Guide: 4-7/8" x 1-5/8" x 1-3/16" (124 mm x 41 mm x 30 mm)
Size: 3/4" to 1-3/4" (19 mm to 44 mm)
Notes: Mounts at ends of track and every foot

3835
Small Case Deadlock
Thumbturn: Meet ADA Requirements, “No pinch,” “No grasp.”
Lock Case: Heavy wrought steel with zinc dichromate finish - 4-5/16" x 3-9/16" x 1" (110 mm x 90 mm x 25 mm)
Armor Front: 1-1/4" x 5-5/8" x 7/32" (32 mm x 143 mm x 5 mm)
Keys: Two operating keys supplied per lock
Cylinder: Brass - keyed different - C keyway - Standard
Other keying options, including keyed 6-pin, available from factory
SFIC uncombined or combined, brass 6- or 7-pin sold separately
Drilled 6-pin, keyed 5-pin - Standard
Small Format Interchangeable Core housing available
Schlage “L” cam - Standard

Door Thickness:
- 1-3/8" - 2-1/2" (35 mm-64 mm) - steel door
- 1-3/4" - 2-1/2" (45 mm-64 mm) - wood door
Must specify door thickness if greater than 1-3/4" (45 mm)

Backset: 2-3/4" (70 mm) only
Deadbolt: 1" (25 mm) throw - stainless steel
Strike: 1 1/8" wide x 3 1/2" (29 mm x 89 mm) NO LIP
Finishes: US26D
Functions: 35-Cylinder x Thumbturn, 36-Single Cylinder, 37-Double Cylinder, 38-Thumbturn Only, 39-Thumbturn w/ Emergency Key
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Trim &amp; Auxiliary</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Trim &amp; Auxiliary</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Trim &amp; Auxiliary</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Trim &amp; Auxiliary</td>
<td>6</td>
</tr>
<tr>
<td>5D</td>
<td>Trim &amp; Auxiliary</td>
<td>7</td>
</tr>
<tr>
<td>5N</td>
<td>Trim &amp; Auxiliary</td>
<td>7</td>
</tr>
<tr>
<td>6N</td>
<td>Trim &amp; Auxiliary</td>
<td>7</td>
</tr>
<tr>
<td>7N</td>
<td>Trim &amp; Auxiliary</td>
<td>8</td>
</tr>
<tr>
<td>8N</td>
<td>Trim &amp; Auxiliary</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Trim &amp; Auxiliary</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Trim &amp; Auxiliary</td>
<td>9</td>
</tr>
<tr>
<td>11</td>
<td>Trim &amp; Auxiliary</td>
<td>9</td>
</tr>
<tr>
<td>12</td>
<td>Trim &amp; Auxiliary</td>
<td>10</td>
</tr>
<tr>
<td>13</td>
<td>Trim &amp; Auxiliary</td>
<td>10</td>
</tr>
<tr>
<td>14</td>
<td>Trim &amp; Auxiliary</td>
<td>10</td>
</tr>
<tr>
<td>15C</td>
<td>Trim &amp; Auxiliary</td>
<td>22</td>
</tr>
<tr>
<td>15N</td>
<td>Trim &amp; Auxiliary</td>
<td>22</td>
</tr>
<tr>
<td>15P</td>
<td>Trim &amp; Auxiliary</td>
<td>22</td>
</tr>
<tr>
<td>15S</td>
<td>Trim &amp; Auxiliary</td>
<td>22</td>
</tr>
<tr>
<td>16N</td>
<td>Trim &amp; Auxiliary</td>
<td>23</td>
</tr>
<tr>
<td>16R</td>
<td>Trim &amp; Auxiliary</td>
<td>23</td>
</tr>
<tr>
<td>17N</td>
<td>Trim &amp; Auxiliary</td>
<td>23</td>
</tr>
<tr>
<td>19N</td>
<td>Trim &amp; Auxiliary</td>
<td>11</td>
</tr>
<tr>
<td>20</td>
<td>Trim &amp; Auxiliary</td>
<td>11</td>
</tr>
<tr>
<td>20N</td>
<td>Trim &amp; Auxiliary</td>
<td>11</td>
</tr>
<tr>
<td>21</td>
<td>Trim &amp; Auxiliary</td>
<td>11</td>
</tr>
<tr>
<td>22</td>
<td>Trim &amp; Auxiliary</td>
<td>12</td>
</tr>
<tr>
<td>22N</td>
<td>Trim &amp; Auxiliary</td>
<td>71</td>
</tr>
<tr>
<td>23Q</td>
<td>Trim &amp; Auxiliary</td>
<td>12</td>
</tr>
<tr>
<td>24Q</td>
<td>Trim &amp; Auxiliary</td>
<td>12</td>
</tr>
<tr>
<td>25B</td>
<td>Trim &amp; Auxiliary</td>
<td>23</td>
</tr>
<tr>
<td>25C</td>
<td>Trim &amp; Auxiliary</td>
<td>24</td>
</tr>
<tr>
<td>25N</td>
<td>Trim &amp; Auxiliary</td>
<td>24</td>
</tr>
<tr>
<td>25P</td>
<td>Trim &amp; Auxiliary</td>
<td>24</td>
</tr>
<tr>
<td>26N</td>
<td>Trim &amp; Auxiliary</td>
<td>24</td>
</tr>
<tr>
<td>27N</td>
<td>Trim &amp; Auxiliary</td>
<td>25</td>
</tr>
<tr>
<td>27P</td>
<td>Trim &amp; Auxiliary</td>
<td>25</td>
</tr>
<tr>
<td>29KS</td>
<td>Electrified Solutions</td>
<td>24</td>
</tr>
<tr>
<td>30, 40, 50 Series</td>
<td>Trim &amp; Auxiliary</td>
<td>26</td>
</tr>
<tr>
<td>30S</td>
<td>Trim &amp; Auxiliary</td>
<td>28</td>
</tr>
<tr>
<td>40R</td>
<td>Trim &amp; Auxiliary</td>
<td>28</td>
</tr>
<tr>
<td>45BE</td>
<td>Exit Devices</td>
<td>21</td>
</tr>
<tr>
<td>45CE</td>
<td>Exit Devices</td>
<td>21</td>
</tr>
<tr>
<td>45DT</td>
<td>Exit Devices</td>
<td>21</td>
</tr>
<tr>
<td>45ET</td>
<td>Exit Devices</td>
<td>21</td>
</tr>
<tr>
<td>45MB</td>
<td>Exit Devices</td>
<td>24</td>
</tr>
<tr>
<td>45MC</td>
<td>Exit Devices</td>
<td>24</td>
</tr>
<tr>
<td>45MD</td>
<td>Exit Devices</td>
<td>24</td>
</tr>
<tr>
<td>45NL</td>
<td>Exit Devices</td>
<td>21</td>
</tr>
<tr>
<td>45PD</td>
<td>Exit Devices</td>
<td>26</td>
</tr>
<tr>
<td>45PN</td>
<td>Exit Devices</td>
<td>26</td>
</tr>
<tr>
<td>45PT</td>
<td>Exit Devices</td>
<td>26</td>
</tr>
<tr>
<td>46BE</td>
<td>Exit Devices</td>
<td>40</td>
</tr>
<tr>
<td>46CE</td>
<td>Exit Devices</td>
<td>40</td>
</tr>
<tr>
<td>46DT</td>
<td>Exit Devices</td>
<td>40</td>
</tr>
<tr>
<td>45NL</td>
<td>Exit Devices</td>
<td>40</td>
</tr>
<tr>
<td>47BE</td>
<td>Exit Devices</td>
<td>50</td>
</tr>
<tr>
<td>47BT</td>
<td>Exit Devices</td>
<td>54</td>
</tr>
<tr>
<td>47CE</td>
<td>Exit Devices</td>
<td>50</td>
</tr>
<tr>
<td>47DT</td>
<td>Exit Devices</td>
<td>50</td>
</tr>
<tr>
<td>47KD</td>
<td>Exit Devices</td>
<td>52</td>
</tr>
<tr>
<td>47KE</td>
<td>Exit Devices</td>
<td>52</td>
</tr>
<tr>
<td>47KN</td>
<td>Exit Devices</td>
<td>52</td>
</tr>
<tr>
<td>47XP</td>
<td>Exit Devices</td>
<td>52</td>
</tr>
<tr>
<td>47NL</td>
<td>Exit Devices</td>
<td>50</td>
</tr>
<tr>
<td>47PD</td>
<td>Exit Devices</td>
<td>54</td>
</tr>
<tr>
<td>47PN</td>
<td>Exit Devices</td>
<td>54</td>
</tr>
<tr>
<td>47PT</td>
<td>Exit Devices</td>
<td>54</td>
</tr>
<tr>
<td>47RD</td>
<td>Exit Devices</td>
<td>55</td>
</tr>
<tr>
<td>47RN</td>
<td>Exit Devices</td>
<td>55</td>
</tr>
<tr>
<td>50T</td>
<td>Trim &amp; Auxiliary</td>
<td>28</td>
</tr>
<tr>
<td>60S</td>
<td>Trim &amp; Auxiliary</td>
<td>29</td>
</tr>
<tr>
<td>70S</td>
<td>Trim &amp; Auxiliary</td>
<td>29t</td>
</tr>
<tr>
<td>80, 90, 100 Series</td>
<td>Trim &amp; Auxiliary</td>
<td>26</td>
</tr>
<tr>
<td>80S</td>
<td>Trim &amp; Auxiliary</td>
<td>29</td>
</tr>
<tr>
<td>90R</td>
<td>Trim &amp; Auxiliary</td>
<td>30</td>
</tr>
<tr>
<td>100</td>
<td>Commercial Hinges</td>
<td>45</td>
</tr>
<tr>
<td>100T</td>
<td>Trim &amp; Auxiliary</td>
<td>30</td>
</tr>
<tr>
<td>110S</td>
<td>Trim &amp; Auxiliary</td>
<td>30</td>
</tr>
<tr>
<td>120L</td>
<td>Trim &amp; Auxiliary</td>
<td>31</td>
</tr>
<tr>
<td>121L</td>
<td>Trim &amp; Auxiliary</td>
<td>31</td>
</tr>
<tr>
<td>122L</td>
<td>Trim &amp; Auxiliary</td>
<td>31</td>
</tr>
<tr>
<td>125S</td>
<td>Trim &amp; Auxiliary</td>
<td>32</td>
</tr>
<tr>
<td>126S</td>
<td>Trim &amp; Auxiliary</td>
<td>32</td>
</tr>
<tr>
<td>127S</td>
<td>Trim &amp; Auxiliary</td>
<td>32</td>
</tr>
<tr>
<td>128P</td>
<td>Trim &amp; Auxiliary</td>
<td>32</td>
</tr>
<tr>
<td>128S</td>
<td>Trim &amp; Auxiliary</td>
<td>33</td>
</tr>
<tr>
<td>129P</td>
<td>Trim &amp; Auxiliary</td>
<td>33</td>
</tr>
<tr>
<td>130S</td>
<td>Trim &amp; Auxiliary</td>
<td>33</td>
</tr>
<tr>
<td>131S</td>
<td>Trim &amp; Auxiliary</td>
<td>33</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------</td>
<td>------</td>
</tr>
<tr>
<td>133S</td>
<td>Trim &amp; Auxiliary</td>
<td>34</td>
</tr>
<tr>
<td>134S</td>
<td>Trim &amp; Auxiliary</td>
<td>34</td>
</tr>
<tr>
<td>136S</td>
<td>Trim &amp; Auxiliary</td>
<td>34</td>
</tr>
<tr>
<td>137S</td>
<td>Trim &amp; Auxiliary</td>
<td>34</td>
</tr>
<tr>
<td>138P</td>
<td>Trim &amp; Auxiliary</td>
<td>35</td>
</tr>
<tr>
<td>139P</td>
<td>Trim &amp; Auxiliary</td>
<td>35</td>
</tr>
<tr>
<td>140P</td>
<td>Trim &amp; Auxiliary</td>
<td>35</td>
</tr>
<tr>
<td>150B</td>
<td>Trim &amp; Auxiliary</td>
<td>35</td>
</tr>
<tr>
<td>150D</td>
<td>Trim &amp; Auxiliary</td>
<td>35</td>
</tr>
<tr>
<td>150V</td>
<td>Trim &amp; Auxiliary</td>
<td>35</td>
</tr>
<tr>
<td>151B</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>151D</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>151V</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>152B</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>152D</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>152V</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>153B</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>153D</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>153V</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>154B</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>154D</td>
<td>Trim &amp; Auxiliary</td>
<td>36</td>
</tr>
<tr>
<td>155B</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>155D</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>155V</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>156B</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>156D</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>156V</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>157B</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>157D</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>157V</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>158B</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>158D</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>158V</td>
<td>Trim &amp; Auxiliary</td>
<td>37</td>
</tr>
<tr>
<td>159B</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>159D</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>159V</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>160B</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>160D</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>160V</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>161B</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>161D</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>161V</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>164B</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>164D</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>164V</td>
<td>Trim &amp; Auxiliary</td>
<td>38</td>
</tr>
<tr>
<td>165B</td>
<td>Trim &amp; Auxiliary</td>
<td>39</td>
</tr>
<tr>
<td>165D</td>
<td>Trim &amp; Auxiliary</td>
<td>39</td>
</tr>
<tr>
<td>165V</td>
<td>Trim &amp; Auxiliary</td>
<td>39</td>
</tr>
<tr>
<td>167B</td>
<td>Trim &amp; Auxiliary</td>
<td>39</td>
</tr>
<tr>
<td>167D</td>
<td>Trim &amp; Auxiliary</td>
<td>39</td>
</tr>
<tr>
<td>167V</td>
<td>Trim &amp; Auxiliary</td>
<td>39</td>
</tr>
<tr>
<td>170D</td>
<td>Trim &amp; Auxiliary</td>
<td>39</td>
</tr>
<tr>
<td>180H</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>180K</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>180M</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>180P</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>180Q</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>181H</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>181K</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>181M</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>181P</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>181Q</td>
<td>Trim &amp; Auxiliary</td>
<td>40</td>
</tr>
<tr>
<td>182H</td>
<td>Trim &amp; Auxiliary</td>
<td>41</td>
</tr>
<tr>
<td>182K</td>
<td>Trim &amp; Auxiliary</td>
<td>41</td>
</tr>
<tr>
<td>182M</td>
<td>Trim &amp; Auxiliary</td>
<td>41</td>
</tr>
<tr>
<td>182P</td>
<td>Trim &amp; Auxiliary</td>
<td>41</td>
</tr>
<tr>
<td>182Q</td>
<td>Trim &amp; Auxiliary</td>
<td>41</td>
</tr>
<tr>
<td>185G</td>
<td>Trim &amp; Auxiliary</td>
<td>41</td>
</tr>
<tr>
<td>190S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>193S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>194S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>198S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>199B</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>204S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>208</td>
<td>Trim &amp; Auxiliary</td>
<td>85</td>
</tr>
<tr>
<td>209</td>
<td>Trim &amp; Auxiliary</td>
<td>85</td>
</tr>
<tr>
<td>210</td>
<td>Trim &amp; Auxiliary</td>
<td>85</td>
</tr>
<tr>
<td>211</td>
<td>Trim &amp; Auxiliary</td>
<td>86</td>
</tr>
<tr>
<td>212</td>
<td>Trim &amp; Auxiliary</td>
<td>86</td>
</tr>
<tr>
<td>214S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>220S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>223S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>224S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>225S</td>
<td>Trim &amp; Auxiliary</td>
<td>42</td>
</tr>
<tr>
<td>230W</td>
<td>Trim &amp; Auxiliary</td>
<td>43</td>
</tr>
<tr>
<td>232W</td>
<td>Trim &amp; Auxiliary</td>
<td>43</td>
</tr>
<tr>
<td>234W</td>
<td>Trim &amp; Auxiliary</td>
<td>43</td>
</tr>
<tr>
<td>236W</td>
<td>Trim &amp; Auxiliary</td>
<td>43</td>
</tr>
<tr>
<td>241F</td>
<td>Trim &amp; Auxiliary</td>
<td>49</td>
</tr>
<tr>
<td>242F</td>
<td>Trim &amp; Auxiliary</td>
<td>49</td>
</tr>
<tr>
<td>243F</td>
<td>Trim &amp; Auxiliary</td>
<td>49</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------</td>
<td>------</td>
</tr>
<tr>
<td>244F</td>
<td>Trim &amp; Auxiliary</td>
<td>49</td>
</tr>
<tr>
<td>245F</td>
<td>Trim &amp; Auxiliary</td>
<td>50</td>
</tr>
<tr>
<td>246B</td>
<td>Trim &amp; Auxiliary</td>
<td>50</td>
</tr>
<tr>
<td>248F</td>
<td>Trim &amp; Auxiliary</td>
<td>50</td>
</tr>
<tr>
<td>248G</td>
<td>Trim &amp; Auxiliary</td>
<td>50</td>
</tr>
<tr>
<td>249F</td>
<td>Trim &amp; Auxiliary</td>
<td>50</td>
</tr>
<tr>
<td>250W</td>
<td>Trim &amp; Auxiliary</td>
<td>44</td>
</tr>
<tr>
<td>251</td>
<td>Commercial Hinges</td>
<td>40</td>
</tr>
<tr>
<td>251W</td>
<td>Trim &amp; Auxiliary</td>
<td>44</td>
</tr>
<tr>
<td>252</td>
<td>Commercial Hinges</td>
<td>40</td>
</tr>
<tr>
<td>252F</td>
<td>Trim &amp; Auxiliary</td>
<td>51</td>
</tr>
<tr>
<td>253</td>
<td>Commercial Hinges</td>
<td>40</td>
</tr>
<tr>
<td>254</td>
<td>Commercial Hinges</td>
<td>40</td>
</tr>
<tr>
<td>254S</td>
<td>Trim &amp; Auxiliary</td>
<td>44</td>
</tr>
<tr>
<td>254W</td>
<td>Trim &amp; Auxiliary</td>
<td>44</td>
</tr>
<tr>
<td>255S</td>
<td>Trim &amp; Auxiliary</td>
<td>45</td>
</tr>
<tr>
<td>255W</td>
<td>Trim &amp; Auxiliary</td>
<td>45</td>
</tr>
<tr>
<td>256S</td>
<td>Trim &amp; Auxiliary</td>
<td>45</td>
</tr>
<tr>
<td>256W</td>
<td>Trim &amp; Auxiliary</td>
<td>46</td>
</tr>
<tr>
<td>257F</td>
<td>Trim &amp; Auxiliary</td>
<td>51</td>
</tr>
<tr>
<td>258F</td>
<td>Trim &amp; Auxiliary</td>
<td>51</td>
</tr>
<tr>
<td>259F</td>
<td>Trim &amp; Auxiliary</td>
<td>52</td>
</tr>
<tr>
<td>259H</td>
<td>Trim &amp; Auxiliary</td>
<td>52</td>
</tr>
<tr>
<td>260W</td>
<td>Trim &amp; Auxiliary</td>
<td>46</td>
</tr>
<tr>
<td>263</td>
<td>Commercial Hinges</td>
<td>45</td>
</tr>
<tr>
<td>265</td>
<td>Commercial Hinges</td>
<td>45</td>
</tr>
<tr>
<td>267F</td>
<td>Trim &amp; Auxiliary</td>
<td>52</td>
</tr>
<tr>
<td>267S</td>
<td>Trim &amp; Auxiliary</td>
<td>52</td>
</tr>
<tr>
<td>268F</td>
<td>Trim &amp; Auxiliary</td>
<td>53</td>
</tr>
<tr>
<td>268S</td>
<td>Trim &amp; Auxiliary</td>
<td>53</td>
</tr>
<tr>
<td>269F</td>
<td>Trim &amp; Auxiliary</td>
<td>53</td>
</tr>
<tr>
<td>269T</td>
<td>Trim &amp; Auxiliary</td>
<td>54</td>
</tr>
<tr>
<td>270C</td>
<td>Trim &amp; Auxiliary</td>
<td>56</td>
</tr>
<tr>
<td>270CR</td>
<td>Trim &amp; Auxiliary</td>
<td>56</td>
</tr>
<tr>
<td>270D</td>
<td>Trim &amp; Auxiliary</td>
<td>56</td>
</tr>
<tr>
<td>270R</td>
<td>Trim &amp; Auxiliary</td>
<td>56</td>
</tr>
<tr>
<td>271D</td>
<td>Trim &amp; Auxiliary</td>
<td>56</td>
</tr>
<tr>
<td>271W</td>
<td>Trim &amp; Auxiliary</td>
<td>48</td>
</tr>
<tr>
<td>272W</td>
<td>Trim &amp; Auxiliary</td>
<td>48</td>
</tr>
<tr>
<td>273W</td>
<td>Trim &amp; Auxiliary</td>
<td>48</td>
</tr>
<tr>
<td>274B</td>
<td>Trim &amp; Auxiliary</td>
<td>81</td>
</tr>
<tr>
<td>274C</td>
<td>Trim &amp; Auxiliary</td>
<td>81</td>
</tr>
<tr>
<td>274D</td>
<td>Trim &amp; Auxiliary</td>
<td>81</td>
</tr>
<tr>
<td>275D</td>
<td>Trim &amp; Auxiliary</td>
<td>57</td>
</tr>
<tr>
<td>276D</td>
<td>Trim &amp; Auxiliary</td>
<td>57</td>
</tr>
<tr>
<td>277D</td>
<td>Trim &amp; Auxiliary</td>
<td>81</td>
</tr>
<tr>
<td>278D</td>
<td>Trim &amp; Auxiliary</td>
<td>57</td>
</tr>
<tr>
<td>279D</td>
<td>Trim &amp; Auxiliary</td>
<td>57</td>
</tr>
<tr>
<td>280X</td>
<td>Trim &amp; Auxiliary</td>
<td>58</td>
</tr>
<tr>
<td>281D</td>
<td>Trim &amp; Auxiliary</td>
<td>58</td>
</tr>
<tr>
<td>282D</td>
<td>Trim &amp; Auxiliary</td>
<td>58</td>
</tr>
<tr>
<td>283D</td>
<td>Trim &amp; Auxiliary</td>
<td>59</td>
</tr>
<tr>
<td>289D</td>
<td>Trim &amp; Auxiliary</td>
<td>59</td>
</tr>
<tr>
<td>291D</td>
<td>Trim &amp; Auxiliary</td>
<td>60</td>
</tr>
<tr>
<td>292D</td>
<td>Trim &amp; Auxiliary</td>
<td>60</td>
</tr>
<tr>
<td>293D</td>
<td>Trim &amp; Auxiliary</td>
<td>60</td>
</tr>
<tr>
<td>294D</td>
<td>Trim &amp; Auxiliary</td>
<td>61</td>
</tr>
<tr>
<td>295M</td>
<td>Trim &amp; Auxiliary</td>
<td>61</td>
</tr>
<tr>
<td>295W</td>
<td>Trim &amp; Auxiliary</td>
<td>62</td>
</tr>
<tr>
<td>296W</td>
<td>Trim &amp; Auxiliary</td>
<td>62</td>
</tr>
<tr>
<td>297C</td>
<td>Trim &amp; Auxiliary</td>
<td>63</td>
</tr>
<tr>
<td>297D</td>
<td>Trim &amp; Auxiliary</td>
<td>63</td>
</tr>
<tr>
<td>297F</td>
<td>Trim &amp; Auxiliary</td>
<td>64</td>
</tr>
<tr>
<td>297M</td>
<td>Trim &amp; Auxiliary</td>
<td>64</td>
</tr>
<tr>
<td>297N</td>
<td>Trim &amp; Auxiliary</td>
<td>64</td>
</tr>
<tr>
<td>298D</td>
<td>Trim &amp; Auxiliary</td>
<td>64</td>
</tr>
<tr>
<td>300D</td>
<td>Trim &amp; Auxiliary</td>
<td>81</td>
</tr>
<tr>
<td>301D</td>
<td>Trim &amp; Auxiliary</td>
<td>82</td>
</tr>
<tr>
<td>302D</td>
<td>Trim &amp; Auxiliary</td>
<td>82</td>
</tr>
<tr>
<td>305</td>
<td>Commercial Hinges</td>
<td>45</td>
</tr>
<tr>
<td>305D</td>
<td>Trim &amp; Auxiliary</td>
<td>82</td>
</tr>
<tr>
<td>307D</td>
<td>Trim &amp; Auxiliary</td>
<td>82</td>
</tr>
<tr>
<td>308D</td>
<td>Trim &amp; Auxiliary</td>
<td>82</td>
</tr>
<tr>
<td>309D</td>
<td>Trim &amp; Auxiliary</td>
<td>83</td>
</tr>
<tr>
<td>310C</td>
<td>Trim &amp; Auxiliary</td>
<td>65</td>
</tr>
<tr>
<td>311H</td>
<td>Trim &amp; Auxiliary</td>
<td>65</td>
</tr>
<tr>
<td>311L</td>
<td>Trim &amp; Auxiliary</td>
<td>27</td>
</tr>
<tr>
<td>313S</td>
<td>Exit Devices</td>
<td>26</td>
</tr>
<tr>
<td>313S</td>
<td>Trim &amp; Auxiliary</td>
<td>27</td>
</tr>
<tr>
<td>318D</td>
<td>Trim &amp; Auxiliary</td>
<td>65</td>
</tr>
<tr>
<td>318S</td>
<td>Trim &amp; Auxiliary</td>
<td>66</td>
</tr>
<tr>
<td>320R</td>
<td>Trim &amp; Auxiliary</td>
<td>66</td>
</tr>
<tr>
<td>321R</td>
<td>Trim &amp; Auxiliary</td>
<td>66</td>
</tr>
<tr>
<td>322V</td>
<td>Trim &amp; Auxiliary</td>
<td>83</td>
</tr>
<tr>
<td>323S</td>
<td>Trim &amp; Auxiliary</td>
<td>66</td>
</tr>
<tr>
<td>324W</td>
<td>Trim &amp; Auxiliary</td>
<td>46</td>
</tr>
<tr>
<td>326F</td>
<td>Trim &amp; Auxiliary</td>
<td>54</td>
</tr>
<tr>
<td>326W</td>
<td>Trim &amp; Auxiliary</td>
<td>47</td>
</tr>
<tr>
<td>327F</td>
<td>Trim &amp; Auxiliary</td>
<td>54</td>
</tr>
<tr>
<td>327W</td>
<td>Trim &amp; Auxiliary</td>
<td>47</td>
</tr>
<tr>
<td>328F</td>
<td>Trim &amp; Auxiliary</td>
<td>55</td>
</tr>
<tr>
<td>329F</td>
<td>Trim &amp; Auxiliary</td>
<td>55</td>
</tr>
<tr>
<td>330D</td>
<td>Trim &amp; Auxiliary</td>
<td>71</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>330D</td>
<td>Sliding Door Hardware</td>
<td>40, 59</td>
</tr>
<tr>
<td>330L</td>
<td>Trim &amp; Auxiliary</td>
<td>71</td>
</tr>
<tr>
<td>330L</td>
<td>Sliding Door Hardware</td>
<td>40, 59</td>
</tr>
<tr>
<td>330M</td>
<td>Trim &amp; Auxiliary</td>
<td>71</td>
</tr>
<tr>
<td>330M</td>
<td>Sliding Door Hardware</td>
<td>40, 59</td>
</tr>
<tr>
<td>336A</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336B</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336C</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336D</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336E</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336F</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336G</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336H</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336J</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336K</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336L</td>
<td>Trim &amp; Auxiliary</td>
<td>74</td>
</tr>
<tr>
<td>336M</td>
<td>Trim &amp; Auxiliary</td>
<td>75</td>
</tr>
<tr>
<td>336N</td>
<td>Trim &amp; Auxiliary</td>
<td>75</td>
</tr>
<tr>
<td>336P</td>
<td>Trim &amp; Auxiliary</td>
<td>75</td>
</tr>
<tr>
<td>336Q</td>
<td>Trim &amp; Auxiliary</td>
<td>75</td>
</tr>
<tr>
<td>336R</td>
<td>Trim &amp; Auxiliary</td>
<td>75</td>
</tr>
<tr>
<td>337A</td>
<td>Trim &amp; Auxiliary</td>
<td>75</td>
</tr>
<tr>
<td>337B</td>
<td>Trim &amp; Auxiliary</td>
<td>75</td>
</tr>
<tr>
<td>337C</td>
<td>Trim &amp; Auxiliary</td>
<td>75</td>
</tr>
<tr>
<td>337D</td>
<td>Trim &amp; Auxiliary</td>
<td>75</td>
</tr>
<tr>
<td>340D</td>
<td>Trim &amp; Auxiliary</td>
<td>67</td>
</tr>
<tr>
<td>341D</td>
<td>Trim &amp; Auxiliary</td>
<td>67</td>
</tr>
<tr>
<td>342D</td>
<td>Trim &amp; Auxiliary</td>
<td>67</td>
</tr>
<tr>
<td>345D</td>
<td>Trim &amp; Auxiliary</td>
<td>67</td>
</tr>
<tr>
<td>350H</td>
<td>Trim &amp; Auxiliary</td>
<td>76</td>
</tr>
<tr>
<td>350L</td>
<td>Trim &amp; Auxiliary</td>
<td>76</td>
</tr>
<tr>
<td>350M</td>
<td>Trim &amp; Auxiliary</td>
<td>76</td>
</tr>
<tr>
<td>350R</td>
<td>Trim &amp; Auxiliary</td>
<td>76</td>
</tr>
<tr>
<td>350W</td>
<td>Trim &amp; Auxiliary</td>
<td>76</td>
</tr>
<tr>
<td>351H</td>
<td>Trim &amp; Auxiliary</td>
<td>76</td>
</tr>
<tr>
<td>351L</td>
<td>Trim &amp; Auxiliary</td>
<td>76</td>
</tr>
<tr>
<td>352M</td>
<td>Trim &amp; Auxiliary</td>
<td>77</td>
</tr>
<tr>
<td>352W</td>
<td>Trim &amp; Auxiliary</td>
<td>77</td>
</tr>
<tr>
<td>354A</td>
<td>Trim &amp; Auxiliary</td>
<td>77</td>
</tr>
<tr>
<td>354B</td>
<td>Trim &amp; Auxiliary</td>
<td>77</td>
</tr>
<tr>
<td>360M</td>
<td>Trim &amp; Auxiliary</td>
<td>77</td>
</tr>
<tr>
<td>360W</td>
<td>Trim &amp; Auxiliary</td>
<td>77</td>
</tr>
<tr>
<td>361H</td>
<td>Trim &amp; Auxiliary</td>
<td>77</td>
</tr>
<tr>
<td>361L</td>
<td>Trim &amp; Auxiliary</td>
<td>77</td>
</tr>
<tr>
<td>362H</td>
<td>Trim &amp; Auxiliary</td>
<td>78</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>416S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>417</td>
<td>Commercial Hinges</td>
<td>45</td>
</tr>
<tr>
<td>417S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>418S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>419S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>11</td>
</tr>
<tr>
<td>420S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>8</td>
</tr>
<tr>
<td>421S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>8</td>
</tr>
<tr>
<td>422S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>8</td>
</tr>
<tr>
<td>423S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>8</td>
</tr>
<tr>
<td>424S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>8</td>
</tr>
<tr>
<td>426S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>427S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>428S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>430</td>
<td>Commercial Hinges</td>
<td>21</td>
</tr>
<tr>
<td>430S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>431S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>9</td>
</tr>
<tr>
<td>432S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>9</td>
</tr>
<tr>
<td>433S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>9</td>
</tr>
<tr>
<td>434S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>12</td>
</tr>
<tr>
<td>435S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>12</td>
</tr>
<tr>
<td>436S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>438S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>9</td>
</tr>
<tr>
<td>440S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>13</td>
</tr>
<tr>
<td>442S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>12</td>
</tr>
<tr>
<td>443S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>12</td>
</tr>
<tr>
<td>444S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>12</td>
</tr>
<tr>
<td>445S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>13</td>
</tr>
<tr>
<td>448S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>450S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>13</td>
</tr>
<tr>
<td>451</td>
<td>Commercial Hinges</td>
<td>43</td>
</tr>
<tr>
<td>451S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>8</td>
</tr>
<tr>
<td>452</td>
<td>Commercial Hinges</td>
<td>43</td>
</tr>
<tr>
<td>452S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>8</td>
</tr>
<tr>
<td>453</td>
<td>Commercial Hinges</td>
<td>43</td>
</tr>
<tr>
<td>454</td>
<td>Commercial Hinges</td>
<td>43</td>
</tr>
<tr>
<td>455</td>
<td>Commercial Hinges</td>
<td>43</td>
</tr>
<tr>
<td>455S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>13</td>
</tr>
<tr>
<td>456</td>
<td>Commercial Hinges</td>
<td>43</td>
</tr>
<tr>
<td>457</td>
<td>Commercial Hinges</td>
<td>43</td>
</tr>
<tr>
<td>458</td>
<td>Commercial Hinges</td>
<td>43</td>
</tr>
<tr>
<td>460S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>13</td>
</tr>
<tr>
<td>465S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>13</td>
</tr>
<tr>
<td>470S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>13</td>
</tr>
<tr>
<td>477S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>12</td>
</tr>
<tr>
<td>478S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>12</td>
</tr>
<tr>
<td>480S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>10</td>
</tr>
<tr>
<td>481S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>10</td>
</tr>
<tr>
<td>484S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>10, 13</td>
</tr>
<tr>
<td>492S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>7</td>
</tr>
<tr>
<td>495</td>
<td>Commercial Hinges</td>
<td>40</td>
</tr>
<tr>
<td>496</td>
<td>Commercial Hinges</td>
<td>40</td>
</tr>
<tr>
<td>497</td>
<td>Commercial Hinges</td>
<td>40</td>
</tr>
<tr>
<td>500</td>
<td>Commercial Hinges</td>
<td>41</td>
</tr>
<tr>
<td>500-048</td>
<td>Roton Continuous Geared Hinges</td>
<td>16</td>
</tr>
<tr>
<td>500-200</td>
<td>Roton Continuous Geared Hinges</td>
<td>17</td>
</tr>
<tr>
<td>500-220</td>
<td>Roton Continuous Geared Hinges</td>
<td>18</td>
</tr>
<tr>
<td>503S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>11</td>
</tr>
<tr>
<td>504S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>11</td>
</tr>
<tr>
<td>505S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>11</td>
</tr>
<tr>
<td>506S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>11</td>
</tr>
<tr>
<td>508S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>11</td>
</tr>
<tr>
<td>510</td>
<td>Commercial Hinges</td>
<td>42</td>
</tr>
<tr>
<td>511</td>
<td>Commercial Hinges</td>
<td>42</td>
</tr>
<tr>
<td>512</td>
<td>Commercial Hinges</td>
<td>42</td>
</tr>
<tr>
<td>515S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>15</td>
</tr>
<tr>
<td>516S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>15</td>
</tr>
<tr>
<td>517S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>15</td>
</tr>
<tr>
<td>518S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>15</td>
</tr>
<tr>
<td>520S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>14</td>
</tr>
<tr>
<td>532S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>14</td>
</tr>
<tr>
<td>541S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>14</td>
</tr>
<tr>
<td>550</td>
<td>Commercial Hinges</td>
<td>41</td>
</tr>
<tr>
<td>551</td>
<td>Commercial Hinges</td>
<td>41</td>
</tr>
<tr>
<td>552S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>14</td>
</tr>
<tr>
<td>560S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>14</td>
</tr>
<tr>
<td>565S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>14</td>
</tr>
<tr>
<td>572S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>9</td>
</tr>
<tr>
<td>575S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>15</td>
</tr>
<tr>
<td>580S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>15</td>
</tr>
<tr>
<td>599S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>15</td>
</tr>
<tr>
<td>600</td>
<td>Commercial Hinges</td>
<td>42</td>
</tr>
<tr>
<td>600S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>16</td>
</tr>
<tr>
<td>603S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>16</td>
</tr>
<tr>
<td>604S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>16</td>
</tr>
<tr>
<td>608S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>16</td>
</tr>
<tr>
<td>610</td>
<td>Commercial Hinges</td>
<td>42</td>
</tr>
<tr>
<td>611</td>
<td>Commercial Hinges</td>
<td>42</td>
</tr>
<tr>
<td>612</td>
<td>Commercial Hinges</td>
<td>42</td>
</tr>
<tr>
<td>615</td>
<td>Commercial Hinges</td>
<td>41</td>
</tr>
<tr>
<td>619S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>19</td>
</tr>
<tr>
<td>621S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>17</td>
</tr>
<tr>
<td>622S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>17</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>626S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>17</td>
</tr>
<tr>
<td>627S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>17</td>
</tr>
<tr>
<td>651S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>18</td>
</tr>
<tr>
<td>652S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>18</td>
</tr>
<tr>
<td>653S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>18</td>
</tr>
<tr>
<td>654S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>18</td>
</tr>
<tr>
<td>655S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>18</td>
</tr>
<tr>
<td>656S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>19</td>
</tr>
<tr>
<td>677S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>19</td>
</tr>
<tr>
<td>700</td>
<td>Commercial Hinges</td>
<td>13</td>
</tr>
<tr>
<td>701S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>16</td>
</tr>
<tr>
<td>717S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>20</td>
</tr>
<tr>
<td>718S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>20</td>
</tr>
<tr>
<td>719</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>21</td>
</tr>
<tr>
<td>720</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>21</td>
</tr>
<tr>
<td>721</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>22</td>
</tr>
<tr>
<td>722</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>21</td>
</tr>
<tr>
<td>724</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>21</td>
</tr>
<tr>
<td>725</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>22</td>
</tr>
<tr>
<td>726</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>22</td>
</tr>
<tr>
<td>727</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>22</td>
</tr>
<tr>
<td>728</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>22</td>
</tr>
<tr>
<td>729</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>21</td>
</tr>
<tr>
<td>730S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>25</td>
</tr>
<tr>
<td>734</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>21</td>
</tr>
<tr>
<td>736</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>22</td>
</tr>
<tr>
<td>737</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>22</td>
</tr>
<tr>
<td>738</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>22</td>
</tr>
<tr>
<td>740S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>25</td>
</tr>
<tr>
<td>742S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>25</td>
</tr>
<tr>
<td>743S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>25</td>
</tr>
<tr>
<td>747S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>25</td>
</tr>
<tr>
<td>750S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>26</td>
</tr>
<tr>
<td>750-134</td>
<td>Roton Continuous Geared Hinges</td>
<td>19</td>
</tr>
<tr>
<td>750-138</td>
<td>Roton Continuous Geared Hinges</td>
<td>20</td>
</tr>
<tr>
<td>751S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>23</td>
</tr>
<tr>
<td>752S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>26</td>
</tr>
<tr>
<td>753S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>26</td>
</tr>
<tr>
<td>754S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>26</td>
</tr>
<tr>
<td>756S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>26, 35</td>
</tr>
<tr>
<td>759S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>27</td>
</tr>
<tr>
<td>770S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>20, 27</td>
</tr>
<tr>
<td>771S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>35</td>
</tr>
<tr>
<td>772S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>23, 35</td>
</tr>
<tr>
<td>774S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>23, 35</td>
</tr>
<tr>
<td>776S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>23, 36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>777S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>23</td>
</tr>
<tr>
<td>778S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>23</td>
</tr>
<tr>
<td>779S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>24</td>
</tr>
<tr>
<td>780S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>24</td>
</tr>
<tr>
<td>780-041HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>21</td>
</tr>
<tr>
<td>780-041LL</td>
<td>Roton Continuous Geared Hinges</td>
<td>21</td>
</tr>
<tr>
<td>780-045HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>36</td>
</tr>
<tr>
<td>780-046HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>37</td>
</tr>
<tr>
<td>780-053</td>
<td>Roton Continuous Geared Hinges</td>
<td>38</td>
</tr>
<tr>
<td>780-053HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>38</td>
</tr>
<tr>
<td>780-054HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>39</td>
</tr>
<tr>
<td>780-057HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>32</td>
</tr>
<tr>
<td>780-110HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>22</td>
</tr>
<tr>
<td>780-111</td>
<td>Roton Continuous Geared Hinges</td>
<td>23</td>
</tr>
<tr>
<td>780-111HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>23</td>
</tr>
<tr>
<td>780-111LL</td>
<td>Roton Continuous Geared Hinges</td>
<td>23</td>
</tr>
<tr>
<td>780-112</td>
<td>Roton Continuous Geared Hinges</td>
<td>24</td>
</tr>
<tr>
<td>780-112HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>24</td>
</tr>
<tr>
<td>780-112LL</td>
<td>Roton Continuous Geared Hinges</td>
<td>24</td>
</tr>
<tr>
<td>780-113HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>25</td>
</tr>
<tr>
<td>780-114HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>26</td>
</tr>
<tr>
<td>780-124HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>27</td>
</tr>
<tr>
<td>780-124LL</td>
<td>Roton Continuous Geared Hinges</td>
<td>27</td>
</tr>
<tr>
<td>780-155HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>40</td>
</tr>
<tr>
<td>780-157</td>
<td>Roton Continuous Geared Hinges</td>
<td>33</td>
</tr>
<tr>
<td>780-157HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>33</td>
</tr>
<tr>
<td>780-208HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>28</td>
</tr>
<tr>
<td>780-210</td>
<td>Roton Continuous Geared Hinges</td>
<td>34</td>
</tr>
<tr>
<td>780-210HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>34</td>
</tr>
<tr>
<td>780-211HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>41</td>
</tr>
<tr>
<td>780-213HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>42</td>
</tr>
<tr>
<td>780-222</td>
<td>Roton Continuous Geared Hinges</td>
<td>29</td>
</tr>
<tr>
<td>780-224</td>
<td>Roton Continuous Geared Hinges</td>
<td>29</td>
</tr>
<tr>
<td>780-224HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>29</td>
</tr>
<tr>
<td>780-226</td>
<td>Roton Continuous Geared Hinges</td>
<td>29</td>
</tr>
<tr>
<td>780-226HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>29</td>
</tr>
<tr>
<td>780-226LL</td>
<td>Roton Continuous Geared Hinges</td>
<td>29</td>
</tr>
<tr>
<td>780-226LL</td>
<td>Roton Continuous Geared Hinges</td>
<td>29</td>
</tr>
<tr>
<td>780-235HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>31</td>
</tr>
<tr>
<td>780-257HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>35</td>
</tr>
<tr>
<td>780-259HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>43</td>
</tr>
<tr>
<td>780-300HD</td>
<td>Roton Continuous Geared Hinges</td>
<td>44</td>
</tr>
<tr>
<td>782S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>24</td>
</tr>
<tr>
<td>783S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>24</td>
</tr>
<tr>
<td>785S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>29</td>
</tr>
<tr>
<td>787S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>24</td>
</tr>
<tr>
<td>789S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>24</td>
</tr>
<tr>
<td>790-900</td>
<td>Stainless Steel Continuous Hinges</td>
<td>10</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>790-903</td>
<td>Stainless Steel Continuous Hinges</td>
<td>15</td>
</tr>
<tr>
<td>790-904</td>
<td>Stainless Steel Continuous Hinges</td>
<td>16</td>
</tr>
<tr>
<td>790-905</td>
<td>Stainless Steel Continuous Hinges</td>
<td>11</td>
</tr>
<tr>
<td>790-906</td>
<td>Stainless Steel Continuous Hinges</td>
<td>17</td>
</tr>
<tr>
<td>790-909</td>
<td>Stainless Steel Continuous Hinges</td>
<td>18</td>
</tr>
<tr>
<td>790-911</td>
<td>Stainless Steel Continuous Hinges</td>
<td>12</td>
</tr>
<tr>
<td>790-915</td>
<td>Stainless Steel Continuous Hinges</td>
<td>13</td>
</tr>
<tr>
<td>790-926</td>
<td>Stainless Steel Continuous Hinges</td>
<td>14</td>
</tr>
<tr>
<td>800</td>
<td>Commercial Hinges</td>
<td>13</td>
</tr>
<tr>
<td>800S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>29</td>
</tr>
<tr>
<td>801S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>27</td>
</tr>
<tr>
<td>802S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>27, 29, 36</td>
</tr>
<tr>
<td>803S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>29</td>
</tr>
<tr>
<td>806S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>27</td>
</tr>
<tr>
<td>808S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>29</td>
</tr>
<tr>
<td>810S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>20</td>
</tr>
<tr>
<td>822S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>38</td>
</tr>
<tr>
<td>833S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>36</td>
</tr>
<tr>
<td>836S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>36</td>
</tr>
<tr>
<td>837S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>36</td>
</tr>
<tr>
<td>838S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>36</td>
</tr>
<tr>
<td>839S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>37</td>
</tr>
<tr>
<td>845S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>37</td>
</tr>
<tr>
<td>846S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>37</td>
</tr>
<tr>
<td>847S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>37</td>
</tr>
<tr>
<td>848S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>37</td>
</tr>
<tr>
<td>849S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>37</td>
</tr>
<tr>
<td>859S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>30</td>
</tr>
<tr>
<td>860S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>30</td>
</tr>
<tr>
<td>861S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>30</td>
</tr>
<tr>
<td>862S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>30</td>
</tr>
<tr>
<td>863S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>30</td>
</tr>
<tr>
<td>864S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>31</td>
</tr>
<tr>
<td>865S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>31</td>
</tr>
<tr>
<td>866S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>31</td>
</tr>
<tr>
<td>870S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>31</td>
</tr>
<tr>
<td>871S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>31</td>
</tr>
<tr>
<td>872S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>27, 37</td>
</tr>
<tr>
<td>873S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>31</td>
</tr>
<tr>
<td>874S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>31</td>
</tr>
<tr>
<td>875S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>32</td>
</tr>
<tr>
<td>877S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>32</td>
</tr>
<tr>
<td>878S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>32</td>
</tr>
<tr>
<td>880S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>32</td>
</tr>
<tr>
<td>881S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>32</td>
</tr>
<tr>
<td>882S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>28, 33, 38</td>
</tr>
<tr>
<td>883S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>33</td>
</tr>
<tr>
<td>884S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>28</td>
</tr>
<tr>
<td>885S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>33</td>
</tr>
<tr>
<td>890S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>33</td>
</tr>
<tr>
<td>891S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>34</td>
</tr>
<tr>
<td>892S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>34</td>
</tr>
<tr>
<td>893S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>34</td>
</tr>
<tr>
<td>896S</td>
<td>Thresholds &amp; Weatherstripping</td>
<td>34</td>
</tr>
<tr>
<td>901P</td>
<td>Trim &amp; Auxiliary</td>
<td>69</td>
</tr>
<tr>
<td>902P</td>
<td>Trim &amp; Auxiliary</td>
<td>69</td>
</tr>
<tr>
<td>903P</td>
<td>Trim &amp; Auxiliary</td>
<td>69</td>
</tr>
<tr>
<td>910B</td>
<td>Trim &amp; Auxiliary</td>
<td>13</td>
</tr>
<tr>
<td>910P</td>
<td>Trim &amp; Auxiliary</td>
<td>13</td>
</tr>
<tr>
<td>915B</td>
<td>Trim &amp; Auxiliary</td>
<td>13</td>
</tr>
<tr>
<td>915P</td>
<td>Trim &amp; Auxiliary</td>
<td>13</td>
</tr>
<tr>
<td>920</td>
<td>Commercial Hinges</td>
<td>13</td>
</tr>
<tr>
<td>920B</td>
<td>Trim &amp; Auxiliary</td>
<td>14</td>
</tr>
<tr>
<td>920P</td>
<td>Trim &amp; Auxiliary</td>
<td>14</td>
</tr>
<tr>
<td>921B</td>
<td>Trim &amp; Auxiliary</td>
<td>14</td>
</tr>
<tr>
<td>921P</td>
<td>Trim &amp; Auxiliary</td>
<td>14</td>
</tr>
<tr>
<td>922B</td>
<td>Trim &amp; Auxiliary</td>
<td>14</td>
</tr>
<tr>
<td>922P</td>
<td>Trim &amp; Auxiliary</td>
<td>14</td>
</tr>
<tr>
<td>923B</td>
<td>Trim &amp; Auxiliary</td>
<td>14</td>
</tr>
<tr>
<td>923P</td>
<td>Trim &amp; Auxiliary</td>
<td>14</td>
</tr>
<tr>
<td>924B</td>
<td>Trim &amp; Auxiliary</td>
<td>15</td>
</tr>
<tr>
<td>924P</td>
<td>Trim &amp; Auxiliary</td>
<td>15</td>
</tr>
<tr>
<td>925B</td>
<td>Trim &amp; Auxiliary</td>
<td>15</td>
</tr>
<tr>
<td>925P</td>
<td>Trim &amp; Auxiliary</td>
<td>15</td>
</tr>
<tr>
<td>926B</td>
<td>Trim &amp; Auxiliary</td>
<td>15</td>
</tr>
<tr>
<td>926P</td>
<td>Trim &amp; Auxiliary</td>
<td>15</td>
</tr>
<tr>
<td>930B</td>
<td>Trim &amp; Auxiliary</td>
<td>15</td>
</tr>
<tr>
<td>930P</td>
<td>Trim &amp; Auxiliary</td>
<td>15</td>
</tr>
<tr>
<td>932B</td>
<td>Trim &amp; Auxiliary</td>
<td>16</td>
</tr>
<tr>
<td>932P</td>
<td>Trim &amp; Auxiliary</td>
<td>16</td>
</tr>
<tr>
<td>933B</td>
<td>Trim &amp; Auxiliary</td>
<td>16</td>
</tr>
<tr>
<td>933P</td>
<td>Trim &amp; Auxiliary</td>
<td>16</td>
</tr>
<tr>
<td>934B</td>
<td>Trim &amp; Auxiliary</td>
<td>16</td>
</tr>
<tr>
<td>934P</td>
<td>Trim &amp; Auxiliary</td>
<td>16</td>
</tr>
<tr>
<td>936P</td>
<td>Trim &amp; Auxiliary</td>
<td>69</td>
</tr>
<tr>
<td>937P</td>
<td>Trim &amp; Auxiliary</td>
<td>69</td>
</tr>
<tr>
<td>940P</td>
<td>Trim &amp; Auxiliary</td>
<td>69</td>
</tr>
<tr>
<td>941P</td>
<td>Trim &amp; Auxiliary</td>
<td>69</td>
</tr>
<tr>
<td>945P</td>
<td>Trim &amp; Auxiliary</td>
<td>70</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------</td>
<td>------</td>
</tr>
<tr>
<td>946P</td>
<td>Trim &amp; Auxiliary</td>
<td>70</td>
</tr>
<tr>
<td>951P</td>
<td>Trim &amp; Auxiliary</td>
<td>70</td>
</tr>
<tr>
<td>952P</td>
<td>Trim &amp; Auxiliary</td>
<td>70</td>
</tr>
<tr>
<td>956P</td>
<td>Trim &amp; Auxiliary</td>
<td>70</td>
</tr>
<tr>
<td>957P</td>
<td>Trim &amp; Auxiliary</td>
<td>70</td>
</tr>
<tr>
<td>960B</td>
<td>Trim &amp; Auxiliary</td>
<td>16</td>
</tr>
<tr>
<td>960P</td>
<td>Trim &amp; Auxiliary</td>
<td>16</td>
</tr>
<tr>
<td>961B</td>
<td>Trim &amp; Auxiliary</td>
<td>17</td>
</tr>
<tr>
<td>961P</td>
<td>Trim &amp; Auxiliary</td>
<td>17</td>
</tr>
<tr>
<td>962P</td>
<td>Trim &amp; Auxiliary</td>
<td>17</td>
</tr>
<tr>
<td>963P</td>
<td>Trim &amp; Auxiliary</td>
<td>17</td>
</tr>
<tr>
<td>967P</td>
<td>Trim &amp; Auxiliary</td>
<td>17</td>
</tr>
<tr>
<td>970P</td>
<td>Trim &amp; Auxiliary</td>
<td>18</td>
</tr>
<tr>
<td>974B</td>
<td>Trim &amp; Auxiliary</td>
<td>18</td>
</tr>
<tr>
<td>974P</td>
<td>Trim &amp; Auxiliary</td>
<td>18</td>
</tr>
<tr>
<td>975B</td>
<td>Trim &amp; Auxiliary</td>
<td>18</td>
</tr>
<tr>
<td>975P</td>
<td>Trim &amp; Auxiliary</td>
<td>18</td>
</tr>
<tr>
<td>976B</td>
<td>Trim &amp; Auxiliary</td>
<td>19</td>
</tr>
<tr>
<td>976P</td>
<td>Trim &amp; Auxiliary</td>
<td>19</td>
</tr>
<tr>
<td>980B</td>
<td>Trim &amp; Auxiliary</td>
<td>19</td>
</tr>
<tr>
<td>980P</td>
<td>Trim &amp; Auxiliary</td>
<td>19</td>
</tr>
<tr>
<td>981B</td>
<td>Trim &amp; Auxiliary</td>
<td>19</td>
</tr>
<tr>
<td>981P</td>
<td>Trim &amp; Auxiliary</td>
<td>19</td>
</tr>
<tr>
<td>982P</td>
<td>Trim &amp; Auxiliary</td>
<td>19</td>
</tr>
<tr>
<td>983B</td>
<td>Trim &amp; Auxiliary</td>
<td>20</td>
</tr>
<tr>
<td>983P</td>
<td>Trim &amp; Auxiliary</td>
<td>20</td>
</tr>
<tr>
<td>984B</td>
<td>Trim &amp; Auxiliary</td>
<td>20</td>
</tr>
<tr>
<td>984P</td>
<td>Trim &amp; Auxiliary</td>
<td>20</td>
</tr>
<tr>
<td>985B</td>
<td>Trim &amp; Auxiliary</td>
<td>20</td>
</tr>
<tr>
<td>985P</td>
<td>Trim &amp; Auxiliary</td>
<td>20</td>
</tr>
<tr>
<td>986B</td>
<td>Trim &amp; Auxiliary</td>
<td>20</td>
</tr>
<tr>
<td>986P</td>
<td>Trim &amp; Auxiliary</td>
<td>20</td>
</tr>
<tr>
<td>987B</td>
<td>Trim &amp; Auxiliary</td>
<td>21</td>
</tr>
<tr>
<td>987P</td>
<td>Trim &amp; Auxiliary</td>
<td>21</td>
</tr>
<tr>
<td>988B</td>
<td>Trim &amp; Auxiliary</td>
<td>21</td>
</tr>
<tr>
<td>988P</td>
<td>Trim &amp; Auxiliary</td>
<td>21</td>
</tr>
<tr>
<td>990</td>
<td>Commercial Hinges</td>
<td>44</td>
</tr>
<tr>
<td>990B</td>
<td>Trim &amp; Auxiliary</td>
<td>21</td>
</tr>
<tr>
<td>992</td>
<td>Commercial Hinges</td>
<td>44</td>
</tr>
<tr>
<td>1129</td>
<td>Commercial Hinges</td>
<td>27</td>
</tr>
<tr>
<td>1150</td>
<td>Commercial Hinges</td>
<td>22</td>
</tr>
<tr>
<td>1151</td>
<td>Commercial Hinges</td>
<td>22</td>
</tr>
<tr>
<td>1152</td>
<td>Commercial Hinges</td>
<td>22</td>
</tr>
<tr>
<td>1173</td>
<td>Commercial Hinges</td>
<td>32</td>
</tr>
<tr>
<td>1191</td>
<td>Commercial Hinges</td>
<td>15</td>
</tr>
<tr>
<td>1200-600XHD</td>
<td>Roton Continuous Geared Hinges</td>
<td>45</td>
</tr>
<tr>
<td>1200-650XHD</td>
<td>Roton Continuous Geared Hinges</td>
<td>46</td>
</tr>
<tr>
<td>1250</td>
<td>Commercial Hinges</td>
<td>22</td>
</tr>
<tr>
<td>1251</td>
<td>Commercial Hinges</td>
<td>22</td>
</tr>
<tr>
<td>1252</td>
<td>Commercial Hinges</td>
<td>22</td>
</tr>
<tr>
<td>1253</td>
<td>Commercial Hinges</td>
<td>33</td>
</tr>
<tr>
<td>1255</td>
<td>Commercial Hinges</td>
<td>22</td>
</tr>
<tr>
<td>1256</td>
<td>Commercial Hinges</td>
<td>22</td>
</tr>
<tr>
<td>1257</td>
<td>Commercial Hinges</td>
<td>23</td>
</tr>
<tr>
<td>1258</td>
<td>Commercial Hinges</td>
<td>23</td>
</tr>
<tr>
<td>1259</td>
<td>Commercial Hinges</td>
<td>23</td>
</tr>
<tr>
<td>1260</td>
<td>1261</td>
<td>Commercial Hinges</td>
</tr>
<tr>
<td>1267</td>
<td>Commercial Hinges</td>
<td>23</td>
</tr>
<tr>
<td>1277</td>
<td>Commercial Hinges</td>
<td>34</td>
</tr>
<tr>
<td>1278</td>
<td>Commercial Hinges</td>
<td>34</td>
</tr>
<tr>
<td>1279</td>
<td>Commercial Hinges</td>
<td>15</td>
</tr>
<tr>
<td>1303</td>
<td>Commercial Hinges</td>
<td>30</td>
</tr>
<tr>
<td>1412</td>
<td>Trim &amp; Auxiliary</td>
<td>86</td>
</tr>
<tr>
<td>1413</td>
<td>Trim &amp; Auxiliary</td>
<td>87</td>
</tr>
<tr>
<td>1414</td>
<td>Trim &amp; Auxiliary</td>
<td>87</td>
</tr>
<tr>
<td>1415</td>
<td>Trim &amp; Auxiliary</td>
<td>87</td>
</tr>
<tr>
<td>1416</td>
<td>Trim &amp; Auxiliary</td>
<td>87</td>
</tr>
<tr>
<td>1418</td>
<td>Trim &amp; Auxiliary</td>
<td>88</td>
</tr>
<tr>
<td>1419</td>
<td>Trim &amp; Auxiliary</td>
<td>88</td>
</tr>
<tr>
<td>1439</td>
<td>Trim &amp; Auxiliary</td>
<td>88</td>
</tr>
<tr>
<td>1442</td>
<td>Trim &amp; Auxiliary</td>
<td>68</td>
</tr>
<tr>
<td>1443</td>
<td>Trim &amp; Auxiliary</td>
<td>68</td>
</tr>
<tr>
<td>1445</td>
<td>Trim &amp; Auxiliary</td>
<td>88</td>
</tr>
<tr>
<td>1446</td>
<td>Trim &amp; Auxiliary</td>
<td>89</td>
</tr>
<tr>
<td>1447</td>
<td>Trim &amp; Auxiliary</td>
<td>89</td>
</tr>
<tr>
<td>1448</td>
<td>Trim &amp; Auxiliary</td>
<td>89</td>
</tr>
<tr>
<td>1449</td>
<td>Trim &amp; Auxiliary</td>
<td>89</td>
</tr>
<tr>
<td>1541</td>
<td>Residential</td>
<td>3</td>
</tr>
<tr>
<td>1543</td>
<td>Residential</td>
<td>3</td>
</tr>
<tr>
<td>1577</td>
<td>Commercial Hinges</td>
<td>34</td>
</tr>
<tr>
<td>1578</td>
<td>Commercial Hinges</td>
<td>34</td>
</tr>
<tr>
<td>1700</td>
<td>Residential</td>
<td>8</td>
</tr>
<tr>
<td>1710</td>
<td>Residential</td>
<td>8</td>
</tr>
<tr>
<td>1710</td>
<td>Trim &amp; Auxiliary</td>
<td>88</td>
</tr>
<tr>
<td>1712</td>
<td>Commercial Hinges</td>
<td>46</td>
</tr>
<tr>
<td>1713</td>
<td>Commercial Hinges</td>
<td>46</td>
</tr>
<tr>
<td>1716</td>
<td>Commercial Hinges</td>
<td>46</td>
</tr>
<tr>
<td>1717</td>
<td>Commercial Hinges</td>
<td>46</td>
</tr>
<tr>
<td>1720</td>
<td>Residential</td>
<td>8</td>
</tr>
<tr>
<td>1722</td>
<td>Commercial Hinges</td>
<td>46</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------</td>
<td>------</td>
</tr>
<tr>
<td>1723</td>
<td>Commercial Hinges</td>
<td>46</td>
</tr>
<tr>
<td>1728</td>
<td>Commercial Hinges</td>
<td>46</td>
</tr>
<tr>
<td>1729</td>
<td>Commercial Hinges</td>
<td>46</td>
</tr>
<tr>
<td>1734</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>1741</td>
<td>Residential</td>
<td>4</td>
</tr>
<tr>
<td>1741</td>
<td>Sliding Door Hardware</td>
<td>27, 59</td>
</tr>
<tr>
<td>1744</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>1750</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>1754</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>1755</td>
<td>Trim &amp; Auxiliary</td>
<td>83</td>
</tr>
<tr>
<td>1756</td>
<td>Trim &amp; Auxiliary</td>
<td>84</td>
</tr>
<tr>
<td>1758</td>
<td>Trim &amp; Auxiliary</td>
<td>84</td>
</tr>
<tr>
<td>1759</td>
<td>Trim &amp; Auxiliary</td>
<td>84</td>
</tr>
<tr>
<td>1760</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>1764</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>1765</td>
<td>Trim &amp; Auxiliary</td>
<td>84</td>
</tr>
<tr>
<td>1766</td>
<td>Trim &amp; Auxiliary</td>
<td>84</td>
</tr>
<tr>
<td>1795</td>
<td>Trim &amp; Auxiliary</td>
<td>90</td>
</tr>
<tr>
<td>1797</td>
<td>Trim &amp; Auxiliary</td>
<td>90</td>
</tr>
<tr>
<td>1798</td>
<td>Trim &amp; Auxiliary</td>
<td>91</td>
</tr>
<tr>
<td>1799</td>
<td>Trim &amp; Auxiliary</td>
<td>91</td>
</tr>
<tr>
<td>1801</td>
<td>Trim &amp; Auxiliary</td>
<td>91</td>
</tr>
<tr>
<td>1816</td>
<td>Residential</td>
<td>5</td>
</tr>
<tr>
<td>1817</td>
<td>Residential</td>
<td>5</td>
</tr>
<tr>
<td>1818</td>
<td>Residential</td>
<td>5</td>
</tr>
<tr>
<td>1819</td>
<td>Residential</td>
<td>5</td>
</tr>
<tr>
<td>1848</td>
<td>Residential</td>
<td>5</td>
</tr>
<tr>
<td>1850</td>
<td>Commercial Hinges</td>
<td>30</td>
</tr>
<tr>
<td>1850-LP</td>
<td>Commercial Hinges</td>
<td>30</td>
</tr>
<tr>
<td>2300 Series</td>
<td>Locks</td>
<td>3</td>
</tr>
<tr>
<td>2500 Series</td>
<td>Locks</td>
<td>9</td>
</tr>
<tr>
<td>2610</td>
<td>Trim &amp; Auxiliary</td>
<td>71</td>
</tr>
<tr>
<td>2610</td>
<td>Sliding Door Hardware</td>
<td>5, 7, 40, 59</td>
</tr>
<tr>
<td>2620</td>
<td>Trim &amp; Auxiliary</td>
<td>72</td>
</tr>
<tr>
<td>2630</td>
<td>Trim &amp; Auxiliary</td>
<td>72</td>
</tr>
<tr>
<td>2630</td>
<td>Sliding Door Hardware</td>
<td>40, 59</td>
</tr>
<tr>
<td>2640</td>
<td>Trim &amp; Auxiliary</td>
<td>72</td>
</tr>
<tr>
<td>2901</td>
<td>Electrified Solutions</td>
<td>49</td>
</tr>
<tr>
<td>2901</td>
<td>Exit Devices</td>
<td>20, 39</td>
</tr>
<tr>
<td>2902</td>
<td>Electrified Solutions</td>
<td>48</td>
</tr>
<tr>
<td>2902</td>
<td>Exit Devices</td>
<td>20, 39</td>
</tr>
<tr>
<td>2903</td>
<td>Electrified Solutions</td>
<td>47</td>
</tr>
<tr>
<td>2903</td>
<td>Exit Devices</td>
<td>20, 39</td>
</tr>
<tr>
<td>2903</td>
<td>Locks</td>
<td>31, 68</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2904</td>
<td>Electrified Solutions</td>
<td>46</td>
</tr>
<tr>
<td>2904</td>
<td>Exit Devices</td>
<td>20, 39</td>
</tr>
<tr>
<td>2908</td>
<td>Electrified Solutions</td>
<td>43</td>
</tr>
<tr>
<td>2908</td>
<td>Exit Devices</td>
<td>20, 39</td>
</tr>
<tr>
<td>2908</td>
<td>Locks</td>
<td>31, 68</td>
</tr>
<tr>
<td>2909</td>
<td>Electrified Solutions</td>
<td>42</td>
</tr>
<tr>
<td>2909</td>
<td>Exit Devices</td>
<td>20, 39</td>
</tr>
<tr>
<td>2909</td>
<td>Locks</td>
<td>31, 68</td>
</tr>
<tr>
<td>2915</td>
<td>Electrified Solutions</td>
<td>25</td>
</tr>
<tr>
<td>2916</td>
<td>Electrified Solutions</td>
<td>26</td>
</tr>
<tr>
<td>2916P</td>
<td>Electrified Solutions</td>
<td>26</td>
</tr>
<tr>
<td>2925</td>
<td>Electrified Solutions</td>
<td>6</td>
</tr>
<tr>
<td>2928</td>
<td>Electrified Solutions</td>
<td>7</td>
</tr>
<tr>
<td>2930</td>
<td>Electrified Solutions</td>
<td>8</td>
</tr>
<tr>
<td>2941</td>
<td>Electrified Solutions</td>
<td>13</td>
</tr>
<tr>
<td>2942</td>
<td>Electrified Solutions</td>
<td>14</td>
</tr>
<tr>
<td>2951</td>
<td>Electrified Solutions</td>
<td>16</td>
</tr>
<tr>
<td>2952</td>
<td>Electrified Solutions</td>
<td>16</td>
</tr>
<tr>
<td>2953</td>
<td>Electrified Solutions</td>
<td>16</td>
</tr>
<tr>
<td>2954</td>
<td>Electrified Solutions</td>
<td>16</td>
</tr>
<tr>
<td>2958</td>
<td>Electrified Solutions</td>
<td>11</td>
</tr>
<tr>
<td>2958T</td>
<td>Electrified Solutions</td>
<td>11</td>
</tr>
<tr>
<td>2961</td>
<td>Electrified Solutions</td>
<td>20</td>
</tr>
<tr>
<td>2965</td>
<td>Electrified Solutions</td>
<td>21</td>
</tr>
<tr>
<td>2972-M</td>
<td>Electrified Solutions</td>
<td>30</td>
</tr>
<tr>
<td>2972-T</td>
<td>Electrified Solutions</td>
<td>30</td>
</tr>
<tr>
<td>2973</td>
<td>Electrified Solutions</td>
<td>31</td>
</tr>
<tr>
<td>2977</td>
<td>Electrified Solutions</td>
<td>33</td>
</tr>
<tr>
<td>2978</td>
<td>Electrified Solutions</td>
<td>24, 34</td>
</tr>
<tr>
<td>3100 Series</td>
<td>Locks</td>
<td>17</td>
</tr>
<tr>
<td>3200 Series</td>
<td>Locks</td>
<td>21</td>
</tr>
<tr>
<td>3400 Series</td>
<td>Locks</td>
<td>25</td>
</tr>
<tr>
<td>3500 Series</td>
<td>Locks</td>
<td>35</td>
</tr>
<tr>
<td>3600 Series</td>
<td>Locks</td>
<td>43</td>
</tr>
<tr>
<td>3700 Series</td>
<td>Locks</td>
<td>49</td>
</tr>
<tr>
<td>3800 Series</td>
<td>Locks</td>
<td>55</td>
</tr>
<tr>
<td>3835</td>
<td>Sliding Door Hardware</td>
<td>31, 33, 35, 37, 41, 63</td>
</tr>
<tr>
<td>3901</td>
<td>Exit Devices</td>
<td>63</td>
</tr>
<tr>
<td>3901</td>
<td>Locks</td>
<td>75, 78-79, 81-82</td>
</tr>
<tr>
<td>3902</td>
<td>Electrified Solutions</td>
<td>24</td>
</tr>
<tr>
<td>3902</td>
<td>Locks</td>
<td>69-72, 76, 78, 80-82</td>
</tr>
<tr>
<td>3903</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>3904</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3905</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3906</td>
<td>Locks</td>
<td>81</td>
</tr>
<tr>
<td>3907</td>
<td>Locks</td>
<td>81-82</td>
</tr>
<tr>
<td>3908</td>
<td>Locks</td>
<td>81-82</td>
</tr>
<tr>
<td>3909</td>
<td>Locks</td>
<td>82</td>
</tr>
<tr>
<td>3911</td>
<td>Locks</td>
<td>15, 33</td>
</tr>
<tr>
<td>3912</td>
<td>Locks</td>
<td>42</td>
</tr>
<tr>
<td>3914</td>
<td>Locks</td>
<td>48</td>
</tr>
<tr>
<td>3915</td>
<td>Locks</td>
<td>48</td>
</tr>
<tr>
<td>3916</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3917</td>
<td>Locks</td>
<td>14, 42</td>
</tr>
<tr>
<td>3919</td>
<td>Locks</td>
<td>79</td>
</tr>
<tr>
<td>3920</td>
<td>Locks</td>
<td>53</td>
</tr>
<tr>
<td>3921</td>
<td>Locks</td>
<td>53</td>
</tr>
<tr>
<td>3922</td>
<td>Locks</td>
<td>14, 41</td>
</tr>
<tr>
<td>3923</td>
<td>Locks</td>
<td>14, 41</td>
</tr>
<tr>
<td>3924</td>
<td>Locks</td>
<td>14, 41</td>
</tr>
<tr>
<td>3925</td>
<td>Locks</td>
<td>14, 41</td>
</tr>
<tr>
<td>3926</td>
<td>Locks</td>
<td>14, 41</td>
</tr>
<tr>
<td>3927</td>
<td>Locks</td>
<td>14, 41</td>
</tr>
<tr>
<td>3929</td>
<td>Locks</td>
<td>20, 24</td>
</tr>
<tr>
<td>3930</td>
<td>Locks</td>
<td>20, 24, 53</td>
</tr>
<tr>
<td>3932</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3933</td>
<td>Locks</td>
<td>7, 15, 33, 42, 48, 53</td>
</tr>
<tr>
<td>3934</td>
<td>Locks</td>
<td>15, 33, 42, 48, 53</td>
</tr>
<tr>
<td>3935</td>
<td>Locks</td>
<td>7, 15, 33, 42, 48</td>
</tr>
<tr>
<td>3936</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3937</td>
<td>Locks</td>
<td>14, 42</td>
</tr>
<tr>
<td>3938</td>
<td>Locks</td>
<td>48</td>
</tr>
<tr>
<td>3939</td>
<td>Locks</td>
<td>48</td>
</tr>
<tr>
<td>3940</td>
<td>Locks</td>
<td>48</td>
</tr>
<tr>
<td>3941</td>
<td>Locks</td>
<td>20, 24</td>
</tr>
<tr>
<td>3942</td>
<td>Locks</td>
<td>20, 24</td>
</tr>
<tr>
<td>3943</td>
<td>Locks</td>
<td>24</td>
</tr>
<tr>
<td>3944</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3945</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3946</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3947</td>
<td>Locks</td>
<td>14, 41, 53</td>
</tr>
<tr>
<td>3948</td>
<td>Locks</td>
<td>14, 41, 53</td>
</tr>
<tr>
<td>3949</td>
<td>Locks</td>
<td>14, 41, 53</td>
</tr>
<tr>
<td>3950</td>
<td>Locks</td>
<td>14, 41, 53</td>
</tr>
<tr>
<td>3951</td>
<td>Locks</td>
<td>48</td>
</tr>
<tr>
<td>3952</td>
<td>Locks</td>
<td>48</td>
</tr>
<tr>
<td>3953</td>
<td>Locks</td>
<td>48</td>
</tr>
<tr>
<td>3954</td>
<td>Locks</td>
<td>48</td>
</tr>
<tr>
<td>3955</td>
<td>Locks</td>
<td>74</td>
</tr>
<tr>
<td>3956</td>
<td>Locks</td>
<td>74, 79</td>
</tr>
<tr>
<td>3958</td>
<td>Locks</td>
<td>15, 33, 42, 48, 53</td>
</tr>
<tr>
<td>3959</td>
<td>Locks</td>
<td>7, 15, 42, 48, 53</td>
</tr>
<tr>
<td>3960 or 3906</td>
<td>Locks</td>
<td>75, 81</td>
</tr>
<tr>
<td>3961</td>
<td>Locks</td>
<td>74</td>
</tr>
<tr>
<td>3962</td>
<td>Locks</td>
<td>74, 79</td>
</tr>
<tr>
<td>3964</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3965</td>
<td>Locks</td>
<td>14, 41</td>
</tr>
<tr>
<td>3966</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3967</td>
<td>Locks</td>
<td>14, 41</td>
</tr>
<tr>
<td>3969</td>
<td>Locks</td>
<td>82</td>
</tr>
<tr>
<td>3971</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3972</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3973</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3974</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3975</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3976</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3977</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3978</td>
<td>Locks</td>
<td>76</td>
</tr>
<tr>
<td>3981-BLU or RED (Best A)</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>3981-C</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>3981-U</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>3982-BLU or RED (Best A)</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>3982-C or 3969 (Hager SFIC Only)</td>
<td>Locks</td>
<td>77, 82</td>
</tr>
<tr>
<td>3982-U or 3909 (Hager SFIC Only)</td>
<td>Locks</td>
<td>77, 82</td>
</tr>
<tr>
<td>3983</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>3984</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>3985</td>
<td>Locks</td>
<td>69</td>
</tr>
<tr>
<td>3986</td>
<td>Locks</td>
<td>69</td>
</tr>
<tr>
<td>3987</td>
<td>Locks</td>
<td>69</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------</td>
<td>------</td>
</tr>
<tr>
<td>3988</td>
<td>Locks</td>
<td>69</td>
</tr>
<tr>
<td>3989</td>
<td>Locks</td>
<td>69</td>
</tr>
<tr>
<td>3990</td>
<td>Locks</td>
<td>69</td>
</tr>
<tr>
<td>3991</td>
<td>Locks</td>
<td>70</td>
</tr>
<tr>
<td>3992</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3993</td>
<td>Locks</td>
<td>32</td>
</tr>
<tr>
<td>3994</td>
<td>Locks</td>
<td>41</td>
</tr>
<tr>
<td>3995</td>
<td>Locks</td>
<td>41</td>
</tr>
<tr>
<td>3996</td>
<td>Locks</td>
<td>41</td>
</tr>
<tr>
<td>3997</td>
<td>Locks</td>
<td>41</td>
</tr>
<tr>
<td>3999</td>
<td>Locks</td>
<td>71</td>
</tr>
<tr>
<td>4500 CLB</td>
<td>Exit Devices</td>
<td>14</td>
</tr>
<tr>
<td>4500 CLB/ CVR Electrified</td>
<td>Exit Devices</td>
<td>15</td>
</tr>
<tr>
<td>4500 CVR</td>
<td>Exit Devices</td>
<td>13</td>
</tr>
<tr>
<td>4500 Dummy</td>
<td>Exit Devices</td>
<td>18</td>
</tr>
<tr>
<td>4500 LBR</td>
<td>Exit Devices</td>
<td>11</td>
</tr>
<tr>
<td>4500 LBR/ SVR Electrified</td>
<td>Exit Devices</td>
<td>12</td>
</tr>
<tr>
<td>4500 Mortise</td>
<td>Exit Devices</td>
<td>16</td>
</tr>
<tr>
<td>4500 Mortise Electrified</td>
<td>Exit Devices</td>
<td>17</td>
</tr>
<tr>
<td>4500 RIM</td>
<td>Exit Devices</td>
<td>8</td>
</tr>
<tr>
<td>4500 RIM Electrified</td>
<td>Exit Devices</td>
<td>9</td>
</tr>
<tr>
<td>4500 Series</td>
<td>Exit Devices</td>
<td>3</td>
</tr>
<tr>
<td>4500 Series - Electric Modifications</td>
<td>Exit Devices</td>
<td>20</td>
</tr>
<tr>
<td>4500 SVR</td>
<td>Exit Devices</td>
<td>10</td>
</tr>
<tr>
<td>4501</td>
<td>Electrified Solutions</td>
<td>9</td>
</tr>
<tr>
<td>4600 RIM</td>
<td>Exit Devices</td>
<td>36</td>
</tr>
<tr>
<td>4600 RIM Electrified</td>
<td>Exit Devices</td>
<td>37</td>
</tr>
<tr>
<td>4600 Series</td>
<td>Exit Devices</td>
<td>18</td>
</tr>
<tr>
<td>4600 Series - Electric Modifications</td>
<td>Exit Devices</td>
<td>19</td>
</tr>
<tr>
<td>4700 RIM</td>
<td>Exit Devices</td>
<td>48</td>
</tr>
<tr>
<td>4700 Series</td>
<td>Exit Devices</td>
<td>43</td>
</tr>
<tr>
<td>4700 SVR</td>
<td>Exit Devices</td>
<td>49</td>
</tr>
<tr>
<td>4801</td>
<td>Electrified Solutions</td>
<td>35</td>
</tr>
<tr>
<td>4900 Series</td>
<td>Exit Devices</td>
<td>59</td>
</tr>
<tr>
<td>4900T</td>
<td>Exit Devices</td>
<td>61</td>
</tr>
<tr>
<td>4900TF</td>
<td>Exit Devices</td>
<td>61</td>
</tr>
<tr>
<td>4900U</td>
<td>Exit Devices</td>
<td>62</td>
</tr>
<tr>
<td>4900UF</td>
<td>Exit Devices</td>
<td>62</td>
</tr>
<tr>
<td>4902</td>
<td>Exit Devices</td>
<td>63</td>
</tr>
<tr>
<td>4902F</td>
<td>Exit Devices</td>
<td>63</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4904</td>
<td>Exit Devices</td>
<td>64</td>
</tr>
<tr>
<td>4904F</td>
<td>Exit Devices</td>
<td>64</td>
</tr>
<tr>
<td>4905</td>
<td>Exit Devices</td>
<td>64</td>
</tr>
<tr>
<td>4907</td>
<td>Exit Devices</td>
<td>63</td>
</tr>
<tr>
<td>4910</td>
<td>Exit Devices</td>
<td>55</td>
</tr>
<tr>
<td>4911</td>
<td>Exit Devices</td>
<td>55</td>
</tr>
<tr>
<td>4912</td>
<td>Exit Devices</td>
<td>63</td>
</tr>
<tr>
<td>4913</td>
<td>Exit Devices</td>
<td>55</td>
</tr>
<tr>
<td>4914</td>
<td>Exit Devices</td>
<td>55</td>
</tr>
<tr>
<td>4915</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>4916</td>
<td>Exit Devices</td>
<td>63</td>
</tr>
<tr>
<td>4917</td>
<td>Exit Devices</td>
<td>56</td>
</tr>
<tr>
<td>4917F</td>
<td>Exit Devices</td>
<td>56</td>
</tr>
<tr>
<td>4918</td>
<td>Exit Devices</td>
<td>56</td>
</tr>
<tr>
<td>4919</td>
<td>Exit Devices</td>
<td>56</td>
</tr>
<tr>
<td>4920</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>4920F</td>
<td>Exit Devices</td>
<td>42</td>
</tr>
<tr>
<td>4921</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>4923</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>4923F</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>4924</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>4924F</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>4925R</td>
<td>Exit Devices</td>
<td>42</td>
</tr>
<tr>
<td>4926</td>
<td>Exit Devices</td>
<td>28</td>
</tr>
<tr>
<td>4927</td>
<td>Exit Devices</td>
<td>28</td>
</tr>
<tr>
<td>4928</td>
<td>Exit Devices</td>
<td>28</td>
</tr>
<tr>
<td>4929</td>
<td>Exit Devices</td>
<td>28</td>
</tr>
<tr>
<td>4929C</td>
<td>Exit Devices</td>
<td>28</td>
</tr>
<tr>
<td>4930R</td>
<td>Exit Devices</td>
<td>28</td>
</tr>
<tr>
<td>4930S</td>
<td>Exit Devices</td>
<td>28</td>
</tr>
<tr>
<td>4931</td>
<td>Exit Devices</td>
<td>56</td>
</tr>
<tr>
<td>4931R</td>
<td>Exit Devices</td>
<td>56</td>
</tr>
<tr>
<td>4931S</td>
<td>Exit Devices</td>
<td>56</td>
</tr>
<tr>
<td>4932</td>
<td>Exit Devices</td>
<td>29</td>
</tr>
<tr>
<td>4932R</td>
<td>Exit Devices</td>
<td>29</td>
</tr>
<tr>
<td>4932S</td>
<td>Exit Devices</td>
<td>29</td>
</tr>
<tr>
<td>4933</td>
<td>Exit Devices</td>
<td>29</td>
</tr>
<tr>
<td>4933R</td>
<td>Exit Devices</td>
<td>56</td>
</tr>
<tr>
<td>4933S</td>
<td>Exit Devices</td>
<td>56</td>
</tr>
<tr>
<td>4934</td>
<td>Exit Devices</td>
<td>57</td>
</tr>
<tr>
<td>4934F</td>
<td>Exit Devices</td>
<td>57</td>
</tr>
<tr>
<td>4936</td>
<td>Exit Devices</td>
<td>29</td>
</tr>
<tr>
<td>4936F</td>
<td>Exit Devices</td>
<td>29</td>
</tr>
<tr>
<td>4937</td>
<td>Exit Devices</td>
<td>29</td>
</tr>
<tr>
<td>4940</td>
<td>Exit Devices</td>
<td>19</td>
</tr>
<tr>
<td>4941</td>
<td>Exit Devices</td>
<td>38</td>
</tr>
<tr>
<td>4945</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>4945F</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>4947</td>
<td>Exit Devices</td>
<td>27</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------</td>
<td>-------</td>
</tr>
<tr>
<td>4950</td>
<td>Exit Devices</td>
<td>42</td>
</tr>
<tr>
<td>4951</td>
<td>Exit Devices</td>
<td>42</td>
</tr>
<tr>
<td>4952</td>
<td>Exit Devices</td>
<td>42</td>
</tr>
<tr>
<td>4953</td>
<td>Exit Devices</td>
<td>63</td>
</tr>
<tr>
<td>4960R</td>
<td>Exit Devices</td>
<td>42</td>
</tr>
<tr>
<td>5100 Series</td>
<td>Door Controls</td>
<td>5</td>
</tr>
<tr>
<td>5101</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5102</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5103</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>5104</td>
<td>Door Controls</td>
<td>11</td>
</tr>
<tr>
<td>5106</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>5107</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>5108</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>5109</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5110</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5111</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5112</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5113</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5114</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5115</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5125</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>5200 Series</td>
<td>Door Controls</td>
<td>13</td>
</tr>
<tr>
<td>5201</td>
<td>Door Controls</td>
<td>18</td>
</tr>
<tr>
<td>5202</td>
<td>Door Controls</td>
<td>18</td>
</tr>
<tr>
<td>5203</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>5204</td>
<td>Door Controls</td>
<td>19</td>
</tr>
<tr>
<td>5207</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>5300 Series</td>
<td>Door Controls</td>
<td>21</td>
</tr>
<tr>
<td>5301</td>
<td>Door Controls</td>
<td>26</td>
</tr>
<tr>
<td>5302</td>
<td>Door Controls</td>
<td>26</td>
</tr>
<tr>
<td>5303</td>
<td>Door Controls</td>
<td>25</td>
</tr>
<tr>
<td>5304</td>
<td>Door Controls</td>
<td>27</td>
</tr>
<tr>
<td>5307</td>
<td>Door Controls</td>
<td>25</td>
</tr>
<tr>
<td>5400 Series</td>
<td>Door Controls</td>
<td>29</td>
</tr>
<tr>
<td>5401</td>
<td>Door Controls</td>
<td>33</td>
</tr>
<tr>
<td>5403</td>
<td>Door Controls</td>
<td>33</td>
</tr>
<tr>
<td>5404</td>
<td>Door Controls</td>
<td>33</td>
</tr>
<tr>
<td>5900</td>
<td>Door Controls</td>
<td>18, 26, 33</td>
</tr>
<tr>
<td>5901</td>
<td>Door Controls</td>
<td>26, 33</td>
</tr>
<tr>
<td>5902</td>
<td>Door Controls</td>
<td>19, 27, 33</td>
</tr>
<tr>
<td>5903</td>
<td>Door Controls</td>
<td>19, 27, 33</td>
</tr>
<tr>
<td>5904</td>
<td>Door Controls</td>
<td>19, 27, 33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5905</td>
<td>Door Controls</td>
<td>19, 27, 33</td>
</tr>
<tr>
<td>5906</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>5907</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>5908</td>
<td>Door Controls</td>
<td>18, 26</td>
</tr>
<tr>
<td>5909</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5911</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>5912</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>5913</td>
<td>Door Controls</td>
<td>18, 26, 33</td>
</tr>
<tr>
<td>5914</td>
<td>Door Controls</td>
<td>18, 26</td>
</tr>
<tr>
<td>5915</td>
<td>Door Controls</td>
<td>26</td>
</tr>
<tr>
<td>5916</td>
<td>Door Controls</td>
<td>26</td>
</tr>
<tr>
<td>5917</td>
<td>Door Controls</td>
<td>27</td>
</tr>
<tr>
<td>5918</td>
<td>Door Controls</td>
<td>18</td>
</tr>
<tr>
<td>5919</td>
<td>Door Controls</td>
<td>18</td>
</tr>
<tr>
<td>5920</td>
<td>Door Controls</td>
<td>18</td>
</tr>
<tr>
<td>5921</td>
<td>Door Controls</td>
<td>18</td>
</tr>
<tr>
<td>5922</td>
<td>Door Controls</td>
<td>18</td>
</tr>
<tr>
<td>5923</td>
<td>Door Controls</td>
<td>18</td>
</tr>
<tr>
<td>5924</td>
<td>Door Controls</td>
<td>19</td>
</tr>
<tr>
<td>5935</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>5936</td>
<td>Door Controls</td>
<td>19, 26</td>
</tr>
<tr>
<td>5940</td>
<td>Door Controls</td>
<td>11</td>
</tr>
<tr>
<td>5941</td>
<td>Door Controls</td>
<td>11</td>
</tr>
<tr>
<td>5942</td>
<td>Door Controls</td>
<td>11</td>
</tr>
<tr>
<td>5943</td>
<td>Door Controls</td>
<td>11</td>
</tr>
<tr>
<td>5946</td>
<td>Door Controls</td>
<td>11</td>
</tr>
<tr>
<td>5950</td>
<td>Door Controls</td>
<td>10, 19, 26</td>
</tr>
<tr>
<td>5954</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>5955</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>5956</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>5957</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>5961</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>5962</td>
<td>Door Controls</td>
<td>10</td>
</tr>
<tr>
<td>6000 Series</td>
<td>Door Controls</td>
<td>46</td>
</tr>
<tr>
<td>6601</td>
<td>Trim &amp; Auxiliary</td>
<td>91</td>
</tr>
<tr>
<td>7000 Series</td>
<td>Door Controls</td>
<td>47</td>
</tr>
<tr>
<td>7741</td>
<td>Residential</td>
<td>4</td>
</tr>
<tr>
<td>8218</td>
<td>Electrified Solutions</td>
<td>69</td>
</tr>
<tr>
<td>8219</td>
<td>Electrified Solutions</td>
<td>69</td>
</tr>
<tr>
<td>8221</td>
<td>Electrified Solutions</td>
<td>69</td>
</tr>
<tr>
<td>8418</td>
<td>Electrified Solutions</td>
<td>60</td>
</tr>
<tr>
<td>8419</td>
<td>Electrified Solutions</td>
<td>60</td>
</tr>
<tr>
<td>8420</td>
<td>Electrified Solutions</td>
<td>60</td>
</tr>
<tr>
<td>8422</td>
<td>Electrified Solutions</td>
<td>60</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>8423</td>
<td>Electrified Solutions</td>
<td>60</td>
</tr>
<tr>
<td>8641</td>
<td>Residential</td>
<td>6</td>
</tr>
<tr>
<td>8741</td>
<td>Residential</td>
<td>6</td>
</tr>
<tr>
<td>8744</td>
<td>Residential</td>
<td>5</td>
</tr>
<tr>
<td>8746</td>
<td>Residential</td>
<td>5</td>
</tr>
<tr>
<td>9101</td>
<td>Sliding Door Hardware</td>
<td>12, 13, 31</td>
</tr>
<tr>
<td>9102</td>
<td>Sliding Door Hardware</td>
<td>13, 31</td>
</tr>
<tr>
<td>9105</td>
<td>Sliding Door Hardware</td>
<td>13, 31</td>
</tr>
<tr>
<td>9109</td>
<td>Sliding Door Hardware</td>
<td>13, 31</td>
</tr>
<tr>
<td>9110</td>
<td>Sliding Door Hardware</td>
<td>12, 30</td>
</tr>
<tr>
<td>9111</td>
<td>Sliding Door Hardware</td>
<td>59</td>
</tr>
<tr>
<td>9113</td>
<td>Sliding Door Hardware</td>
<td>60</td>
</tr>
<tr>
<td>9114</td>
<td>Sliding Door Hardware</td>
<td>60</td>
</tr>
<tr>
<td>9115</td>
<td>Sliding Door Hardware</td>
<td>13, 31, 46</td>
</tr>
<tr>
<td>9121</td>
<td>Sliding Door Hardware</td>
<td>60</td>
</tr>
<tr>
<td>9122</td>
<td>Sliding Door Hardware</td>
<td>60</td>
</tr>
<tr>
<td>9129</td>
<td>Sliding Door Hardware</td>
<td>13, 31</td>
</tr>
<tr>
<td>9130</td>
<td>Sliding Door Hardware</td>
<td>12, 30</td>
</tr>
<tr>
<td>9169</td>
<td>Sliding Door Hardware</td>
<td>60</td>
</tr>
<tr>
<td>9200</td>
<td>Sliding Door Hardware</td>
<td>60</td>
</tr>
<tr>
<td>9201</td>
<td>Sliding Door Hardware</td>
<td>60</td>
</tr>
<tr>
<td>9202</td>
<td>Sliding Door Hardware</td>
<td>60</td>
</tr>
<tr>
<td>9203</td>
<td>Sliding Door Hardware</td>
<td>60</td>
</tr>
<tr>
<td>9220</td>
<td>Sliding Door Hardware</td>
<td>23, 60</td>
</tr>
<tr>
<td>9262</td>
<td>Sliding Door Hardware</td>
<td>61</td>
</tr>
<tr>
<td>9264</td>
<td>Sliding Door Hardware</td>
<td>61</td>
</tr>
<tr>
<td>9351</td>
<td>Sliding Door Hardware</td>
<td>5, 7, 61</td>
</tr>
<tr>
<td>9353</td>
<td>Sliding Door Hardware</td>
<td>5, 61</td>
</tr>
<tr>
<td>9354</td>
<td>Sliding Door Hardware</td>
<td>61</td>
</tr>
<tr>
<td>9400</td>
<td>Sliding Door Hardware</td>
<td>5, 48</td>
</tr>
<tr>
<td>9401</td>
<td>Sliding Door Hardware</td>
<td>5, 7</td>
</tr>
<tr>
<td>9432</td>
<td>Sliding Door Hardware</td>
<td>49</td>
</tr>
<tr>
<td>9433</td>
<td>Sliding Door Hardware</td>
<td>49</td>
</tr>
<tr>
<td>9435</td>
<td>Sliding Door Hardware</td>
<td>50</td>
</tr>
<tr>
<td>9436</td>
<td>Sliding Door Hardware</td>
<td>50</td>
</tr>
<tr>
<td>9437</td>
<td>Sliding Door Hardware</td>
<td>51</td>
</tr>
<tr>
<td>9438</td>
<td>Sliding Door Hardware</td>
<td>51</td>
</tr>
<tr>
<td>9450</td>
<td>Residential</td>
<td>11</td>
</tr>
<tr>
<td>9450</td>
<td>Sliding Door Hardware</td>
<td>54, 55</td>
</tr>
<tr>
<td>9452</td>
<td>Residential</td>
<td>11</td>
</tr>
<tr>
<td>9452</td>
<td>Sliding Door Hardware</td>
<td>11</td>
</tr>
<tr>
<td>9453</td>
<td>Residential</td>
<td>11</td>
</tr>
<tr>
<td>9453</td>
<td>Sliding Door Hardware</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9454</td>
<td>Residential</td>
<td>12</td>
</tr>
<tr>
<td>9454</td>
<td>Sliding Door Hardware</td>
<td>56</td>
</tr>
<tr>
<td>9455</td>
<td>Residential</td>
<td>12</td>
</tr>
<tr>
<td>9455</td>
<td>Sliding Door Hardware</td>
<td>56</td>
</tr>
<tr>
<td>9462</td>
<td>Sliding Door Hardware</td>
<td>52</td>
</tr>
<tr>
<td>9514</td>
<td>Sliding Door Hardware</td>
<td>4</td>
</tr>
<tr>
<td>9540</td>
<td>Sliding Door Hardware</td>
<td>7</td>
</tr>
<tr>
<td>9544</td>
<td>Sliding Door Hardware</td>
<td>7</td>
</tr>
<tr>
<td>9558</td>
<td>Trim &amp; Auxiliary</td>
<td>72</td>
</tr>
<tr>
<td>9558</td>
<td>Sliding Door Hardware</td>
<td>23, 61</td>
</tr>
<tr>
<td>9559</td>
<td>Sliding Door Hardware</td>
<td>23, 25, 27, 61</td>
</tr>
<tr>
<td>9566</td>
<td>Trim &amp; Auxiliary</td>
<td>72</td>
</tr>
<tr>
<td>9567</td>
<td>Trim &amp; Auxiliary</td>
<td>73</td>
</tr>
<tr>
<td>9569</td>
<td>Sliding Door Hardware</td>
<td>23</td>
</tr>
<tr>
<td>9570</td>
<td>Sliding Door Hardware</td>
<td>22</td>
</tr>
<tr>
<td>9571</td>
<td>Sliding Door Hardware</td>
<td>23</td>
</tr>
<tr>
<td>9572</td>
<td>Sliding Door Hardware</td>
<td>23, 61</td>
</tr>
<tr>
<td>9573</td>
<td>Sliding Door Hardware</td>
<td>15</td>
</tr>
<tr>
<td>9574</td>
<td>Sliding Door Hardware</td>
<td>17</td>
</tr>
<tr>
<td>9575</td>
<td>Sliding Door Hardware</td>
<td>61</td>
</tr>
<tr>
<td>9583</td>
<td>Sliding Door Hardware</td>
<td>4</td>
</tr>
<tr>
<td>9601</td>
<td>Sliding Door Hardware</td>
<td>23, 33</td>
</tr>
<tr>
<td>9602</td>
<td>Sliding Door Hardware</td>
<td>11</td>
</tr>
<tr>
<td>9603</td>
<td>Sliding Door Hardware</td>
<td>9</td>
</tr>
<tr>
<td>9605</td>
<td>Sliding Door Hardware</td>
<td>9, 11, 33, 40, 61</td>
</tr>
<tr>
<td>9606</td>
<td>Sliding Door Hardware</td>
<td>9, 11, 33, 41, 61</td>
</tr>
<tr>
<td>9609</td>
<td>Sliding Door Hardware</td>
<td>9</td>
</tr>
<tr>
<td>9610</td>
<td>Sliding Door Hardware</td>
<td>8, 11, 62</td>
</tr>
<tr>
<td>9611</td>
<td>Sliding Door Hardware</td>
<td>14</td>
</tr>
<tr>
<td>9612</td>
<td>Sliding Door Hardware</td>
<td>14</td>
</tr>
<tr>
<td>9614</td>
<td>Sliding Door Hardware</td>
<td>6</td>
</tr>
<tr>
<td>9618</td>
<td>Sliding Door Hardware</td>
<td>23</td>
</tr>
<tr>
<td>9628</td>
<td>Sliding Door Hardware</td>
<td>38</td>
</tr>
<tr>
<td>9629</td>
<td>Sliding Door Hardware</td>
<td>38</td>
</tr>
<tr>
<td>9630</td>
<td>Sliding Door Hardware</td>
<td>38</td>
</tr>
<tr>
<td>9631</td>
<td>Sliding Door Hardware</td>
<td>38</td>
</tr>
<tr>
<td>9632</td>
<td>Sliding Door Hardware</td>
<td>33, 41</td>
</tr>
<tr>
<td>9633</td>
<td>Sliding Door Hardware</td>
<td>33, 41</td>
</tr>
<tr>
<td>9634</td>
<td>Sliding Door Hardware</td>
<td>62</td>
</tr>
<tr>
<td>9639</td>
<td>Sliding Door Hardware</td>
<td>62</td>
</tr>
<tr>
<td>9673</td>
<td>Sliding Door Hardware</td>
<td>8</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>9674</td>
<td>Sliding Door Hardware</td>
<td>8</td>
</tr>
<tr>
<td>9675</td>
<td>Sliding Door Hardware</td>
<td>10</td>
</tr>
<tr>
<td>9676</td>
<td>Sliding Door Hardware</td>
<td>10</td>
</tr>
<tr>
<td>9678</td>
<td>Sliding Door Hardware</td>
<td>32</td>
</tr>
<tr>
<td>9679</td>
<td>Sliding Door Hardware</td>
<td>9, 11</td>
</tr>
<tr>
<td>9680</td>
<td>Sliding Door Hardware</td>
<td>9, 11, 62</td>
</tr>
<tr>
<td>9683</td>
<td>Sliding Door Hardware</td>
<td>6</td>
</tr>
<tr>
<td>9703</td>
<td>Sliding Door Hardware</td>
<td>45</td>
</tr>
<tr>
<td>9704</td>
<td>Sliding Door Hardware</td>
<td>45</td>
</tr>
<tr>
<td>9705</td>
<td>Sliding Door Hardware</td>
<td>45</td>
</tr>
<tr>
<td>9709</td>
<td>Sliding Door Hardware</td>
<td>62</td>
</tr>
<tr>
<td>9710</td>
<td>Sliding Door Hardware</td>
<td>44</td>
</tr>
<tr>
<td>9711</td>
<td>Sliding Door Hardware</td>
<td>45</td>
</tr>
<tr>
<td>9742</td>
<td>Sliding Door Hardware</td>
<td>35</td>
</tr>
<tr>
<td>9801</td>
<td>Sliding Door Hardware</td>
<td>17, 27, 35</td>
</tr>
<tr>
<td>9803</td>
<td>Sliding Door Hardware</td>
<td>19</td>
</tr>
<tr>
<td>9809</td>
<td>Sliding Door Hardware</td>
<td>17</td>
</tr>
<tr>
<td>9810</td>
<td>Sliding Door Hardware</td>
<td>5</td>
</tr>
<tr>
<td>9814</td>
<td>Sliding Door Hardware</td>
<td>5</td>
</tr>
<tr>
<td>9815</td>
<td>Sliding Door Hardware</td>
<td>23, 25, 27, 46, 62</td>
</tr>
<tr>
<td>9820</td>
<td>Sliding Door Hardware</td>
<td>7</td>
</tr>
<tr>
<td>9821</td>
<td>Sliding Door Hardware</td>
<td>15, 25, 37</td>
</tr>
<tr>
<td>9824</td>
<td>Sliding Door Hardware</td>
<td>15</td>
</tr>
<tr>
<td>9825</td>
<td>Sliding Door Hardware</td>
<td>15, 25, 37</td>
</tr>
<tr>
<td>9827</td>
<td>Sliding Door Hardware</td>
<td>17, 19, 27, 35, 41, 46</td>
</tr>
<tr>
<td>9828</td>
<td>Sliding Door Hardware</td>
<td>25, 27</td>
</tr>
<tr>
<td>9841</td>
<td>Sliding Door Hardware</td>
<td>5, 7</td>
</tr>
<tr>
<td>9842</td>
<td>Sliding Door Hardware</td>
<td>7</td>
</tr>
<tr>
<td>9843</td>
<td>Sliding Door Hardware</td>
<td>7</td>
</tr>
<tr>
<td>9850</td>
<td>Sliding Door Hardware</td>
<td>39</td>
</tr>
<tr>
<td>9860</td>
<td>Sliding Door Hardware</td>
<td>24</td>
</tr>
<tr>
<td>9861</td>
<td>Sliding Door Hardware</td>
<td>24</td>
</tr>
<tr>
<td>9865</td>
<td>Trim &amp; Auxiliary</td>
<td>73, 62</td>
</tr>
<tr>
<td>9865</td>
<td>Sliding Door Hardware</td>
<td>5</td>
</tr>
<tr>
<td>9875</td>
<td>Sliding Door Hardware</td>
<td>16</td>
</tr>
<tr>
<td>9877</td>
<td>Sliding Door Hardware</td>
<td>62</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>AB852</td>
<td>Commercial Hinges</td>
<td>28</td>
</tr>
<tr>
<td>AB853</td>
<td>Commercial Hinges</td>
<td>31</td>
</tr>
<tr>
<td>AB920</td>
<td>Commercial Hinges</td>
<td>13</td>
</tr>
<tr>
<td>AB923</td>
<td>Commercial Hinges</td>
<td>13</td>
</tr>
<tr>
<td>AB930</td>
<td>Commercial Hinges</td>
<td>13</td>
</tr>
<tr>
<td>AB933</td>
<td>Commercial Hinges</td>
<td>13</td>
</tr>
<tr>
<td>AB7001</td>
<td>AB7002</td>
<td>35</td>
</tr>
<tr>
<td>AB7501</td>
<td>AB7502</td>
<td>35</td>
</tr>
<tr>
<td>AB7505</td>
<td>Commercial Hinges</td>
<td>38</td>
</tr>
<tr>
<td>AB7506</td>
<td>AB7508</td>
<td>38</td>
</tr>
<tr>
<td>AB7507</td>
<td>AB7509</td>
<td>38</td>
</tr>
<tr>
<td>AB7511</td>
<td>AB7512</td>
<td>35</td>
</tr>
<tr>
<td>AB7523</td>
<td>Commercial Hinges</td>
<td>35</td>
</tr>
<tr>
<td>AB7534</td>
<td>Commercial Hinges</td>
<td>35</td>
</tr>
<tr>
<td>AB8505</td>
<td>Commercial Hinges</td>
<td>38</td>
</tr>
<tr>
<td>AB8506</td>
<td>AB8508</td>
<td>38</td>
</tr>
<tr>
<td>AB8507</td>
<td>AB8509</td>
<td>38</td>
</tr>
<tr>
<td>BB1109</td>
<td>Commercial Hinges</td>
<td>27</td>
</tr>
<tr>
<td>BB1129</td>
<td>Commercial Hinges</td>
<td>27</td>
</tr>
<tr>
<td>BB1138</td>
<td>Commercial Hinges</td>
<td>27</td>
</tr>
<tr>
<td>BB1160</td>
<td>Commercial Hinges</td>
<td>39</td>
</tr>
<tr>
<td>BB1162</td>
<td>BB1166</td>
<td>39</td>
</tr>
<tr>
<td>BB1163</td>
<td>Commercial Hinges</td>
<td>32</td>
</tr>
<tr>
<td>BB1165</td>
<td>BB1167</td>
<td>39</td>
</tr>
<tr>
<td>BB1168</td>
<td>Commercial Hinges</td>
<td>9, 18, 21</td>
</tr>
<tr>
<td>BB1173</td>
<td>Commercial Hinges</td>
<td>33</td>
</tr>
<tr>
<td>BB1190</td>
<td>Commercial Hinges</td>
<td>39</td>
</tr>
<tr>
<td>BB1191</td>
<td>Commercial Hinges</td>
<td>9, 17, 21</td>
</tr>
<tr>
<td>BB1192</td>
<td>BB1196</td>
<td>39</td>
</tr>
<tr>
<td>BB1195</td>
<td>BB1197</td>
<td>39</td>
</tr>
<tr>
<td>BB1199</td>
<td>Commercial Hinges</td>
<td>9, 18, 21</td>
</tr>
<tr>
<td>BB1260</td>
<td>BB1261</td>
<td>36</td>
</tr>
<tr>
<td>BB1262</td>
<td>BB1263</td>
<td>36</td>
</tr>
<tr>
<td>BB1264</td>
<td>BB1265</td>
<td>37</td>
</tr>
<tr>
<td>BB1266</td>
<td>Commercial Hinges</td>
<td>37</td>
</tr>
<tr>
<td>BB1270</td>
<td>Commercial Hinges</td>
<td>37</td>
</tr>
<tr>
<td>BB1277</td>
<td>Commercial Hinges</td>
<td>34</td>
</tr>
<tr>
<td>BB1278</td>
<td>Commercial Hinges</td>
<td>34</td>
</tr>
<tr>
<td>BB1279</td>
<td>Commercial Hinges</td>
<td>9, 17, 21</td>
</tr>
<tr>
<td>BB1360</td>
<td>BB1361</td>
<td>36</td>
</tr>
<tr>
<td>BB1362</td>
<td>BB1363</td>
<td>37</td>
</tr>
<tr>
<td>BB1541</td>
<td>Residential</td>
<td>3</td>
</tr>
<tr>
<td>BB1543</td>
<td>Residential</td>
<td>3</td>
</tr>
<tr>
<td>BB1577</td>
<td>Commercial Hinges</td>
<td>34</td>
</tr>
<tr>
<td>BB1578</td>
<td>Commercial Hinges</td>
<td>34</td>
</tr>
<tr>
<td>BB1741</td>
<td>Residential</td>
<td>4</td>
</tr>
<tr>
<td>BB1816</td>
<td>Residential</td>
<td>5</td>
</tr>
<tr>
<td>BB1817</td>
<td>Residential</td>
<td>5</td>
</tr>
<tr>
<td>BB2098</td>
<td>Commercial Hinges</td>
<td>27</td>
</tr>
<tr>
<td>BB2108</td>
<td>Commercial Hinges</td>
<td>29</td>
</tr>
<tr>
<td>BB2109</td>
<td>Commercial Hinges</td>
<td>29</td>
</tr>
<tr>
<td>BB2110</td>
<td>Commercial Hinges</td>
<td>30</td>
</tr>
<tr>
<td>BB2112</td>
<td>Commercial Hinges</td>
<td>33</td>
</tr>
<tr>
<td>BB2113</td>
<td>Commercial Hinges</td>
<td>32</td>
</tr>
<tr>
<td>BB2168</td>
<td>Commercial Hinges</td>
<td>29</td>
</tr>
<tr>
<td>BB2169</td>
<td>Commercial Hinges</td>
<td>29</td>
</tr>
<tr>
<td>BB2171</td>
<td>Commercial Hinges</td>
<td>30</td>
</tr>
<tr>
<td>BL236W</td>
<td>Trim &amp; Auxiliary</td>
<td>43</td>
</tr>
<tr>
<td>BL236W</td>
<td>Trim &amp; Auxiliary</td>
<td>43</td>
</tr>
<tr>
<td>BL241F</td>
<td>Trim &amp; Auxiliary</td>
<td>49</td>
</tr>
<tr>
<td>BL243F</td>
<td>Trim &amp; Auxiliary</td>
<td>49</td>
</tr>
<tr>
<td>BL6209</td>
<td>Trim &amp; Auxiliary</td>
<td>85</td>
</tr>
<tr>
<td>BL6211</td>
<td>Trim &amp; Auxiliary</td>
<td>86</td>
</tr>
<tr>
<td>BL6212</td>
<td>Trim &amp; Auxiliary</td>
<td>86</td>
</tr>
<tr>
<td>BL6439</td>
<td>Trim &amp; Auxiliary</td>
<td>88</td>
</tr>
<tr>
<td>BL6610</td>
<td>Trim &amp; Auxiliary</td>
<td>91</td>
</tr>
<tr>
<td>BL6793</td>
<td>Trim &amp; Auxiliary</td>
<td>90</td>
</tr>
<tr>
<td>BL6794</td>
<td>Trim &amp; Auxiliary</td>
<td>90</td>
</tr>
<tr>
<td>CB1191</td>
<td>Commercial Hinges</td>
<td>16</td>
</tr>
<tr>
<td>E15</td>
<td>Commercial Hinges</td>
<td>19</td>
</tr>
<tr>
<td>E2</td>
<td>Commercial Hinges</td>
<td>19</td>
</tr>
<tr>
<td>E2/E15</td>
<td>Commercial Hinges</td>
<td>19</td>
</tr>
<tr>
<td>EC1100</td>
<td>EC1100NRP</td>
<td>24</td>
</tr>
<tr>
<td>EC2101</td>
<td>Commercial Hinges</td>
<td>24</td>
</tr>
<tr>
<td>EC2105</td>
<td>Commercial Hinges</td>
<td>25</td>
</tr>
<tr>
<td>ECBB1100</td>
<td>ECBB1100NRP</td>
<td>24</td>
</tr>
<tr>
<td>ECBB1101</td>
<td>ECBB1101NRP</td>
<td>24</td>
</tr>
<tr>
<td>ECBB1102</td>
<td>ECBB1102NRP</td>
<td>25</td>
</tr>
<tr>
<td>ECBB1103</td>
<td>ECBB1103NRP</td>
<td>25</td>
</tr>
<tr>
<td>ECRC1100</td>
<td>Commercial Hinges</td>
<td>24</td>
</tr>
<tr>
<td>ECRCBB1100</td>
<td>Commercial Hinges</td>
<td>24</td>
</tr>
<tr>
<td>EMN</td>
<td>Commercial Hinges</td>
<td>20</td>
</tr>
<tr>
<td>ETM</td>
<td>Commercial Hinges</td>
<td>20</td>
</tr>
<tr>
<td>ETW</td>
<td>Commercial Hinges</td>
<td>20</td>
</tr>
</tbody>
</table>
## INDEX

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHTAB750</td>
<td>Commercial Hinges</td>
<td>44</td>
</tr>
<tr>
<td>IHTAB850</td>
<td>Commercial Hinges</td>
<td>44</td>
</tr>
<tr>
<td>ITH8953</td>
<td>Commercial Hinges</td>
<td>44</td>
</tr>
<tr>
<td>P4E</td>
<td>Trim &amp; Auxiliary</td>
<td>6</td>
</tr>
<tr>
<td>P8N</td>
<td>Trim &amp; Auxiliary</td>
<td>8</td>
</tr>
<tr>
<td>RC1541</td>
<td>Residential</td>
<td>3</td>
</tr>
<tr>
<td>RC1542</td>
<td>Residential</td>
<td>3</td>
</tr>
<tr>
<td>RC1641</td>
<td>Residential</td>
<td>6</td>
</tr>
<tr>
<td>RC1734</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>RC1741</td>
<td>Residential</td>
<td>4</td>
</tr>
<tr>
<td>RC1744</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>RC1748</td>
<td>Residential</td>
<td>4</td>
</tr>
<tr>
<td>RC1749</td>
<td>Residential</td>
<td>4</td>
</tr>
<tr>
<td>RC1751</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>RC1752</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>RC1761</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>RC1762</td>
<td>Residential</td>
<td>7</td>
</tr>
<tr>
<td>RC1841</td>
<td>Residential</td>
<td>6</td>
</tr>
<tr>
<td>RC1842</td>
<td>Residential</td>
<td>6</td>
</tr>
<tr>
<td>RC1843</td>
<td>Residential</td>
<td>6</td>
</tr>
<tr>
<td>RC1846</td>
<td>Residential</td>
<td>6</td>
</tr>
<tr>
<td>RC1847</td>
<td>Residential</td>
<td>6</td>
</tr>
<tr>
<td>RCBB1541</td>
<td>Residential</td>
<td>3</td>
</tr>
<tr>
<td>RCBB1542</td>
<td>Residential</td>
<td>3</td>
</tr>
<tr>
<td>RCBB1741</td>
<td>Residential</td>
<td>4</td>
</tr>
<tr>
<td>RCBB1842</td>
<td>Residential</td>
<td>6</td>
</tr>
<tr>
<td>T4E</td>
<td>Trim &amp; Auxiliary</td>
<td>6</td>
</tr>
<tr>
<td>WT1191</td>
<td>Commercial Hinges</td>
<td>16</td>
</tr>
<tr>
<td>WT1279</td>
<td>Commercial Hinges</td>
<td>16</td>
</tr>
<tr>
<td>WTAB700</td>
<td>Commercial Hinges</td>
<td>14</td>
</tr>
<tr>
<td>WTAB750</td>
<td>Commercial Hinges</td>
<td>15</td>
</tr>
<tr>
<td>WTAB800</td>
<td>Commercial Hinges</td>
<td>14</td>
</tr>
<tr>
<td>WTAB850</td>
<td>Commercial Hinges</td>
<td>15</td>
</tr>
<tr>
<td>WTBB1168</td>
<td>Commercial Hinges</td>
<td>18</td>
</tr>
<tr>
<td>WTBB1191</td>
<td>Commercial Hinges</td>
<td>17</td>
</tr>
<tr>
<td>WTBB1199</td>
<td>Commercial Hinges</td>
<td>18</td>
</tr>
<tr>
<td>WTBB1279</td>
<td>Commercial Hinges</td>
<td>17</td>
</tr>
<tr>
<td>1-269-8689</td>
<td>Residential</td>
<td>13</td>
</tr>
<tr>
<td>1-269-8689</td>
<td>Sliding Door Hardware</td>
<td>57</td>
</tr>
<tr>
<td>1-269-8690</td>
<td>Residential</td>
<td>13</td>
</tr>
<tr>
<td>1-269-8690</td>
<td>Sliding Door Hardware</td>
<td>57</td>
</tr>
<tr>
<td>1-269-8691</td>
<td>Residential</td>
<td>13</td>
</tr>
<tr>
<td>1-269-8691</td>
<td>Sliding Door Hardware</td>
<td>57</td>
</tr>
<tr>
<td>1-269-8693</td>
<td>Residential</td>
<td>13</td>
</tr>
<tr>
<td>1-269-8693</td>
<td>Sliding Door Hardware</td>
<td>57</td>
</tr>
<tr>
<td>1-269-8694</td>
<td>Residential</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-269-8694</td>
<td>Sliding Door Hardware</td>
<td>57</td>
</tr>
<tr>
<td>2-300-0118</td>
<td>Locks</td>
<td>76, 78</td>
</tr>
<tr>
<td>2-300-0179</td>
<td>Locks</td>
<td>79</td>
</tr>
<tr>
<td>2-639-7000</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7001</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7002</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7003</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7005</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7006</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7007</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7008</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7018</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7058</td>
<td>Locks</td>
<td>76, 78</td>
</tr>
<tr>
<td>2-639-7060</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7061</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7082</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7083</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7084</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7085</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7086</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7087</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7090</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7091</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7094</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7095</td>
<td>Locks</td>
<td>78</td>
</tr>
<tr>
<td>2-639-7113</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>2-639-7168</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>2-639-7169</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>2-639-7170</td>
<td>Locks</td>
<td>77</td>
</tr>
<tr>
<td>2-639-7192</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7322</td>
<td>Locks</td>
<td>75</td>
</tr>
<tr>
<td>2-639-7511</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7517</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7519</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7520</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7526</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7527</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7529</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7530</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7531</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7532</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7534</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7535</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7536</td>
<td>Locks</td>
<td>83</td>
</tr>
<tr>
<td>2-639-7570</td>
<td>Locks</td>
<td>80</td>
</tr>
<tr>
<td>2-639-7571</td>
<td>Locks</td>
<td>80</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td>2-639-7572</td>
<td>Locks</td>
<td>80</td>
</tr>
<tr>
<td>2-639-7573</td>
<td>Locks</td>
<td>80</td>
</tr>
<tr>
<td>2-639-7574</td>
<td>Locks</td>
<td>80</td>
</tr>
<tr>
<td>2-639-7578</td>
<td>Locks</td>
<td>79</td>
</tr>
<tr>
<td>2-639-7607</td>
<td>Locks</td>
<td>7</td>
</tr>
<tr>
<td>2-639-7608</td>
<td>Locks</td>
<td>7</td>
</tr>
<tr>
<td>2-639-7609</td>
<td>Locks</td>
<td>7</td>
</tr>
<tr>
<td>2-639-7610</td>
<td>Locks</td>
<td>7</td>
</tr>
<tr>
<td>2-639-7645</td>
<td>Locks</td>
<td>79</td>
</tr>
<tr>
<td>2-639-7646</td>
<td>Locks</td>
<td>79</td>
</tr>
<tr>
<td>2-639-7647</td>
<td>Locks</td>
<td>79</td>
</tr>
<tr>
<td>2-639-7649</td>
<td>Locks</td>
<td>79</td>
</tr>
<tr>
<td>2-639-7660</td>
<td>Locks</td>
<td>79</td>
</tr>
<tr>
<td>2-639-8188</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8189</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8190</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8191</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8192</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8193</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8194</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8195</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8196</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8197</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8198</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8199</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8200</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8201</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8202</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8203</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8204</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8205</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8210</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8211</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8212</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8213</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8214</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8215</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8216</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8217</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8218</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8219</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8220</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8221</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8222</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8223</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>2-639-8224</td>
<td>Locks</td>
<td>84</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------</td>
<td>------</td>
</tr>
<tr>
<td>2-659-0111</td>
<td>Door Controls</td>
<td>46</td>
</tr>
<tr>
<td>2-659-0112</td>
<td>Door Controls</td>
<td>46</td>
</tr>
<tr>
<td>2-659-0113</td>
<td>Door Controls</td>
<td>46</td>
</tr>
<tr>
<td>2-659-0114</td>
<td>Door Controls</td>
<td>46</td>
</tr>
<tr>
<td>2-659-0115</td>
<td>Door Controls</td>
<td>46</td>
</tr>
<tr>
<td>2-659-0116</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0117</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0118</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0119</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0120</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0121</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0122</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0123</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0124</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0125</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0126</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0127</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0128</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0129</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0130</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0131</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0132</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0133</td>
<td>Door Controls</td>
<td>48</td>
</tr>
<tr>
<td>2-659-0151</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0152</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0153</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0154</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0161</td>
<td>Electrified Solutions</td>
<td>80</td>
</tr>
<tr>
<td>2-659-0162</td>
<td>Electrified Solutions</td>
<td>80</td>
</tr>
<tr>
<td>2-659-0163</td>
<td>Electrified Solutions</td>
<td>80</td>
</tr>
<tr>
<td>2-659-0164</td>
<td>Electrified Solutions</td>
<td>80</td>
</tr>
<tr>
<td>2-659-0165</td>
<td>Electrified Solutions</td>
<td>79</td>
</tr>
<tr>
<td>2-659-0166</td>
<td>Electrified Solutions</td>
<td>79</td>
</tr>
<tr>
<td>2-659-0167</td>
<td>Electrified Solutions</td>
<td>79</td>
</tr>
<tr>
<td>2-659-0168</td>
<td>Electrified Solutions</td>
<td>79</td>
</tr>
<tr>
<td>2-659-0169</td>
<td>Electrified Solutions</td>
<td>78</td>
</tr>
<tr>
<td>2-659-0170</td>
<td>Electrified Solutions</td>
<td>78</td>
</tr>
<tr>
<td>2-659-0171</td>
<td>Electrified Solutions</td>
<td>78</td>
</tr>
<tr>
<td>2-659-0172</td>
<td>Electrified Solutions</td>
<td>77</td>
</tr>
<tr>
<td>2-659-0173</td>
<td>Electrified Solutions</td>
<td>77</td>
</tr>
<tr>
<td>2-659-0174</td>
<td>Electrified Solutions</td>
<td>77, 86</td>
</tr>
<tr>
<td>2-659-0175</td>
<td>Electrified Solutions</td>
<td>81</td>
</tr>
<tr>
<td>2-659-0176</td>
<td>Electrified Solutions</td>
<td>81</td>
</tr>
<tr>
<td>2-659-0177</td>
<td>Electrified Solutions</td>
<td>81</td>
</tr>
<tr>
<td>2-659-0178</td>
<td>Electrified Solutions</td>
<td>82</td>
</tr>
<tr>
<td>2-659-0179</td>
<td>Electrified Solutions</td>
<td>82</td>
</tr>
<tr>
<td>2-659-0180</td>
<td>Electrified Solutions</td>
<td>84</td>
</tr>
<tr>
<td>2-659-0181</td>
<td>Electrified Solutions</td>
<td>84</td>
</tr>
<tr>
<td>2-659-0182</td>
<td>Electrified Solutions</td>
<td>84</td>
</tr>
<tr>
<td>2-659-0183</td>
<td>Electrified Solutions</td>
<td>86</td>
</tr>
<tr>
<td>2-659-0185</td>
<td>Electrified Solutions</td>
<td>86</td>
</tr>
<tr>
<td>2-659-0186</td>
<td>Electrified Solutions</td>
<td>86</td>
</tr>
<tr>
<td>2-659-0187</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0188</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0189</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0190</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0191</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>2-659-0192</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>2-659-0193</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>2-659-0194</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>2-659-0195</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0196</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0197</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0198</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0199</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>2-659-0200</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>2-659-0201</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>2-659-0202</td>
<td>Door Controls</td>
<td>17, 25</td>
</tr>
<tr>
<td>2-659-0203</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0204</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0205</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0206</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0207</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0208</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0209</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0210</td>
<td>Door Controls</td>
<td>9</td>
</tr>
<tr>
<td>2-659-0211</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>2-659-0212</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>2-659-0213</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>2-659-0214</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>2-659-0215</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>2-659-0216</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>2-659-0217</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>2-659-0218</td>
<td>Door Controls</td>
<td>17</td>
</tr>
<tr>
<td>2-659-0220</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0221</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0222</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0223</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0224</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0225</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0226</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0227</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>Part Number</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------</td>
<td>------</td>
</tr>
<tr>
<td>2-659-0228</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0229</td>
<td>Electrified Solutions</td>
<td>64</td>
</tr>
<tr>
<td>2-659-0230</td>
<td>Electrified Solutions</td>
<td>65</td>
</tr>
<tr>
<td>2-659-0231</td>
<td>Electrified Solutions</td>
<td>65</td>
</tr>
<tr>
<td>2-659-0232</td>
<td>Electrified Solutions</td>
<td>65</td>
</tr>
<tr>
<td>2-659-0233</td>
<td>Electrified Solutions</td>
<td>65</td>
</tr>
<tr>
<td>2-659-0234</td>
<td>Electrified Solutions</td>
<td>65</td>
</tr>
<tr>
<td>2-659-0235</td>
<td>Electrified Solutions</td>
<td>65</td>
</tr>
<tr>
<td>2-659-0236</td>
<td>Electrified Solutions</td>
<td>65</td>
</tr>
<tr>
<td>2-659-0237</td>
<td>Electrified Solutions</td>
<td>86</td>
</tr>
<tr>
<td>2-659-0240</td>
<td>Electrified Solutions</td>
<td>77, 79</td>
</tr>
<tr>
<td>2-659-0241</td>
<td>Electrified Solutions</td>
<td>83</td>
</tr>
<tr>
<td>2-659-0242</td>
<td>Electrified Solutions</td>
<td>83</td>
</tr>
<tr>
<td>2-659-0243</td>
<td>Electrified Solutions</td>
<td>72</td>
</tr>
<tr>
<td>2-659-0275</td>
<td>Electrified Solutions</td>
<td>72</td>
</tr>
<tr>
<td>2-659-0276</td>
<td>Electrified Solutions</td>
<td>72</td>
</tr>
<tr>
<td>2-659-0277</td>
<td>Electrified Solutions</td>
<td>72</td>
</tr>
<tr>
<td>2-659-0278</td>
<td>Electrified Solutions</td>
<td>72</td>
</tr>
<tr>
<td>2-659-0279</td>
<td>Electrified Solutions</td>
<td>72</td>
</tr>
<tr>
<td>2-659-0280</td>
<td>Electrified Solutions</td>
<td>72</td>
</tr>
<tr>
<td>2-659-0283</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0284</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0285</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0286</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0287</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0288</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0289</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0290</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0291</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0292</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0293</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0294</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0295</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0296</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0297</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0298</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0299</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0300</td>
<td>Electrified Solutions</td>
<td>73</td>
</tr>
<tr>
<td>2-659-0301</td>
<td>Electrified Solutions</td>
<td>76</td>
</tr>
<tr>
<td>2-659-0302</td>
<td>Electrified Solutions</td>
<td>76</td>
</tr>
<tr>
<td>2-659-0303</td>
<td>Electrified Solutions</td>
<td>76</td>
</tr>
<tr>
<td>2-659-0304</td>
<td>Electrified Solutions</td>
<td>76</td>
</tr>
<tr>
<td>2-659-0305</td>
<td>Electrified Solutions</td>
<td>76</td>
</tr>
<tr>
<td>2-659-0306</td>
<td>Electrified Solutions</td>
<td>76</td>
</tr>
<tr>
<td>2-659-0307</td>
<td>Electrified Solutions</td>
<td>76</td>
</tr>
<tr>
<td>2-659-0308</td>
<td>Electrified Solutions</td>
<td>76</td>
</tr>
<tr>
<td>2-679-0028</td>
<td>Electrified Solutions</td>
<td>6, 7, 8</td>
</tr>
<tr>
<td>2-679-0029</td>
<td>Electrified Solutions</td>
<td>6, 8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0100</td>
<td>Electrified Solutions</td>
<td>14, 15</td>
</tr>
<tr>
<td>2-679-0101</td>
<td>Electrified Solutions</td>
<td>13, 15</td>
</tr>
<tr>
<td>2-679-0102</td>
<td>Electrified Solutions</td>
<td>14, 15</td>
</tr>
<tr>
<td>2-679-0103</td>
<td>Electrified Solutions</td>
<td>15</td>
</tr>
<tr>
<td>2-679-0106</td>
<td>Electrified Solutions</td>
<td>13, 14, 15</td>
</tr>
<tr>
<td>2-679-0107</td>
<td>Electrified Solutions</td>
<td>13, 14, 15</td>
</tr>
<tr>
<td>2-679-0108</td>
<td>Electrified Solutions</td>
<td>13, 14, 15</td>
</tr>
<tr>
<td>2-679-0109</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0110</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0111</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0112</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0120</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0121</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0130</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0131</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0160</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0161</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0180</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0181</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0190</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0191</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0200</td>
<td>Electrified Solutions</td>
<td>17</td>
</tr>
<tr>
<td>2-679-0201</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0205</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0210</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0220</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0240</td>
<td>Electrified Solutions</td>
<td>87</td>
</tr>
<tr>
<td>2-679-0242</td>
<td>Electrified Solutions</td>
<td>10</td>
</tr>
<tr>
<td>2-679-0281</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0283</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0291</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0293</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0311</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0313</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0321</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0323</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0381</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0383</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0391</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0393</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0411</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0413</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0421</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
<tr>
<td>2-679-0423</td>
<td>Electrified Solutions</td>
<td>18</td>
</tr>
</tbody>
</table>
# INDEX

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-679-0491</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0493</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0501</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0503</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0571</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0573</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0581</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0583</td>
<td>Electrified Solutions</td>
<td>19</td>
</tr>
<tr>
<td>2-679-0600</td>
<td>Electrified Solutions</td>
<td>20</td>
</tr>
<tr>
<td>2-679-0601</td>
<td>Electrified Solutions</td>
<td>21</td>
</tr>
<tr>
<td>2-679-0611</td>
<td>Electrified Solutions</td>
<td>32</td>
</tr>
<tr>
<td>2-679-0612</td>
<td>Electrified Solutions</td>
<td>32</td>
</tr>
<tr>
<td>2-679-0620</td>
<td>Electrified Solutions</td>
<td>38</td>
</tr>
<tr>
<td>2-679-0621</td>
<td>Electrified Solutions</td>
<td>38</td>
</tr>
<tr>
<td>2-679-0622</td>
<td>Electrified Solutions</td>
<td>38</td>
</tr>
<tr>
<td>2-679-0623</td>
<td>Electrified Solutions</td>
<td>38</td>
</tr>
<tr>
<td>2-679-0624</td>
<td>Electrified Solutions</td>
<td>38</td>
</tr>
<tr>
<td>2-679-0625</td>
<td>Electrified Solutions</td>
<td>40</td>
</tr>
<tr>
<td>2-679-0626</td>
<td>Electrified Solutions</td>
<td>40</td>
</tr>
<tr>
<td>2-679-0630</td>
<td>Electrified Solutions</td>
<td>9</td>
</tr>
<tr>
<td>2-679-0641</td>
<td>Electrified Solutions</td>
<td>10</td>
</tr>
<tr>
<td>2-679-0642</td>
<td>Electrified Solutions</td>
<td>10</td>
</tr>
<tr>
<td>2-679-0650</td>
<td>Electrified Solutions</td>
<td>36</td>
</tr>
<tr>
<td>2-679-0661</td>
<td>Electrified Solutions</td>
<td>43, 44, 45</td>
</tr>
<tr>
<td>2-679-0662</td>
<td>Electrified Solutions</td>
<td>43, 44, 45</td>
</tr>
<tr>
<td>2-679-0664</td>
<td>Electrified Solutions</td>
<td>43, 44, 45</td>
</tr>
<tr>
<td>2-679-0669</td>
<td>Electrified Solutions</td>
<td>26</td>
</tr>
<tr>
<td>2-679-0708</td>
<td>Electrified Solutions</td>
<td>27</td>
</tr>
</tbody>
</table>