

SHOP DRAWING TRANSMITTAL



Project: Turnbull School Music Room Addition Project No: 1705
Date: November 20, 2018
To: TALCO Building Innovations Ltd.
Attn: Farah Bano (fbano@tal-co.com)
From: Michelle Cataldo

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| <input type="checkbox"/> Approval | <input type="checkbox"/> Courier |
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Shop Drawing Submittal: Division 08 – Windows & Doors
Submitted by: Merlin Door Systems Ltd.
Drawing Title: Hardware Schedule and Spec Sheets
Revision No. N/A
Dated: November 15, 2018

Comments:

Reviewed as noted.

REVIEWED
By Farah Bano at 3:31 pm, Nov 20, 2018

Turnbull Music Addition Ottawa

Job No. 18-693

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Consultant: Merlin Door Systems
Spec. Writer: Barry Hobin - Project 1705

Plan Revision: IFC, Dated: 18/10/12
Submittal Date: Nov15th 2018



Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

Hardware Schedule

Heading #1

Item #1 1 Single door 000.1, Exterior From Ex. Corridor ✓
LHR

✓ 1200 x 2150 x _ - AL DR x AL FR

⊕ SIP PANEL BY OTHERS ? CONFIRM PROVIDER

1	✓ Continuous Hinge	780-112 HD 83" Clear ETW-4 - LHR <i>c/w current transfer prep.</i>	628
1	✓ Exit Device	CDLX-98-NL-OP US26D 110MD 4' Bar LESS STRIKE - LHR	626
1	✓ Cylinder	20-001 c/w XQ11 949 Cam & Blocking ring to suit.	626
1	✓ Cylinder	20-021	626
1	✓ Electric Strike	6111 FSE c/w Shim	630
1	✓ Door Pull <i>opener</i>	3012-2 # <i>YNTG</i>	630 316 S.S.
1	✓ Electronic Closer	HA-8 c/w ES Relay, x TB ARM SHOE <i>c/w Full Housing</i>	CLR Analyzed.
1	✓ Overhead Door Stop	906S GJ 106 S x 95 DEGREE	630
1	Weatherstripping	W-24S x 48" → <i>by Others?</i> EXTERIOR SIDE	628 AL
2ea → ⊕	✓ Actuator	CM-60/2	630
2ea → ⊕	✓ Escutcheon	CM-69	630
1	✓ Gasket	CM-69G	
1	✓ Power Transfer	EPT-10	628 SP28

LX FEATURE TO ACTIVATE EXTERIOR SIDE WALL ACTUATOR WHEN EXIT DEVICE IS MANUALLY DOGGED
CORRIDOR SIDE WALL ACTUATOR TO BE ACTIVE AT ALL TIMES
LOCATION OF ACTUATORS TO BE CONFIRMED

✓ SECURITY SYSTEM SUPPLIED BY SECURITY CONSULTANT
INCLUDES: CARD READER, DOOR CONTACT AND ALL RELATED HARDWARE

SHOP DRAWING REVIEW

- REVIEWED
- REVIEWED AS NOTED
- REVISE AND RESUBMIT



"This review is for the sole purpose of ascertaining conformance with the general design concept for architectural features only, and does not in any way constitute review of the design of engineering elements which form part of the Contract Documents prepared by others. This review shall not mean that the Architect approves the detail design inherent in the shop drawings. This responsibility shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes, or to techniques of construction and installation and for co-ordination for the work of all trades."

By: Michelle Cataldo Date: Nov. 19, 2018

HOBIN ARCHITECTURE INCORPORATED



Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

Heading #2

Item #2

1 Single door 101.1, Corridor To Music Room ✓

LH

1200 x 2150 x 44 - WD DR x HM FR - WH-C

- | | | | | |
|-----|--------------------|--|--|--------------|
| 1 ✓ | Continuous Hinge | 780-224 HD 83" Clear - LH | | <u>628</u> |
| 1 ✓ | Lockset | AL70PD SAT ND70PD x RHO AS PER ADDENDUM A02 | | <u>626</u> |
| 1 ✓ | Surface Closer | 4011 REG AL DEL | | <u>689</u> |
| 1 ✓ | Kick Plate | K10A 8"x45 1/4" | | <u>630</u> |
| 1 ✓ | Overhead Door Stop | 906S GJ 106S x 90 DEGREE | | <u>630</u> |
| 1 ✓ | Weatherstripping | DS143CT7 | | <u>CT</u> AL |
- Sound Gasket.

Heading #3

Item #3

1 Single door 102.1, Storage From Music Room ✓

LHR

965 x 2150 x 44 - WD DR x HM FR

- | | | | | |
|-----|----------------------|--|--|----------------|
| 3 ✓ | Standard Hinge | BB1279 4 1/2" x 4" NRP | | <u>626</u> 652 |
| 1 ✓ | Lockset | AL70PD SAT ND70PD x RHO AS PER ADDENDUM A02 | | <u>626</u> |
| 1 ✓ | Kick Plate | K10A 8"x36 1/2" | | <u>630</u> |
| 1 ✓ | Overhead Door Holder | 904F GJ 904F x 90 DEGREE | | <u>630</u> |

Heading #4

Item #4

1 Single door 103.1, Music Room To Office ✓

RH

965 x 2150 x 44 - WD DR x HM FR

- | | | | | |
|-----|------------------|--|--|----------------|
| 3 ✓ | Standard Hinge | BB1279 4 1/2" x 4" | | <u>626</u> 652 |
| 1 ✓ | Lockset | AL70PD SAT ND70PD x RHO AS PER ADDENDUM A02 | | <u>626</u> |
| 1 ✓ | Kick Plate | K10A 8"x34 1/2" | | <u>630</u> |
| 1 ✓ | Wall Door Stop | S120 | | <u>626</u> |
| 1 ✓ | Weatherstripping | DS143CT7 | | <u>CT</u> AL |

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By: Michelle Cataldo Date: Nov. 19, 2018
HOBIN ARCHITECTURE INCORPORATED



Turnbull Music Addition
Ottawa
Job No. 18-693

Submission Date: Nov15th 2018

Heading #5

Item #5 1 Single door 104.1, Practice Room 1 From Music Room ✓

RHR

965 x 2150 x 44 - WD DR x HM FR

- 3 ✓ Standard Hinge BB1279 4 1/2" x 4" NRP
- 1 ✓ Lockset ~~AL70PD SAT~~ **ND70PD x RHO AS PER ADDENDUM A02**
- 1 ✓ Kick Plate K10A 8"x36 1/2"
- 1 ✓ Weatherstripping DS143CT7

~~626~~ 652
626
630
~~CT~~ DAL

Heading #6

Item #6 1 Single door 105.1, Practice Room 2 From Music Room ✓

RHR

965 x 2150 x 44 - WD DR x HM FR

- 3 ✓ Standard Hinge BB1279 4 1/2" x 4" NRP
- 1 ✓ Lockset ~~AL70PD SAT~~ **ND70PD x RHO AS PER ADDENDUM A02**
- 1 ✓ Kick Plate K10A 8"x36 1/2"
- 1 ✓ Weatherstripping DS143CT7

~~626~~ 652
626
630
~~CT~~ DAL

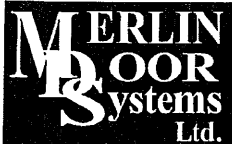
SHOP DRAWING REVIEW

- REVIEWED
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"This review is for the sole purpose of ascertaining conformance with the general design concept for architectural features only, and does not in any way constitute review of the design of engineering elements which form part of the Contract Documents prepared by others. This review shall not mean that the Architect approves the detail design inherent in the shop drawings. This responsibility shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes, or to techniques of construction and installation and for co-ordination for the work of all trades."

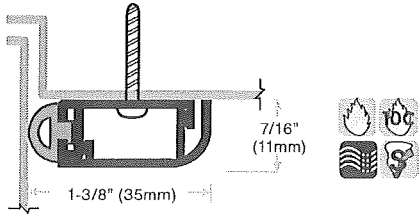
By: Michelle Cataldo Date: Nov. 19, 2018
HOBIN ARCHITECTURE INCORPORATED



Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

Door Weathersealing, Hollow Bulb

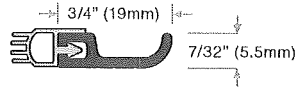


Weatherseals on this page are supplied with punched holes & screws and are available in the following NET lengths / sets:

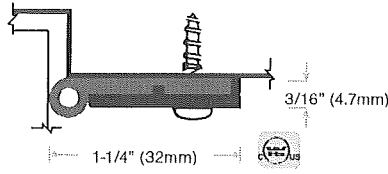
- 1/3' x 2/7' set (914 x 2134mm)
- 1/3' x 2/8' set (914 x 2438 mm)
- 1/6' x 2/7' set (1829 x 2134mm)
- 3 x 8' set (2438mm)
- 1 x 14' length (4267mm)

Snap-On Cover To Conceal Screws

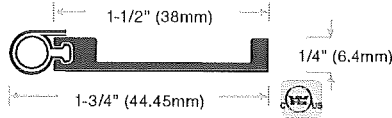
- DS113CN** Extruded aluminum clear anodized with silicone insert, black
- DS113DN** Bronze anodized with silicone insert, black.



- DS112AT** Extruded aluminum mill finish with TPE insert
- DS112DT** Bronze anodized with TPE insert
- DST00BL** Replacement TPE insert, black

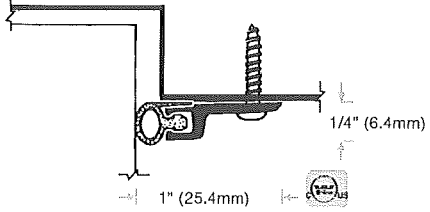


- DS133CT** Extruded aluminum clear anodized with TPE insert, black
- DS133DT** Bronze anodized with TPE insert, black
- DST33BL** Replacement TPE insert, black

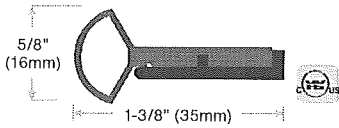


Perimeter seal compatible with parallel arm closers

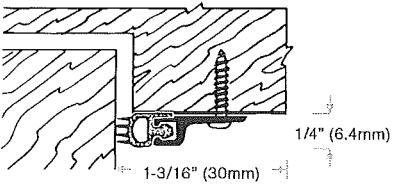
- DS118CT** Extruded aluminum clear anodized with TPE insert
- DS118DT** Bronze anodized with TPE insert
- DST03BL** Replacement TPE insert, black.



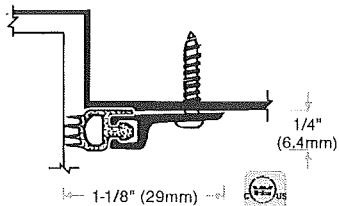
- DS103AT** Extruded aluminum mill finish with TPE insert
- DS103DT** Bronze anodized with TPE insert
- DST03BL** Replacement TPE insert, black



- DS143CT** Extruded aluminum clear anodized with TPE insert, black
- DS143DT** Bronze anodized with TPE insert, black
- DST43BL** Replacement TPE insert, black

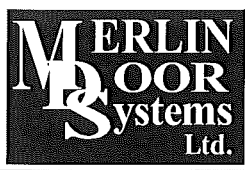


- DS104AV** Extruded aluminum mill finish with cold temp vinyl insert
- DS104WV** Extruded aluminum painted white with vinyl insert
- DS104AV17** Mill finish set 1/36\" x 2/84"
- DS104AV20** Mill finish set 1/72\" x 2/84"
- DSV04GREY** Replacement vinyl insert, grey



- DS100AT** Extruded aluminum mill finish with TPE insert
- DS100DT** Bronze anodized with TPE insert
- DST00BL** Replacement TPE insert, black

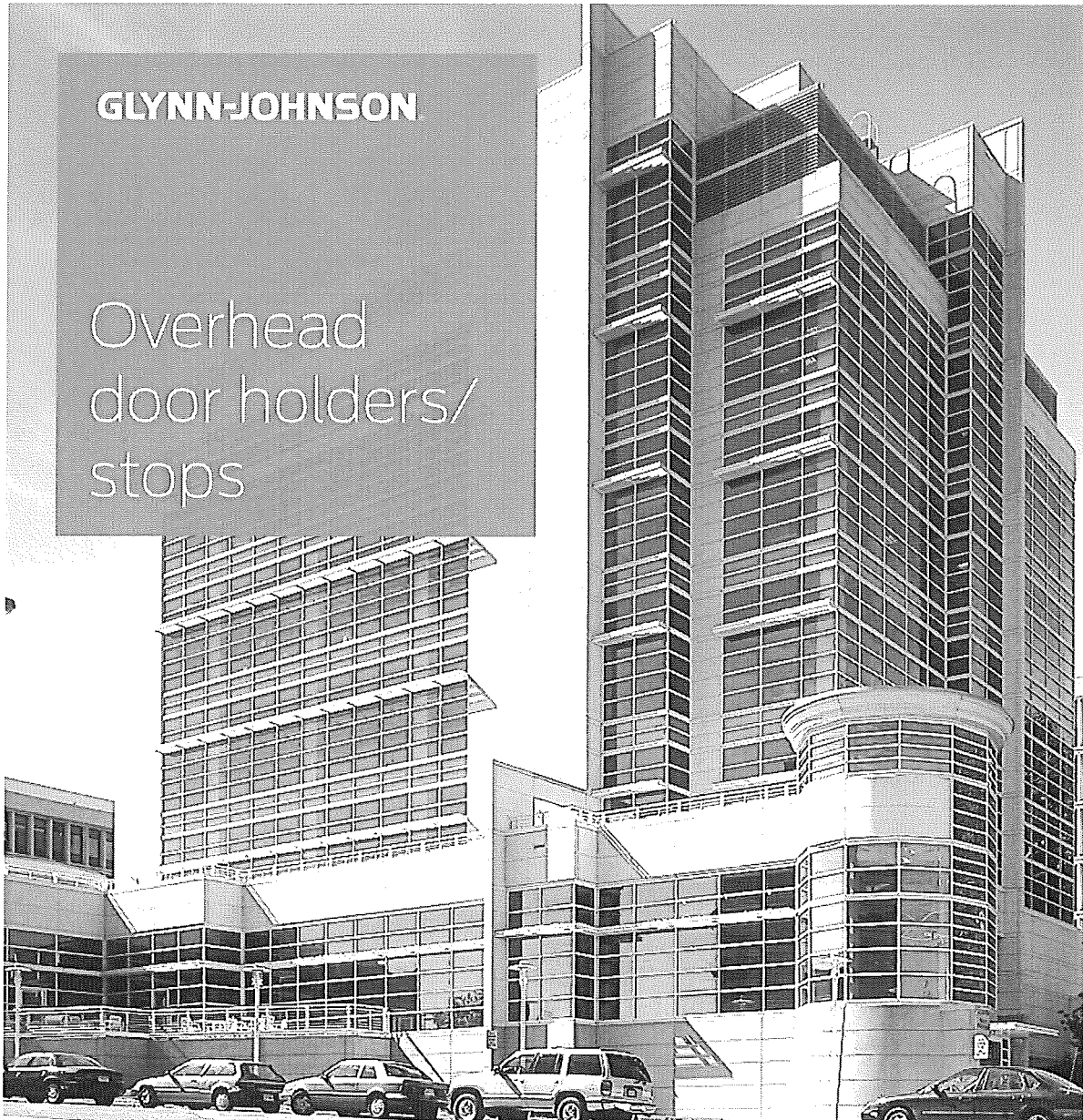
FULL SCALE EXCEPT AS NOTED REFER TO PAGE 6 FOR SYMBOL EXPLANATION



Turnbull Music Addition
Ottawa
Job No. 18-693
Submittal Date: Nov15th 2018

GLYNN-JOHNSON

Overhead
door holders/
stops



Overhead door holders/stops

Overhead door controls

The best door control device is one that operates overhead, with an arm functioning from the jamb to the top of the door. When the door stopping or hold-open does not exceed 110°, this device is by far the most efficient. The overhead holder and stop is out of the way, in contrast with floor or wall-mounted stops, which can be a stumbling hazard and are vulnerable to damage by accident and vandalism. Glynn-Johnson overhead holders and stops should always be used on doors furnished with door closers, as closers are not door stops and should not be expected to perform that function. Glynn-Johnson overhead stops are designed to protect door closers from violent openings.

Selecting degree of hold-open or stop

Glynn-Johnson overhead holders are designed to function effectively from 85° to 110°. When conditions permit, we recommend the minimum degree of hold-open be set at 95° to put the door knob, pull and panic hardware beyond the flow of traffic. When selecting the degree of hold-open for doors opening back-to-back, or against a wall, please note all Glynn-Johnson overhead holders have shock absorbers which 'give' approximately 5° - 7° beyond the hold-open or initial stop point. The concept of dead stop templating means that the degree of opening be set 5°-7° less than the point of required dead stop to accommodate the compression of the shock absorber.

Door and frame reinforcement

Glynn-Johnson overhead holders and stops are fabricated from top quality brass, steel and stainless steel materials, and are designed to function even under constant heavy-duty abuse. Therefore, it is essential that all doors and frames be adequately reinforced to provide proper anchorage for the overhead stop. For metal doors and frames, we recommend reinforcement be a minimum of 3/16" thick, 1 1/2" wide and 12" long to effectively distribute the load. For wood doors and frames, we stress the importance of making them strong enough to provide proper anchorage for the door holders. For reinforcement details, refer to individual templates for each overhead stop.

Definition of "door opening"

Glynn-Johnson defines the terms "door opening" as the actual width of the door opening, from jamb to jamb, not just the width of the door. For example, if you have a 45" opening it would require a size 5 holder if the door is hung on butts or offset pivots. Regardless of the style or series of holders, Glynn-Johnson has standardized the size of holders and stops for all openings, combining the size in the model number. The third digit in all models designates the size. If any further information is required on sizing a holder or stop, contact customer care or your Allegion consultant.

Butts/offset pivots

Concealed series			Surface series					
Size	100	410	Door opening	70	79	81	90	450
1	1012	4112	18" - 23"	-	-	-	-	451
2	1022	4122	23 1/16" - 27"	702	792	-	902	452
3	103	413	27 1/16" - 33"	703	793	813	903	453
4	104	414	33 1/16" - 39"	704	794	814	904	454
5	105	415	39 1/16" - 45"	705	795	815	905	455
6	106	-	45 1/16" - 54"	706	796	816	906	-

*Refer to individual catalog pages for further details and for information on center hung applications.

*These sizes not available for use with offset pivots.

*796 unit may be templated for use on doors wider than 54". Contact factory with specific information on door frame construction.

4 • Glynn-Johnson • Door holders and stops



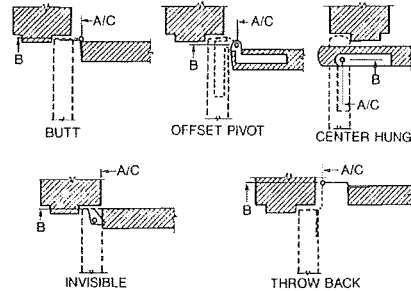
Turnbull Music Addition
Ottawa
Job No. 18-693

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Installation methods

Door mounting hardware

Mounting templates for all series holders show various types of hinging methods as well as various degrees of opening. To accommodate the overhead stop to the various mounting methods requires a simple shifting of dimensions A and B. To be assured that reinforcement and mortising are in the proper location, be sure to secure the proper templates from your Glynn-Johnson dealer. These templates include all necessary information for reinforcing door and frame, complete installation instructions for the various mounting methods and the degree of opening required.



Concealed

Concealed overhead door holder installation 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 top of the door. A cutout made for the arm on the stop side of single acting doors as in the sketch. Double acting doors require a cutout for the arm on both sides of the door as shown in the sketch. Hollow metal doors must be reinforced at the top of the door to provide necessary strength for the channel. Hollow metal frames must be reinforced in the jamb to provide strength for the jamb bracket. Strength of wood frame and door must be adequate for the holder specified. Accurate template drawings for each holder give complete reinforcement and mortising specifications. They are readily available from your Allegion consultant.

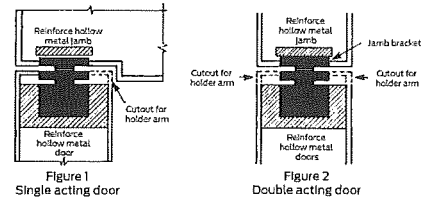


Figure 1
Single acting door

Figure 2
Double acting door

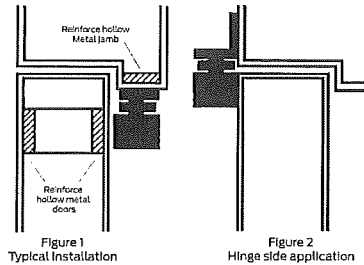


Figure 1
Typical installation

Figure 2
Hinge side application

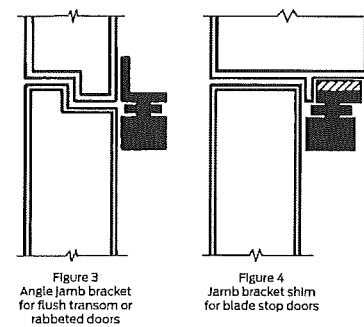


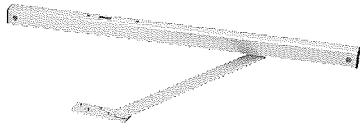
Figure 3
Angle jamb bracket
for flush transom or
rabbeted doors

Figure 4
Jamb bracket shim
for blade stop doors

Surface type

Surface mounted overhead door holder installation does not require mortising of jamb or door. The jamb bracket is 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. Strength of wood doors and jambs must also be adequate for the holder. A typical surface mounted installation is shown in Figure 1 where jamb bracket is fastened to the stop. Angle jamb brackets are available for hinge side mounting (Figure 2) and for use with rabbeted doors or flush transom installations (Figure 3). Jamb brackets with special shims for use on jambs with blade stops are also available (Figure 4). Advise stop height and the appropriate shim kit will be provided.

90 Series surface overhead door holders/stops



90 Series heavy-duty

Glynn-Johnson 90 Series holders and stops are the most rugged models available for heavy-duty applications. The channel is surface-mounted to the door, most often with six bolts, and the jamb bracket is surface mounted to the jamb, requiring minimal door and frame preparation.

These versatile units can be used in conjunction with most surface-applied door closers. The provided templates allow for variable mounting positions, ranging from 85° to 110° hold-open/stop angle. These templates are designed for installation in almost all types of doors, including doors with conventional butt-type hinges or specialty hinges.

Four models:

- 90H Series hold-open model
- 90S Series stop-only model
- 90F Series friction hold-open model
- 90SE Series special stop-only model

Five sizes:

- Simple
- Standardized
- Each model is available in five sizes

Three options:

- J—Angle jamb bracket
- SHIM—Blade stop shim kits
- SOC—Pin-in-socket security screw package

Unmatched convenience:

- Non-handed
- Improved compatibility with door closers
- Single-acting doors
- Interior/exterior applications
- Durable
- Easy to install
- Improved corrosion resistance
- Function conversion kits available

Materials and finishes

In 300 Series stainless steel, brass and steel substrates, these models are available in the largest selection of finishes in the industry. Stainless steel models offer the highest resistance to corrosion. Available in the following finishes:

Finish	Description
US3	Polished brass
US4	Satin brass
US10	Satin bronze
US10B	Oil rubbed bronze
US32	Polished stainless steel
US32D	Satin stainless steel
SP4	Powder coat brass
SP10	Powder coat bronze
SP28	Powder coat aluminum
SP313	Powder coat dark bronze
SPBLK	Powder coat black
652	Chrome-like coating

Models

Glynn-Johnson 90 Series door holders and stops provide long-lasting protection for doors, frames and hardware. All models incorporate a heavy-duty channel/slide-arm design and offset jamb bracket. This unique design allows for simple field modification of functions, should user requirements change.

90H Series hold-open

(Suffix H) Hold-open models provide a convenient method of holding the door open at a predetermined position for short or long periods of time, permitting an unobstructed traffic flow through the opening. The hold-open function can easily be turned on or off by simply rotating the serrated knob on the bottom of the channel. This knob engages the hold-open mechanism, allowing the door to be held open at a predetermined position ranging from 85° to 110°. When the knob is flipped over, it acts as a stop and shock absorber.

The tension on the hold-open mechanism can be adjusted using a Phillips screwdriver to offset air currents or other exterior conditions. The hold-open tension adjustment is located on the top of the slider in the channel.

90S Series stop-only

(Suffix S) When the hold-open function is not a requirement, stop-only models provide a reliable method of door control. Stop-only models provide the same shock-absorbing capability as hold-open models. The stop-only model may be used on fire doors.

90F Series friction hold-open

(Suffix F) Friction hold-open models are ideal for patient room doors, wardrobe and closet doors or similar applications where multiple hold-open positions are desired. The friction tension can be adjusted through the top of the channel using an allen wrench. The friction tension adjustment is located on the top of the slider in the channel.

90SE Series special stop-only

(Suffix SE) When stop-only models are used in conjunction with single-point, hold-only electronic door closers, the stop-only function may be ordered without the shock-absorbing mechanism. Used as an auxiliary stop, these models prolong the life of the closer. The stop location is adjusted using an allen wrench on the stop block located in the channel.

Note: Caution should be taken when using this option in other applications, as the elimination of the shock-absorbing spring can put added stress on the door and frame.

Application Information

UL Classification

The 90 Series stop-only models are classified by Underwriters Laboratories (UL) as miscellaneous fire door accessories. This classification applies to use on either hollow metal fire doors or wood fire doors. These units may be used on doors of any rating. As a reminder, the miscellaneous fire door accessories (GVUX) section is defined by UL as: "Miscellaneous fire door accessories are intended in the individual listings. The accessories have been investigated to determine that when installed in accordance with the manufacturer's instructions, the accessories do not adversely affect the fire rating of the fire door and/or fire door frames."

Dead-stop templating

Dead-stop templating is recommended for applications where a wall or similar obstruction is placed at an opening angle of 110° or less (i.e., doors that open back-to-back). Dead-stop templating can be applied to hold-open, stop-only and friction models. The dead-stop position is the point at which the shock-absorbing spring is fully compressed. Therefore, when dead-stop templating is used, the initial degree of opening will be 5° to 7° less than the dead-stop opening.

Example: If the holder is templated to a 100° dead stop, the door will hold open at an angle between 93° and 95° but no further than 100°.

Note: Do not use dead-stop templating on the 90SE Series since there is no shock-absorbing spring.

Environmental considerations

Environmental factors should always be considered when specifying overhead holders and stops. Doors that are positioned on a building's exterior or subject to corrosive conditions should be equipped with a holder constructed primarily of stainless steel or brass materials. For interior applications, steel is acceptable, though brass substrates generally provide a more attractive architectural-grade finish.

Options

Suffix J (angle jamb bracket)

An angle jamb bracket is available for converting standard models to hinge-side or flush transom mounting. The angle jamb bracket affixes to the standard jamb bracket. If ordered with the unit add suffix J. If needed separately order 90J by finish needed.

Suffix SOC (pin-in-socket security screws)

A screw package with pin-in-socket screws for mounting the door bracket and the jamb bracket is provided instead of the standard screw package.

Suffix SHIM (blade stop shims)

Shim kits are available in 3 sizes

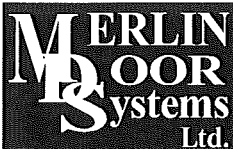
90 SHIM1 is a 1/4" shim kit

90 SHIM2 is a 1/2" shim kit

90 SHIM3 is a 3/4" shim kit

If ordered with overhead, add suffix SHIM (1, 2 or 3). If needed separately order 90 SHIM (1, 2 or 3)—finish.

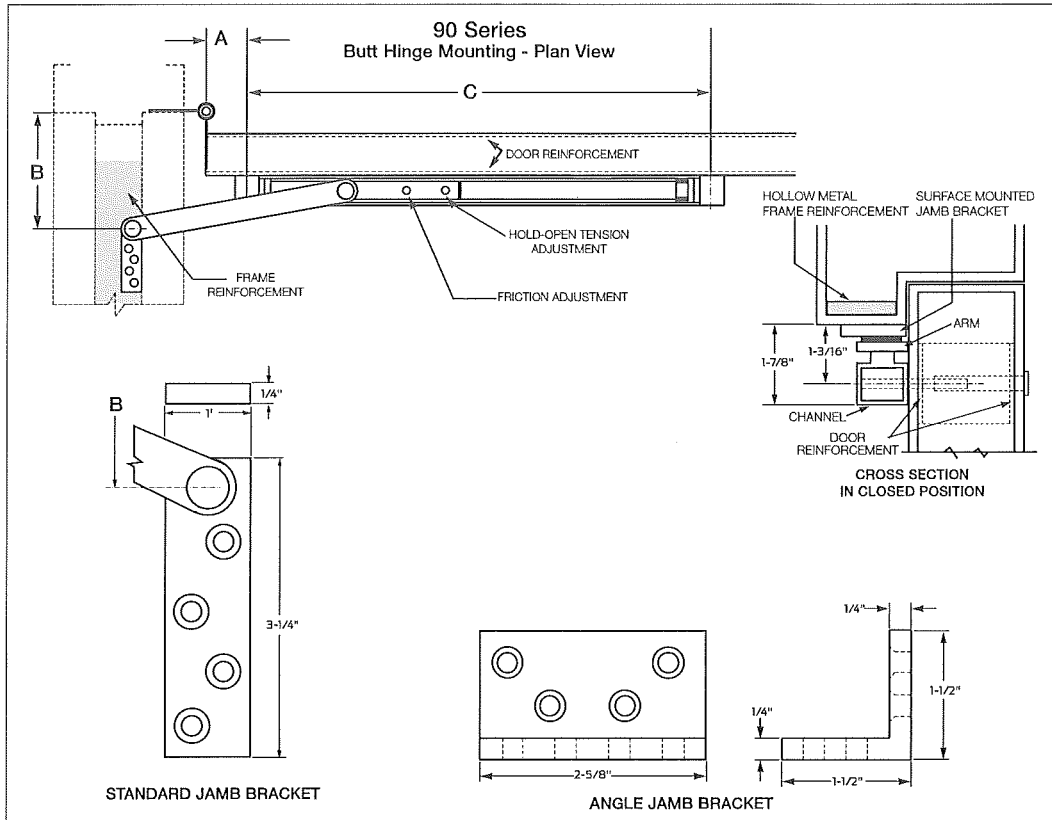
Glynn-Johnson • Door holders and stops • 15



Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

90 Series surface overhead door holders/stops



90 Series sizing chart

Butts/offset pivots				Center hung				
Size	Door opening	Stop only	Hold open	Friction	Door opening	Stop only	Hold open	Friction
1	-	-	-	-	-	-	-	-
2	23 1/16" - 27"	902S	902H	902F	27 1/16" - 33"	902S	902H	902F
3	27 1/16" - 33"	903S	903H	903F	33 1/16" - 39"	903S	903H	903F
4	33 1/16" - 39"	904S	904H	904F	39 1/16" - 45"	904S	904H	904F
5	39 1/16" - 45"	905S	905H	905F	45 1/16" - 51"	905S	905H	905F
6	45 1/16" - 51"	906S	906H	906F	51 1/16" - 59"	906S	906H	906F

Note: This chart illustrates the most common types of hinging and door opening sizes. For unusual door details, contact Glynn-Johnson for availability.

The template information on this page is for reference only and is not intended to serve as an installation template. For complete dimensional information, refer to Glynn-Johnson template book.

16 • Glynn-Johnson • Door holders and stops

BHMA/ANSI, A156.8 & Fed. spec. cross reference

G-J model	BHMA*	Fed. spec.
902-906 H	C02511	1161
902-906 S	C02541	1161A
902-906 F	C02531	-

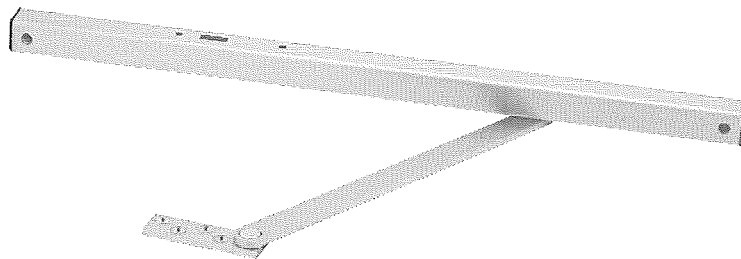
* First numeral (0) designates optional material.

To specify:
 Brass material, change 0 to 1 (i.e. C12511)
 Stainless steel material, change 0 to 5 (i.e. C52511)
 Steel material, change 0 to 8 (i.e. C82511)



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 Job No. 18-693

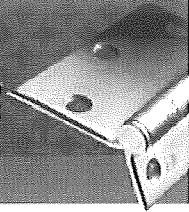
Submittal Date: Nov15th 2018



How to order

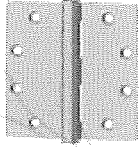
	90	4	H	US32D	J
Overhead Series:					
90					
Size (door opening using butts or offset pivots):					
2	(23 1/16"–27")				
3	(27 1/16"–33")				
4	(33 1/16"–39")				
5	(39 1/16"–45")				
6	(45 1/16"–54")				
Function:					
H	Hold-open				
F	Friction hold-open				
S	Stop-only				
SE	Special stop-only				
Finishes:					
US3	Polished brass				
US4	Satin brass				
US10	Satin bronze				
US10B	Oil rubbed bronze				
US32	Polished stainless				
US32D	Satin stainless steel				
SP4	Powder coat brass				
SP10	Powder coat bronze				
SP28	Powder coat aluminum				
SP313	Powder coat dark bronze				
SPBLK	Powder coat black				
652	Chrome-like coating				
Options:					
J	Angle jamb bracket				
SHIM	Blade stop shims				
	SHIM 1 1/4" kit				
	SHIM 2 1/2" kit				
	SHIM 3 3/4" kit				
SOC	Pin-in-socket security screws				

Glynn-Johnson • Door holders and stops • 17



FULL MORTISE

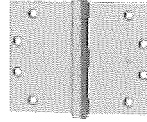
FIVE KNUCKLE HINGES



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

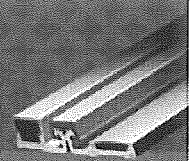
Hinge Size		Gauge of Metal	Hole Count	Screw Size	
Inches	mm			Machine	Wood
3-1/2 x 3-1/2	89 x 89	0.119	6	1/2 x 10-24	1 x 9
4 x 3-1/2	102 x 89	0.129	8	1/2 x 10-24	1-1/4 x 12
4 x 4	102 x 102	0.129	8	1/2 x 12-24	1-1/4 x 12
4-1/2 x 4	114 x 102	0.134	8	1/2 x 12-24	1-1/4 x 12
4-1/2 x 4-1/2	114 x 114	0.134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

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

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

Roton®

HAGER
COMPANIES



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

Product Information	2
General Information	6
Door and Frame Dimensioning	8
Electric Hinge Modifications	11
500 Series	16
750 Series	19
780 Series	21
1200 Series	45

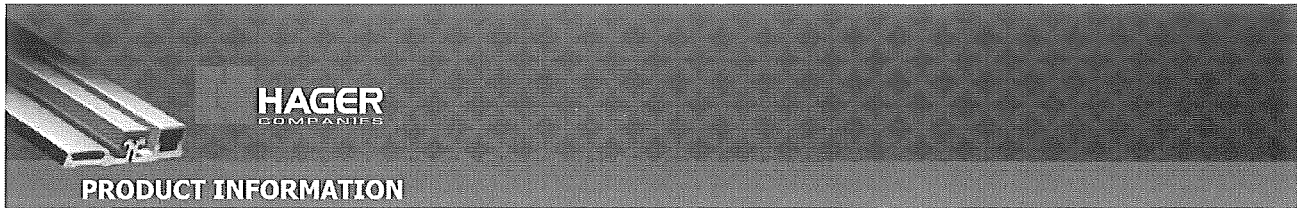
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www.hagerco.com

1

MERLIN
DOOR
Systems
Ltd.

Turnbull Music Addition
Ottawa
Job No. 18-693

Submission Date: Nov15th 2018



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.

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.

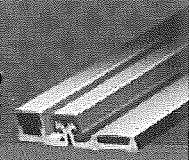
Non-Standard Lengths

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.



Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018



PRODUCT INFORMATION

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.

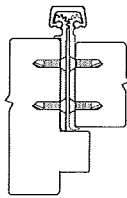
Special Hinges

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.

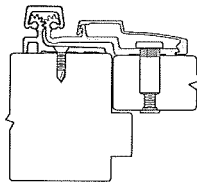
Process for Choosing the Correct Roton® Model

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

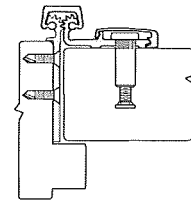
Concealed



Full Surface



Half Surface

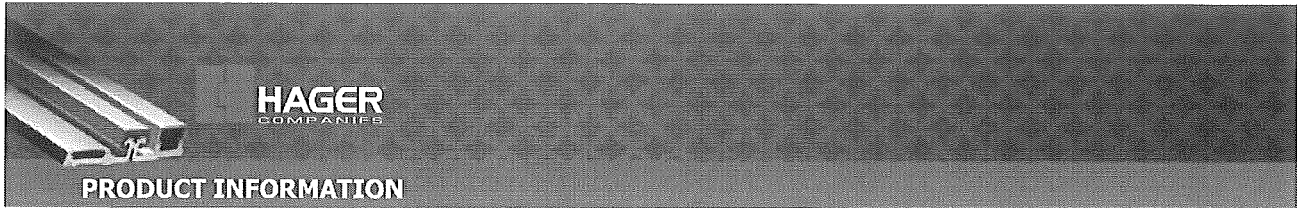



Fire Ratings -Underwriters Laboratory Fire Rating File #A14627

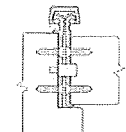


780 Series Roton® continuous geared hinges with stainless steel studs are approved for use on 4'x10' metal or wood swing type doors. 780 Series Roton® continuous geared hinges without stainless steel studs are approved for use on 4'x8' single swing metal doors and 4'x10' single swing wood doors used 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

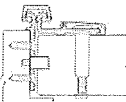


UL10C Fire-Rated Roton®	Fully Concealed	Full Surface	Half Surface	NOTES: 1. All Roton® hinges will be marked with UL stamp if they are fire-rated.  2. Several hinge models cannot be fire-rated. Check each profile.
20 Minute Fire-Rated Wood Core Door x Fire-Rated Hollow Metal Frame	UL — FF STANDARD			
20 Minute Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame	UL — FF STANDARD			
30 Minute Fire-Rated Wood Composite Door x Fire-Rated Hollow Metal Frame	UL — FF STANDARD			
30 Minute Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame	UL — FF STANDARD			
45 Minute Fire-Rated Wood Composite Door x Fire-Rated Hollow Metal Frame	UL — FF STANDARD			
45 Minute Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame	UL — FF STANDARD			
60 Minute Fire-Rated Wood Door x Hollow Metal Frame	UL — FF STANDARD			
60 Minute Fire-Rated Metal Door x Hollow Metal Frame	UL — FF STANDARD			
90 Minute Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame	UL — FF STANDARD			
90 Minute Fire-Rated Wood Composite Door x Fire-Rated Hollow Metal Frame	UL — STUD REQUIRED * Must Specify			
3-hour Fire-Rated Metal Door x Fire-Rated Hollow Metal Frame	UL — STUD REQUIRED * Must Specify			



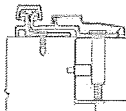
Fully Concealed with Stud

These models are concealed between the frame and the hinge edge of the door. Models available include: 780-041HD, 780-041LL, 780-110HD, 780-111, 780-111HD, 780-111LL, 780-112, 780-112HD, 780-112LL, 780-124HD, 780-124LL, 780-224, 780-224HD, 780-224LL, 780-226, 780-226HD, 780-226LL, and 780-235HD.



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

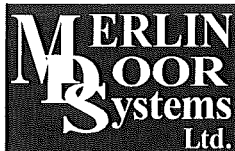
These models have the frame leaf mounted to the face of the frame and the face of the door. The door leaf is mounted to the face of the door with thru-bolts. Models available include: 780-057HD, 780-157, 780-157HD, 780-210, 780-210HD, and 780-257HD.

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:

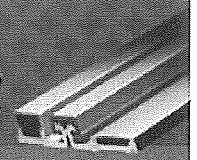
- 750 Series: 5-1/8" Centers (Typical 7' door: 16 bearings)
- 780 Series: 5-1/8" Centers (Typical 7' door: 16 bearings)
- 780 HD & LL: 2-9/16" Centers (Typical 7' door: 32 bearings)

Frequency	Load
Low frequency interior doors	20 lbs. per bearing
Low frequency, very heavy doors (lead lined x-ray doors, ballistics doors, high security doors) with double rows of fasteners	30 lbs. per bearing
Medium frequency interior doors	15 lbs. per bearing
Medium frequency exterior doors	10 lbs. per bearing
High frequency exterior doors	7.5 lbs. per bearing
Very high frequency doors	5 lbs. per bearing



Turnbull Music Addition
Ottawa
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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.

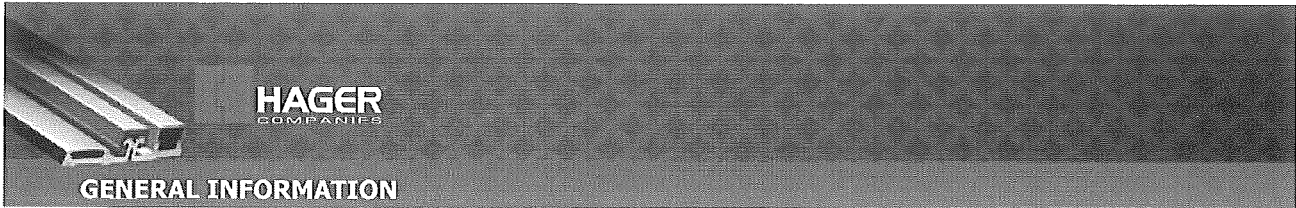
Polished Cover Channels

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.

Roton® Cover Channel Compatibility		
Hinge Model	Flat FBCC	Round RBCC
750-134	•	•
750-138	•	•
780-041	•	•
780-045	•	•
780-046	•	•
780-053	•	•
780-054	•	•
780-057	•	•
780-110	•	•
780-111	•	•
780-112	•	•
780-113	•	•
780-114	•	•
780-155	•	•
780-157	•	
780-208	•	
780-210	•	•
780-211	•	•
780-213	•	•
780-224	•	•
780-226	•	•
780-235	•	•
780-257	•	
780-259	•	•
780-300	•	
1200-600	•	
1200-650	•	

Rounded Back (RBCC)





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.

Hospital Tip

Concealed models only can be prepared with a cover channel tapered at 45° angle at the top of the hinge. These are ideal for use in hospitals and correctional facilities to help provide a clean and safe environment. Please consult the sales office for available models.

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

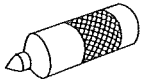
Available in standard or heavy duty and in clear anodized or dark bronze anodized finish for 780 and 1200 Series Roton®.

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

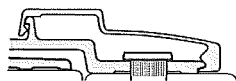


For clearance between the door and frame that may be excessive, a continuous shim is helpful (applied behind the frame leaf only). Anodized aluminum extrusions are supplied with no holes.

Item Marking

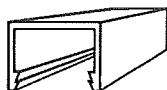
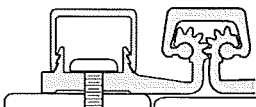
Marking and special packaging for job-site identification.

Replacement Moldings



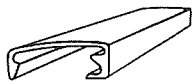
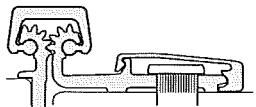
780-210M

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.



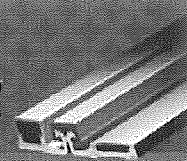
780-247M

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



780-052M

Replacement door leaf molding for 780-053, 780-053HD, 780-054HD, 780-155HD, 780-057, 780-057HD, 780-157, 780-157HD, 780-257HD, and 780-259HD. Furnished with Allen head screw and wrench. Shipped in standard lengths for trimming in the field.



GENERAL INFORMATION

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.

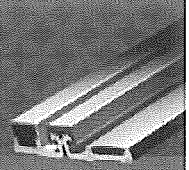
Fasteners for Use with Hinges in the 1200 Series

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.



DOOR AND FRAME DIMENSIONING

Concealed Models

750-134, 750-138, 780-110HD, 780-111, 780-111HD, 780-111LL, 780-112, 780-112HD, 780-112LL, 780-124HD, 780-124LL, 780-224, 780-224HD, 780-224LL, 780-226HD, 780-226LL, and 780-235HD. The following are not recommended for doors with beveled edged applications – 780-041HD and 780-041LL.

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.

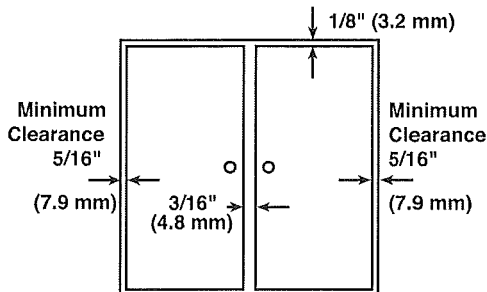
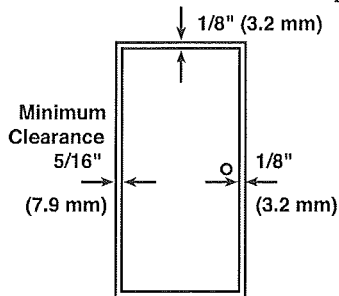
Clearance required as follows:

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)

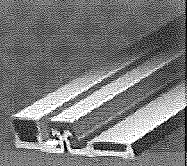
Pairs of Doors (Square Edged)

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)

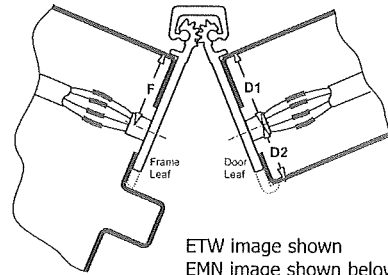
*For fire-rated doors, please refer to door manufacturer's requirement for edge to edge clearance to maintain compliance with NFPA requirements.



ELECTRIC HINGE MODIFICATIONS

Concealed Electric Through-Wire and Monitoring:

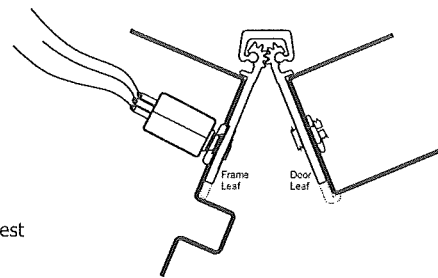
- To order, use symbol "ETM" plus the number of wires required as a suffix, ie: 780-224LL 85" Bronze ETM - 4
- This combines the continuous electric conductors and the miniature switch to provide both power transfer and monitoring
- Four, six, eight or ten continuous electric conductors
- Miniature switch 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



ETW image shown
EMN image shown below

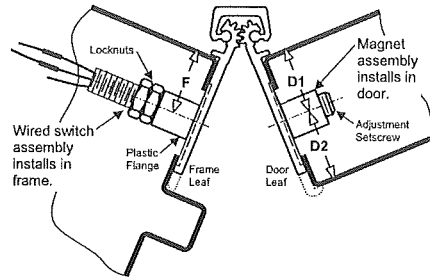
Exposed Electric Switches

- 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

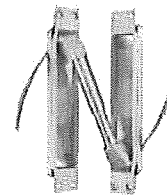


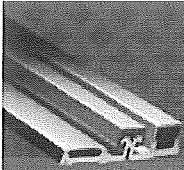
Von Duprin EPT 2 or EPT 10 Electric Power Transfer Preparation

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.



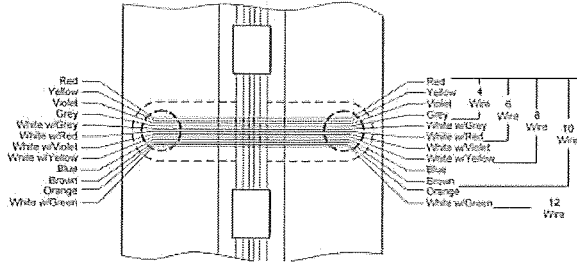


HAGER
COMPANIES

ELECTRIC HINGE MODIFICATIONS

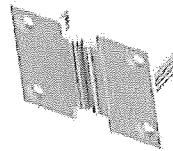
Concealed Electric Through-Wire

- 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, 6, 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

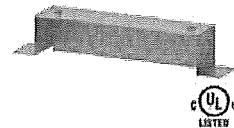
- To order, use symbol "RETW", ie: 780-112HD 85" Clear RETW
- Transfers power discreetly from building to door hardware
- 4" removable 10 or 12 wire ETW module can easily be removed for adjustment or service
- Available on these heavy duty models only: 780-111HD, 780-112HD, 780-124HD, 780-224HD, 780-226HD
- 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



Component #	Finish	# of Wires
7-102-1860	Clear	10
7-112-1870	Dark Bronze	10
7-112-7825	Gold	10
7-112-1875	Black	10
7-102-1870	Clear	12
7-112-1872	Dark Bronze	12
7-112-1876	Gold	12
7-112-1881	Black	12

Mortar Box - 430

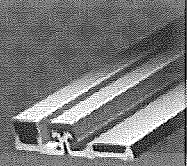
- Serves as a mortar shield
- Overall dimensions: 9" (229 mm) length with tabs, 7" (178 mm) inside, 1-3/4" x 1-3/4" (45 mm x 45 mm) inside dimension
- Galvanized steel 0.040" (1 mm)
- Top and bottom knockouts for standard conduit fittings



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





ELECTRIC HINGE MODIFICATIONS

Quick Connect

Available for ETM, ETW, and RETW options. Top and bottom knockouts for standard conduit fittings.

Concealed Electric Monitoring (EMN)

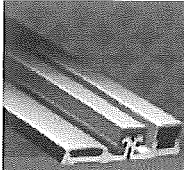
- Miniature switch is incorporated into the frame leaf.
- Specify handing and the dimension from the top edge of the door to the centerline of the electric monitoring location.
- Special Electric Modifications and EPT locations may require additional charges if screw holes have to be moved.
- Templates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

Concealed Electric Through-Wire and Monitoring (ETM)

- Electric Preparation
 - ETM-4
 - ETM-6
 - 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)

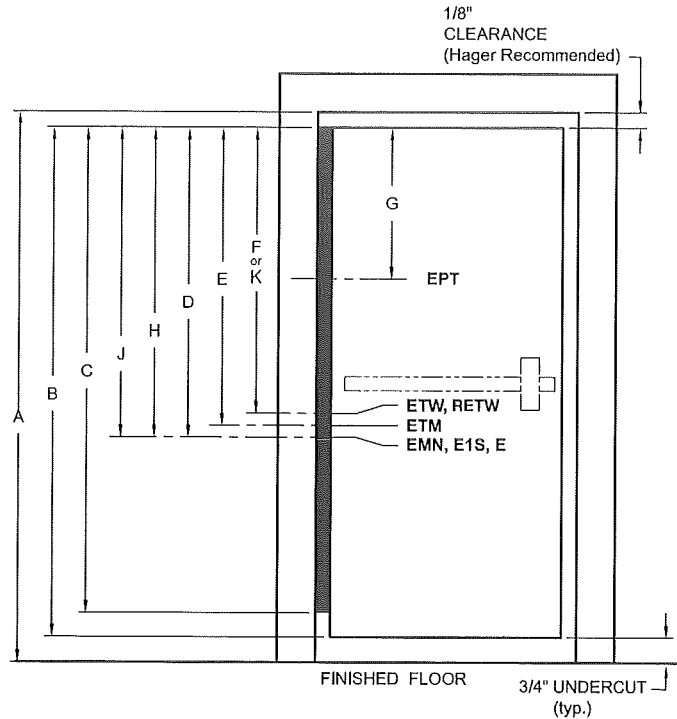
- Electric Preparation
 - ETW-4
 - ETW-6
 - ETW-8
 - ETW-10
 - ETW-12
- All ETW have 28-gauge continuous conductors.
- 12" per side required as a suffix.
- Cut out for prep - 1/2" drilled hole.
- Transfers power discreetly from building to door hardware.
- Specify handing and the dimension from the top 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.



HAGER
COMPANIES

ELECTRIC HINGE MODIFICATIONS

- A = Opening
- B = Door height
- C = Actual hinge length
- D = C.L. of EMN (electric monitor)
- E = C.L. of ETM (electric through-wires & monitor)
- F = C.L. of ETW (electric through-wires)
- G = C.L. of EPT (electric power transfer)
- H = C.L. of E1S (exposed switch)
- J = C.L. of E (exposed contact)
- K = C.L. of RETW (removable electric through-wires)



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: Full surface hinges are not available with preps.

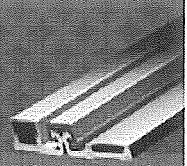
	Opening	Door Height	Actual Hinge Length	EMN	ETM	ETW	EPT	E1S	E	RETW
79 SD	80"	79-1/8"	78-11/16"	40-3/4"	42-3/4"	40-3/4"	34-3/8"	42-1/2"	42-1/2"	-
79 HD	80"	79-1/8"	78-11/16"	40-3/4"	42-3/4"	40-3/4"	34-3/8"	42-1/2"	42-1/2"	43-11/32"
83 SD	84"	83-18"	83"	45-5/16"	44-3/4"	45-5/16"	36-3/8"	46-1/2"	46-1/2"	-
83 HD	84"	83-1/8"	83"	45-5/16"	44-3/4"	45-5/16"	36-3/8"	46-1/2"	46-1/2"	45-11/32"
85 SD	86"	85-1/8"	85"	46-5/16"	45-3/4"	46-5/16"	37-3/8"	48-1/2"	48-1/2"	-
85 HD	86"	85-1/8"	85"	46-5/16"	45-3/4"	46-5/16"	37-3/8"	48-1/2"	48-1/2"	46-11/32"
95 SD	96"	95-1/8"	95-1/16"	56-3/8"	55-13/16"	56-3/8"	47-1/2"	59-3/4"	59-3/4"	-
95 HD	96"	95-1/8"	95-1/16"	56-3/8"	55-13/16"	56-3/8"	47-1/2"	59-3/4"	59-3/4"	56-15/32"
119 SD	120"	119-1/8"	119"	81-1/4"	80-11/16"	81-1/4"	72-5/16"	83-3/4"	83-3/4"	-
119 HD	120"	119-1/8"	119"	81-1/4"	80-11/16"	81-1/4"	72-5/16"	83-3/4"	83-3/4"	81-9/32"

SD = Standard Duty HD = Heavy Duty



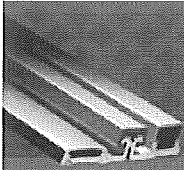
Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018



ELECTRIC HINGE MODIFICATIONS

Part Number	Von Duprin EPT 2 or EPT 10 Power Transfer Preparation	Exposed Electric Contacts	Exposed Electric Switches	Concealed Electric Through-Wire	Concealed Electric Monitoring	Concealed Electric Through-Wire and Monitoring	Removable Electric Through-Wire
	EPT	E	E1S	ETW	EMN	ETM	RETW
780-045HD	•						
780-046HD	•						
780-053	•						
780-053HD	•						
780-054HD	•						
780-057				•			•
780-110HD			•				
780-111	•	•	•	•	•	•	
780-111HD	•	•	•	•	•	•	•
780-111LL	•	•	•	•	•	•	
780-112	•	•	•	•	•	•	
780-112HD	•	•	•	•	•	•	•
780-112LL	•	•	•	•	•	•	
780-124HD	•	•	•	•	•	•	•
780-124LL	•	•	•	•	•	•	
780-157				•			•
780-224	•	•	•	•	•	•	
780-224HD	•	•	•	•	•	•	•
780-224LL	•	•	•	•	•	•	
780-226HD	•	•	•	•	•	•	•
780-226LL	•	•	•	•	•	•	
780-235HD				•			
1200-600	•			•			
1200-650	•			•			

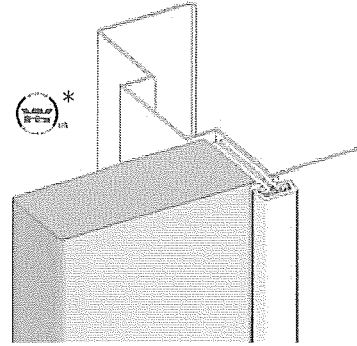


HAGER
COMPANIES

780 SERIES CONCEALED LEAF - 780-112* | 780-112HD* | 780-112LL - STANDARD DUTY, HEAVY DUTY OR LEAD LINED

SPECIFICATIONS

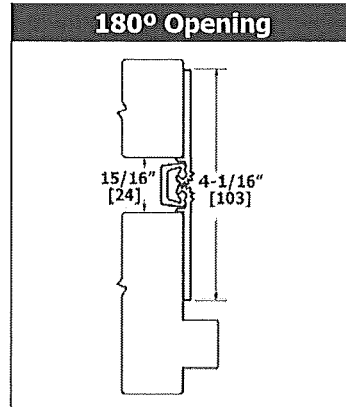
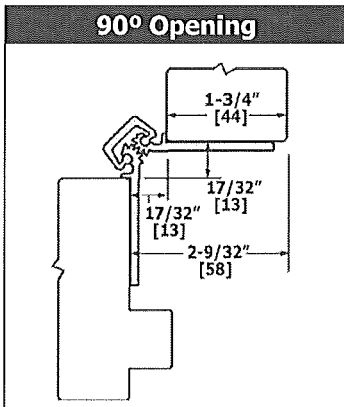
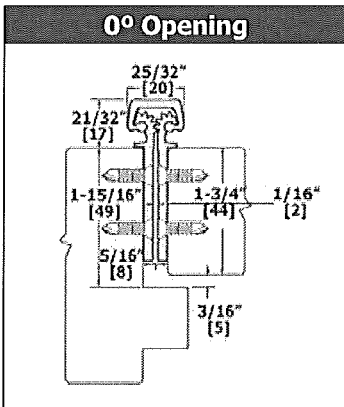
- Material: Aluminum 6063-T6
- Clearance: 5/16" (8 mm) hinge side plus standard lockside clearance
- Fasteners: Dril-Kwik® screws
- LL Fasteners: 1/2 Dril-Kwik® screws, 1/2 wood screws
- Length Options: Standard and custom lengths available
- Door/Frame Reinforcement: None required to 200 lbs., heavier 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

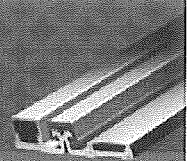


FEATURES

- 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

Length		Fastener Count					
Inches	Millimeters	# For Door			# For Jamb		
		SD	HD	LL	SD	HD	LL
79	2007	15	15	32	15	15	32
83	2108	19	19	36	19	19	36
85	2159	19	19	36	19	19	36
95	2413	20	20	42	20	20	42
119	3023	23	23	48	23	23	96

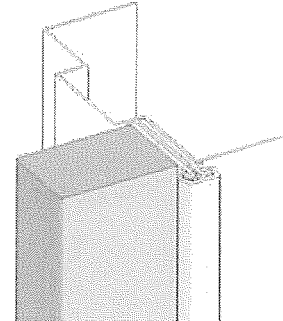




780 SERIES CONCEALED LEAF - 780-224* | 780-224HD* | 780-224LL - STANDARD DUTY, HEAVY DUTY OR LEAD LINED

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

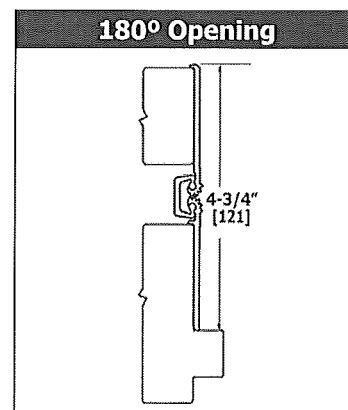
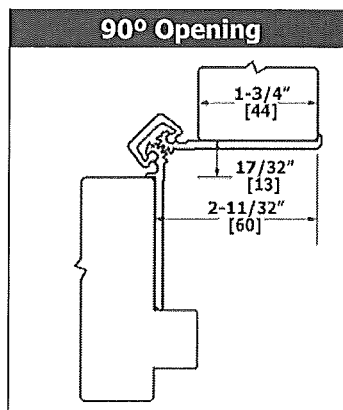
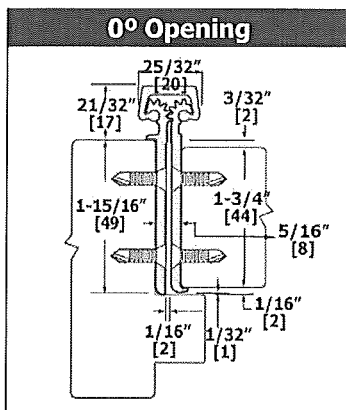


(Left hand shown)

FEATURES

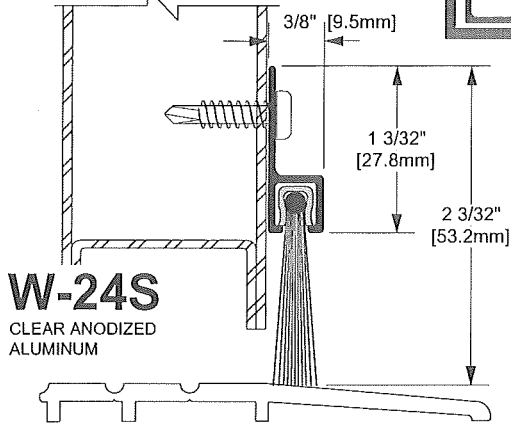
- Standard duty for medium frequency doors. Heavy duty for high frequency doors or heavy, medium frequency doors. All for doors 1-3/4" (44 mm) thick.
- Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify "LL")
- Door edge protection lip
- Frame leaf alignment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

Length		Fastener Count					
Inches	Millimeters	# For Door			# For Jamb		
		SD	HD	LL	SD	HD	LL
79	2007	15	15	32	15	15	32
83	2108	19	19	36	19	19	36
85	2159	19	19	36	19	19	36
95	2413	20	20	42	20	20	42
119	3023	23	23	48	23	23	48

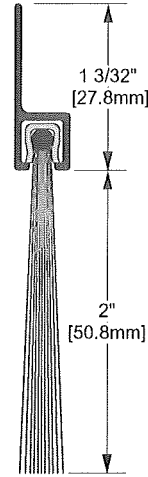


SWEEPS

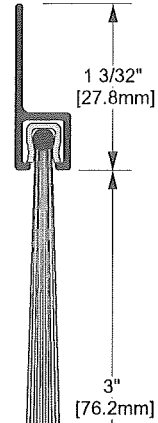
ALL PRODUCTS ON THIS PAGE



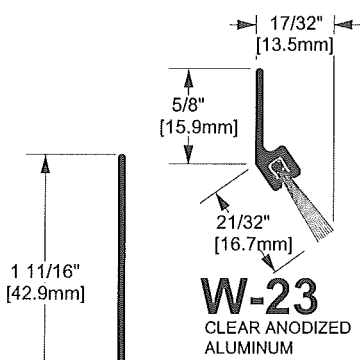
W-24S
CLEAR ANODIZED ALUMINUM



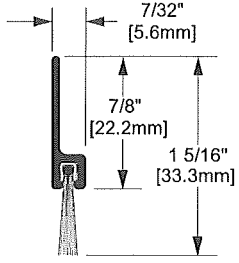
W-33S
CLEAR ANODIZED ALUMINUM



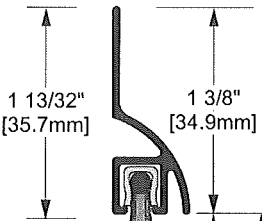
W-34S
CLEAR ANODIZED ALUMINUM



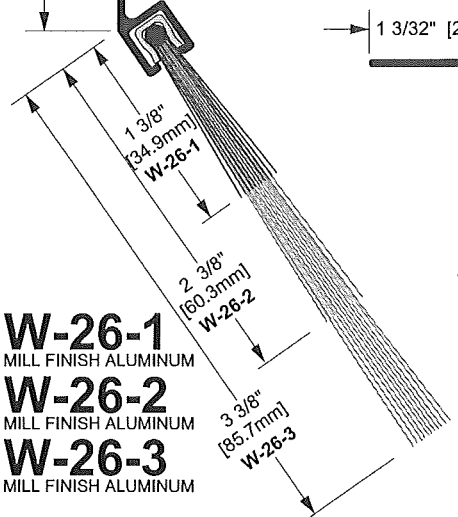
W-23
CLEAR ANODIZED ALUMINUM



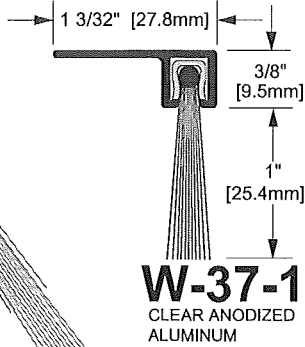
W-25S
CLEAR ANODIZED ALUMINUM



W-35-1
CLEAR ANODIZED ALUMINUM
W-35-2
CLEAR ANODIZED ALUMINUM
W-35-3
CLEAR ANODIZED ALUMINUM



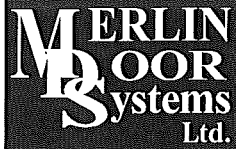
W-26-1
MILL FINISH ALUMINUM
W-26-2
MILL FINISH ALUMINUM
W-26-3
MILL FINISH ALUMINUM



W-37-1
CLEAR ANODIZED ALUMINUM

100% CANADIAN OWNED AND OPERATED

www.kncrowder.com



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Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

STANDARD POWDER COAT FINISHES

LCN powder coating provides superior protection against the effects of weather conditions and is an environmentally friendly process. The high quality, chip resistant finish is far superior to any previously offered. Corrosion resistance surpasses 100 hours salt spray testing (four times the industry standard). Non-metallic components also provide the same high resistance to the effects of the elements. All LCN products must be shipped with a finish.

LCN STANDARD FINISHES (CLOSEST BHMA EQUIVALENT):

ALUM ALUMINUM (BHMA 689)



DKBRZ DARK BRONZE (BHMA 695)



STAT STATUARY BRONZE (BHMA 690)



LTBRZ LIGHT BRONZE (BHMA 691)



BLK BLACK (BHMA 693)



BRASS BRASS (BHMA 696)



OPTIONAL CUSTOM POWDER COAT FINISHES

LCN offers custom powder coating to provide a custom appearance and all the corrosion resistance of standard powder coat finishes at a nominal additional cost. LCN uses the RAL numbering system for the 150+ custom colors available. Contact your local SSC representative for a brochure showing the available custom colors. Note: Custom powder coat finishes require a metal cover.

OPTIONAL PLATED FINISHES

Visible components such as metal covers, arms, fasteners, and finish plates are plated to match the selected finish. Surface mounted tracks are powder coated to compliment the plated finish. Hidden assemblies such as cylinders, tracks, and mounting plates are supplied with a powder coated finish. Plated finishes require handing of closers.

LCN PLATED FINISHES:

US 3	Bright Brass (BHMA 632)
US 4	Satin Brass (BHMA 633)
US 10	Satin Bronze (BHMA 639)
US 11	Satin Bronze (BHMA 643)
US 15	Satin Nickel (BHMA 646)
US 26	Bright Chrome (BHMA 651)
US 26D	Satin Chrome (BHMA 652)

LCN PAINTED FINISHES:

Aluminum	ALUM (BHMA 689)
Dark Bronze	DKBRZ (BHMA 695)

SPECIAL RUST INHIBITING (SRI) PROCESS

For installations where a higher level of protection against weather conditions, or the effects of a potentially corrosive atmosphere is required, LCN offers a special rust inhibiting (SRI) process. Ferrous metal components receive an SRI pretreatment and a standard powder coat finish of your choice, or a custom powder coat finish for a nominal additional cost. Closers treated with the SRI process exceed the 100 hour protection level available with standard LCN powder coated finishes. For details, contact your local SSC representative or the LCN factory.

STANDARD ANODIZED FINISHES:

LCN Senior Swing & Benchmark electromechanical power operators are offered with an anodized finish. Anodizing is an electrochemical process that thickens and toughens the protective oxide on aluminum metal.

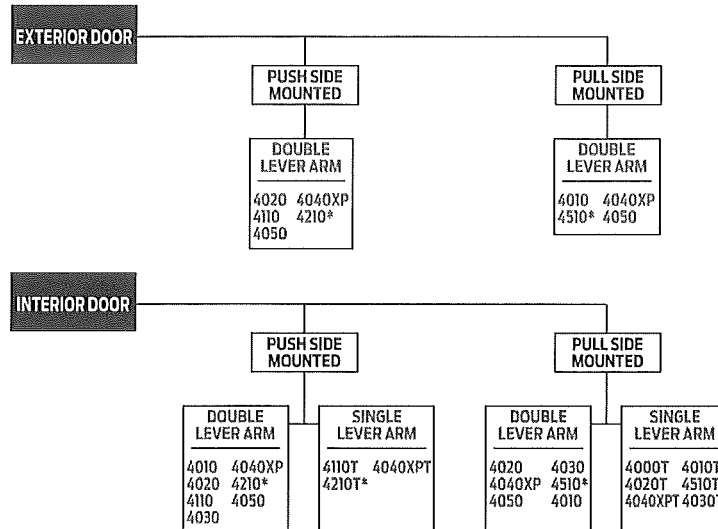
LCN ANODIZED FINISHES:

Aluminum	ANCLR (BHMA 628)
Dark Bronze	ANDKBRZ (BHMA 710)

**4000 Series
surface
mounted
closers**

Product selection guide

Surface mounted 4000 Series LCN closers feature a modern design engineered for each application, easy installation, and superior performance. This guide is based on the desired mounting of the closer.



* INDICATES HIGH SECURITY CLOSER. REFER TO THAT SECTION OF THE CATALOG.

Product comparison

This chart shows a basic comparison of 4000 Series closers. Refer to the specific closer chapter for complete details.

CLOSER SERIES	MOUNTING					FINISH		COVER		CYLINDER		*ARM FUNCTION									
	HINGE (PULL/SIDE)	TOP JAMB (PULL)	TOP JAMB (PUSH)	PARALLEL ARM	STOP FACE	POWDER COAT	PLASTIC	METAL	NON-HANDED	NON-SIZED	ACCESSIBILITY	DELAYED ACTION**	AVB**	REGULAR (DOUBLE)	STANDARD (SINGLE)	HOLD-OPEN	FUSIBLE LINK	EDM/EDA	CUSHIONKUSH	SCUSH/SHUSH	DOUBLE FORESS
4010	●	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4010T	●	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4020	○	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4020T	○	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4030	●	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4030T	●	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4040XP	●	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4040XPT	●	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4050	●	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4110	○	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4110T	○	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
4000T	●	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○

● AVAILABLE
○ NOT AVAILABLE

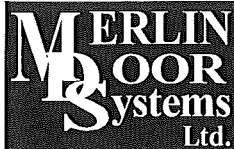
♿ Closer available with less than 5.0 lbs. opening force on 36" door.
 * Maximum opening/hold-open point with standard template. See individual closer series for degrees of opening per installation.
 ** Advanced Variable Backcheck.
 *** Delay Action for 4040XP incorporates standard 4041 cylinder.

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1



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Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

4000 Series mounted closers

APPLICATIONS

- For aluminum, hollow metal, or wood swinging doors and frames.
- Can be used with hinge or pivot mounted door.
- Adapter plates and other installation accessories available for unusual conditions.

FEATURES COMMON TO 4000 SERIES

- Each closer (except 4050, 4040XP, 4040XPT, 4030, 4030T) is designed for a specific mounting: hinge side, top jamb, or parallel arm. 4040XP closer with regular or hold-open arm mounts hinge side or top jamb. 4030, 4040XP and 4050 regular parallel arm closers include 62PA SHOE required to parallel arm mount either regular or hold-open arm.
- Handed for right or left swinging doors, except for 4000T, 4030, 4030T, 4040XP, 4050 and 4040XPT.
- Closers to meet ADA reduced opening force requirements except 4000T.
- Adjustable hydraulic backcheck cushions opening swing prior to 90°.
- Separate regulation of general closing speed and latching speed.
- Joints in regular arm and shoe adapt to uneven trim.
- Reversible shoe to boost latching power on double lever arms.
- Available in a wide range of standard or optional custom powder coat finishes to blend with door and frame.
- Plated finishes available to accent door and frame.
- Not designed for exterior mounting or exposed to elements.

DESIGN ASSISTANCE

LCN has been providing reliable solutions to unique door control problems since 1925. Design and specification assistance are only a phone call away.

Contact LCN for assistance or technical information at **877-671-7011** or **FAX 800-248-1460 (Order Entry)**, Fax **815-879-1495** for Product Support.

WARRANTY

30 year limited warranty; 25 year limited warranty (4050). See General Information Section for complete warranty details.

SPECIFICATIONS

Refer to "SPECIFICATIONS" section for suggested architectural specifications.

MATERIALS

- High strength **cast iron** or **cast aluminum** (4050) cylinder.
- **Forged steel** main arms.
- One piece **forged steel** piston.
- **Double heat treated** pinion.
- LCN's **all weather "Liquid X" fluid** performs to temperature ranges from 120°F (49°C) to -30°F (-35°C) without any seasonal adjustment.
- LCN's standard **all weather fluid** performs to temperature ranges from 120°F (49°C) to -30°F (-35°C).
- **High efficiency, full complement**, low friction bearings.
- Tamper resistant regulating screws.
- Full rack and pinion hydraulic action.
- Quiet, low friction track and roller combination for all single lever arm (track style) closers.

FINISHES

- Available in six standard or optional custom powder coat finishes to blend with door and frame.
- LCN's powder coat finishes surpass 100 hours of salt spray which is over four times the ANSI standard for corrosion resistance.
- For installations where a higher level of corrosive resistance is required, LCN offers an optional special rust inhibiting (SRI) pre-treatment. Closers that combine the exclusive LCN powder coat finish and the SRI pre-treatment exceed the ANSI standard for corrosion resistance even further.
- Plated finishes are available as an option to accent door and frame. (SRI not available with plated finishes).

LISTINGS & APPROVALS

UL listed for self-closing doors without hold-open under "SWINGING DOOR CLOSERS" (GVEV) file R1943.

Tested and certified under ANSI Standard A156.4 Grade One. Consult factory for details.

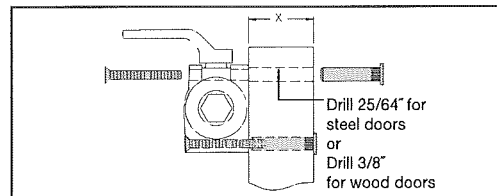
Consult factory for other listings such as; cUL, California State Fire Marshal, Bureau of Standards and Appeals.

POSITIVE PRESSURE

LCN closers have been certified for three hours by UL to be in compliance with UL 10C. Contact LCN for specific details on door closer fire ratings.

FASTENERS

4010, 4010T, 4020, 4020T, 4040XP, 4040XPT, 4050, 4110, 4110T Series closers are shipped with: A standard SELF-REAMING and TAPPING SCREW (SRT) pack that contains Phillips head SRT screws to install the closer. 4000T series closers are shipped with: A standard WOOD and MACHINE SCREW (WMS) pack that contains Phillips head wood and machine screws to install the closer. 4030, 4030T series closers are shipped with: A standard WOOD and SELF-TAPPING MACHINE SCREW (WMS) pack that contains Phillips head wood and self-tapping machine screws to install the closer. Standard LCN thru bolts (TB) can be installed on 1-3/4" (44 mm) thick doors with 1/4-20 machine screws. Optional thru bolt (TB) sizes are available for 1-5/8" (41 mm) or 1-3/8" (35 mm) door thickness, but this must be specified when ordering.



Notes:

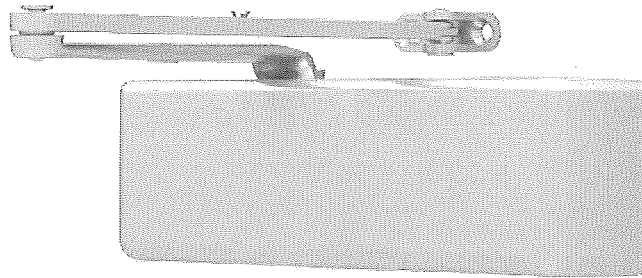
1. For Thru Bolts, specify door thickness if other than 1-3/4" (44mm), represented in diagram as dimension "X".
2. Phillips head, metric machine screws are available, please specify.
3. LCN recommends the use of wood screws, available in optional WMS screw packs, for wood door applications.

MAINTENANCE

Closers mounted according to LCN installation instructions require no periodic maintenance or adjustments.

4010 Series

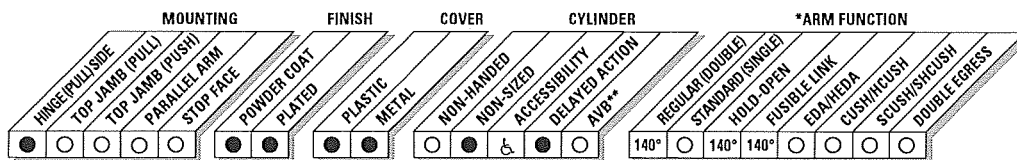
Features



The 4010 is LCN's best performing heavy duty closer designed specifically for institutional and other rugged high traffic applications.

Certifications	Grade 1 - ANSI A156.4, UL 10C, ADA, 100 Hour Salt Spray, Meets BAA - Buy American Act	Cover	<ul style="list-style-type: none"> Plastic, Standard Metal, Optional
Body Construction	<ul style="list-style-type: none"> Cast Iron Body Full Complement Bearing 1-1/2" Diameter Pliston 11/16" Diameter Double Heat Treated Pinion Journal 	Fasteners	Self Reaming and Tapping Screws (SRT)
Fluid	All Weather Fluid	Mounting	Hinge (Pull Side)
Handing	Handed	Arms	Regular Arm
Templating	Peel-n-Stick templates - 2-1/2" x 6" Mounting Hole Pattern	Finishes/Colors/Powder Coat	<ul style="list-style-type: none"> Aluminum (689) Statuary Bronze (690) Light Bronze (691) Black (693) Dark Bronze (695) Brass (696) Custom colors optional
Size	Adjustable 1-5 or Sized 6		<ul style="list-style-type: none"> Optional SRI primer - powder coat only Optional plated finishes
Warranty	30 years		

Special Templates | Customized installation templates or products may be available to solve unusual applications. Contact LCN Product Support for assistance.



● AVAILABLE
○ NOT AVAILABLE

♿ Closer available with less than 5.0 lbs. opening force on 36" door.
* Maximum opening/hold-open point with standard template.
** Advanced Variable Backcheck.

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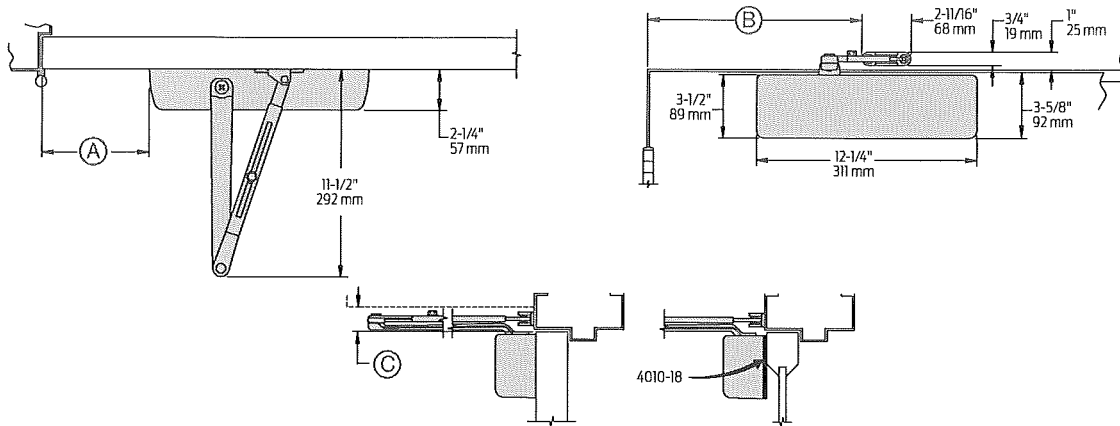


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Ottawa
Job No. 18-693
Submittal Date: Nov15th 2018

4010 Series

Mounting details

Hinge (Pull) Side Mounting



Butt Hinges	Should not exceed 5" (127 mm) in width
Auxiliary Stop	Recommended at hold-open point or where a door cannot swing 140°
Reveal	Should not exceed 3/4" (19 mm). Should not exceed 1/8" (3 mm) for Fusible link arm
Top Rail	<ul style="list-style-type: none"> ■ Less than 3-3/4" (95 mm) requires PLATE, 4010-18 ■ Plate requires 2" (51 mm) minimum ■ Clearance of 2-1/4" (57 mm) behind door required for 90° installation
Delayed Action	<ul style="list-style-type: none"> ■ Add suffix "DEL" to selected cylinder ■ Not available with 4016 cylinder ■ Delays closing from maximum opening to approximately 70°. ■ Delay time adjustable up to approximately 1 minute
Maximum Opening	Can be templated for: 100°: A = 5-15/16" (151 mm) 140°: A = 4-3/16" (106 mm) B = 11-15/16" (303 mm) B = 10-3/16" (259 mm)
Arm Clearance	Hold-open points up to maximum opening with hold-open arm Regular arm: C = 1-1/16" (27 mm) Hold-open arm: C = 1-3/8" (35 mm) Fusible link arm requires: C = 1-5/8" (41 mm)

Note:
 • Hold-open points up to maximum opening with hold-open arm

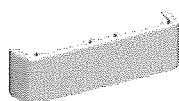
Cylinders



4011(6)-3071
Cast Iron Cylinder Assembly

- Handed
- Standard

Covers



4010-72
Plastic Cover

- Non-handed
- Standard

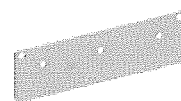


Right Hand Shown

4010-72MC
Metal Cover

- Handed
- Required for plated finishes and custom powder coat finishes
- Optional

Installation Accessories



4010-18
Plate

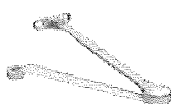
- Required where top rail is less than 3-3/4" (95 mm)
- Requires minimum 2" (51 mm) top rail

Arms



4010-3077
Regular Arm

- Non-handed



4010-3049
Hold-Open Arm

- Provides hold-open function, adjustable at elbow
- Optional



4010-3049FL
Fusible Link Arm

- Handed
- Releases hold-open function when exposed to temperatures above 165° F, 1/8" (3 mm) maximum reveal
- Optional

NOTE: Check local codes before specifying FL arms. NOT A life safety product!

4010 Series

Ordering Information

How-to-order 4010 Series closers

1. Select cylinder size

- 4011 (adjustable from size 1 to 5)
- 4016 (DEL not available)

2. Specify hand

- RH
- LH

3. Select finish

- Standard Powder Coat _____
- Aluminum, Dark Bronze, Statuary, Light Bronze, Black, Brass.

Closer will be shipped with:

- Standard cylinder
- Standard cover
- Regular arm
- Self-reaming and tapping screws unless options listed below are selected.

Closer options

Cylinder

- Delayed Action (DEL)

Cover

- Metal (MC)

Arm

- Hold-Open (H)
- Fusible Link, 165°F (FL)

Finish

- Custom Powder Coat (RAL) _____ (handed metal cover required)
- Plated Finish, US _____ (handed metal cover required)
- SRI primer (use with powder coat finishes only)

Screw Pack

- TB* & SRT Screw (TBSRT)
 - Wood & Machine Screw (WMS)
 - TB*, Wood & Machine Screw (TBWMS)
 - TORX Machine Screw (TORX)
 - TB* & TORX Machine Screw (TBTRX)
- * Specify door thickness if other than 1-3/4"*

Installation Accessories

- Plate, 4010-18

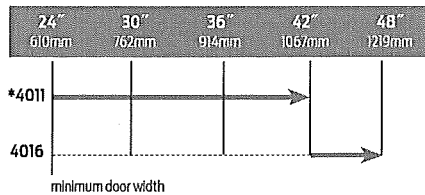
Special Template

- ST- _____

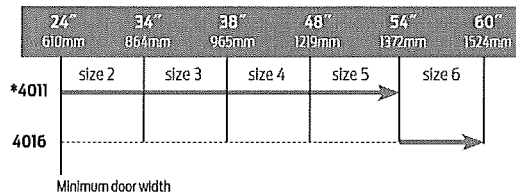
Table of sizes

- Select closer based on width of door
- The spring power of non-sized 4011 cylinder is adjustable from size 1 through size 5 and is shipped set to size 3
- Sized 4010 Series cylinders available in size 6
- Delayed action not available with 4016 cylinder

Exterior (and Vestibule) door width



Interior door width




→ Indicates recommended range of door width for closer size.
* Adjustable Size 1 thru 5.

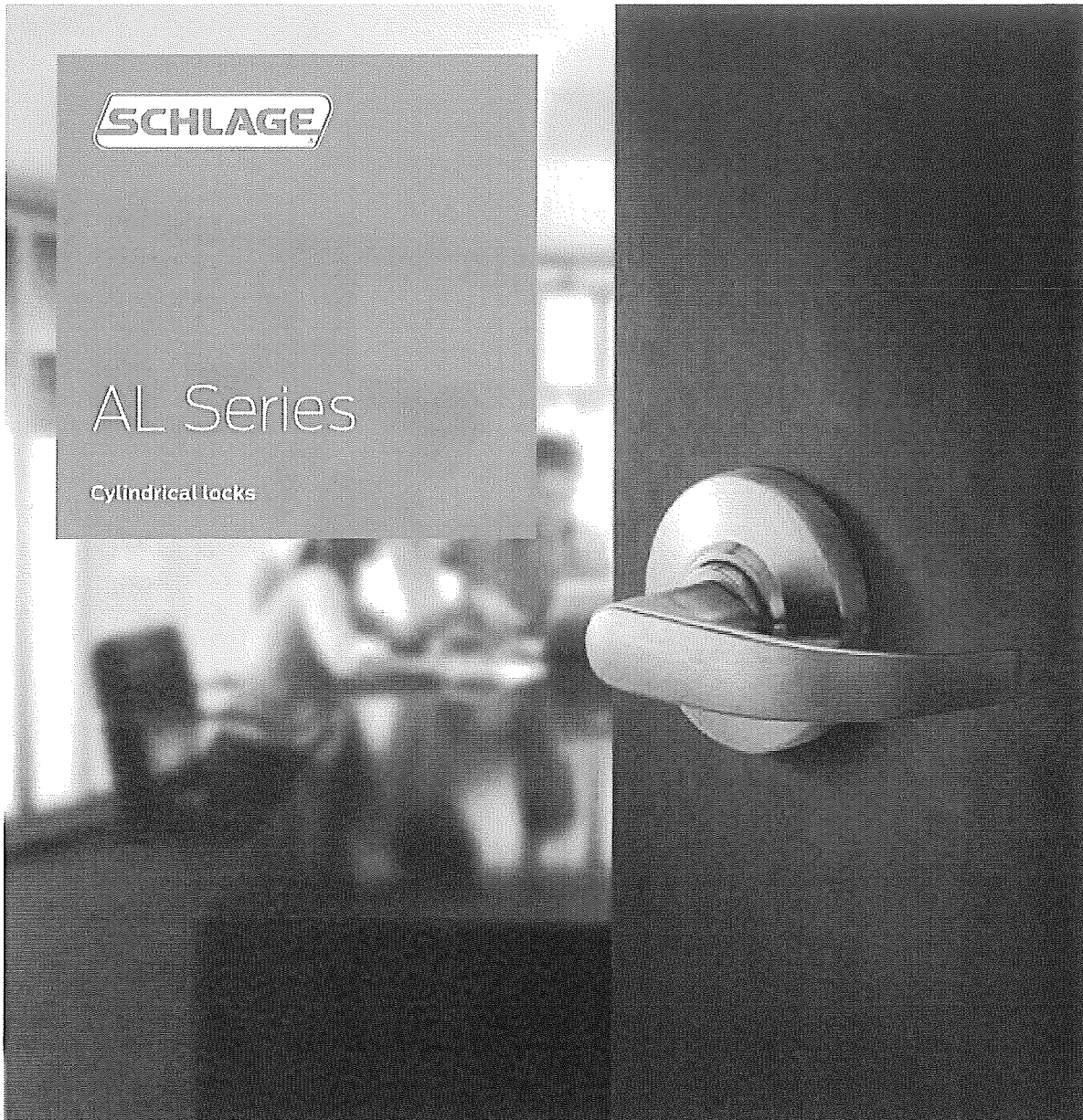
Reduced opening force 4010 Series closers

CAUTION! Any manual door closer, including those certified by BHMA to conform to ANSI Standard A156.4, that is selected, installed and adjusted based on ADA or other reduced opening force requirements may not provide sufficient power to reliably close and latch a door.

Refer to POWER OPERATORS section for information on systems that meet reduced opening force requirements without effecting closing power.

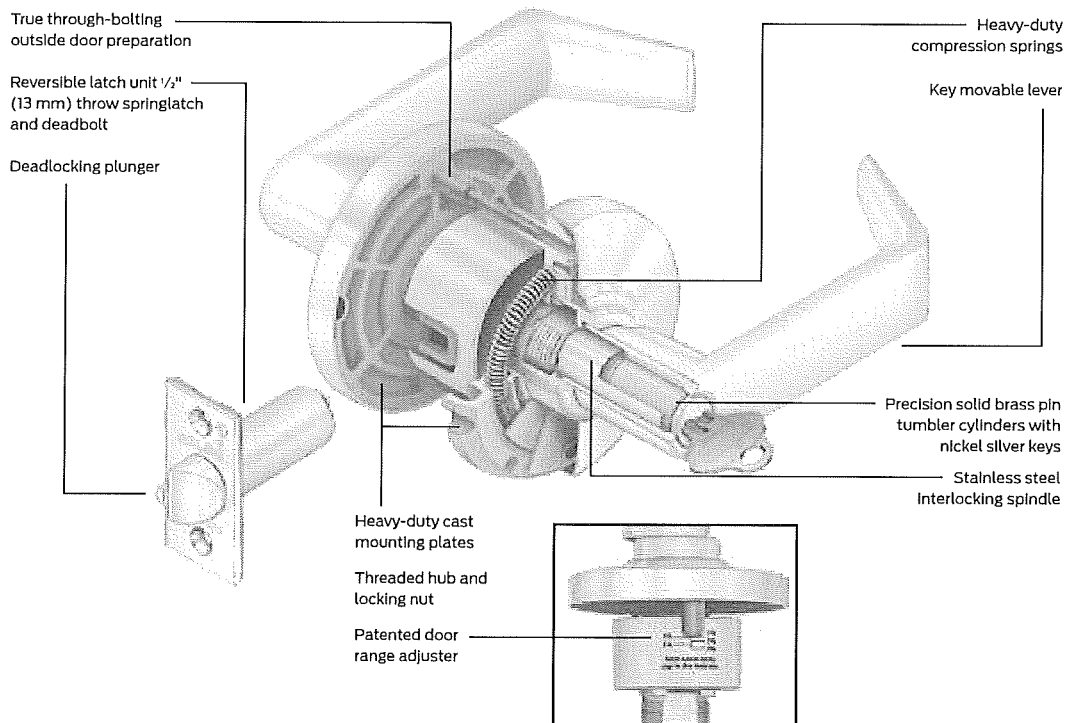
	DOOR WIDTH	36"	42"	48"
	8.5* lbs.	4011	4011	4011
	5.0* lbs.	4011	4011	4011

* Maximum opening force.



The lever that looks as good as it performs

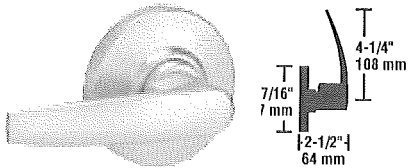
- Cold-rolled steel, machined and threaded hubs, and locking nuts prevent the loosening of the lockset by securely bolting the chassis to the door
- Large diameter of mounting plate and rose covers new ANSI hollow metal door cutout
- Patented door range adjuster allows quick and easy adjustment for doors ranging from 1³/₈" to 1⁷/₈" (35 mm to 48 mm) thick



Schlage • AL Series • 7

AL Series lever designs

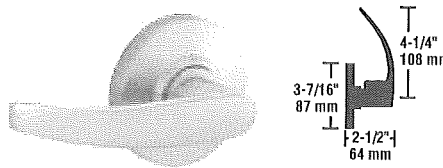
Jupiter (JUP)



Symbol: JUP
Material: Pressure cast zinc lever; wrought brass or bronze rose
Suites: S Series JUPITER, ND Series ATHENS and L Series 07 designs



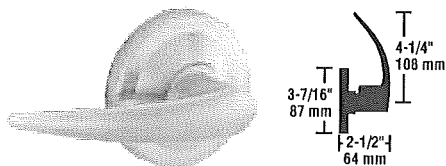
Neptune (NEP)



Symbol: NEP
Material: Pressure cast zinc lever; wrought brass or bronze rose
Suites: S Series NEPTUNE, ND Series SPARTA and L Series 17 designs



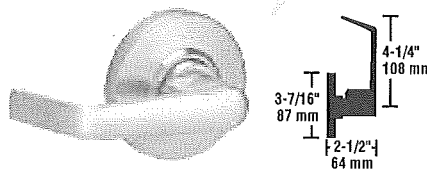
Omega (OME)



Symbol: OME
Material: Pressure cast zinc lever; wrought brass or bronze rose
Suites: ND Series OMEGA and L Series OMEGA designs



Saturn (SAT)

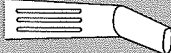


Symbol: SAT
Material: Pressure cast zinc lever; wrought brass or bronze rose
Suites: S Series SATURN, H Series LEVON, ND Series RHODES and L Series 06 designs
Options: Tactile warning



Tactile warning

Milled



Order as follows:
BSA for Saturn

Only available on outside lever, unless otherwise specified.

All designs shown in 626 satin chrome

= Standard cylinder.	= Antimicrobial coating available on 626 finish only.
= FSIC - Full size Interchangeable core option.	= Meets California code for 1/2" or less return to the door.
= SFIC - Small format Interchangeable core option.	= Extended factory lead time.
= Complies with ADA accessibility guidelines.	

8 • Schlage • AL Series

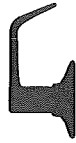
Lock functions

ANSI A156.2 Series 4000 Grade 2

Keyed functions

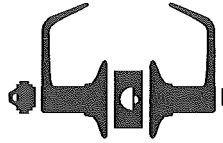
Schlage ANSI
AL170 -
 Single dummy trim
 • Single dummy trim for one side of door.
 • Used for door pull or as matching inactive trim.

Outside or Inside



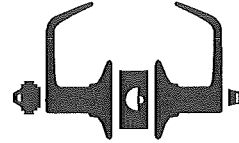
Schlage ANSI
AL50PD F82
 Entrance/office lock
 • Push-button locking.
 • Push-button locks outside lever until it is unlocked with a key or by rotating the inside lever.
 • Inside lever always free for immediate egress.

Outside Inside



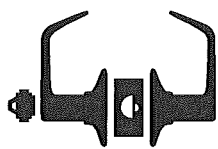
Schlage ANSI
AL53PD F109
 Entrance lock
 • Turn/push-button locking: pushing and turning button locks outside lever, requiring use of a key until the button is manually unlocked.
 • Push-button locking: push-button locks the outside lever until it is unlocked by key or by turning the inside lever.
 • Inside lever always free for immediate egress.

Outside Inside



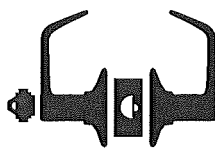
Schlage ANSI
AL70PD F84
 Classroom lock
 • Outside lever is locked and unlocked by key.
 • Inside lever is always unlocked.
 • Inside lever always free for immediate egress.

Outside Inside



Schlage ANSI
AL80PD F86
 Storeroom lock
 • Outside lever is fixed.
 • Entrance by key only.
 • Inside lever is always unlocked.
 • Inside lever always free for immediate egress.

Outside Inside



Schlage ANSI
AL85PD F93
 Faculty restroom lock (with indicator cylinder)
 • Outside lever is fixed.
 • Entrance by key only.
 • Push button on Inside lever activates visual occupancy indicator, allowing only the emergency masterkey to operate.
 • Rotate inside lever or close door to release visual occupancy indicator.
 • Rotation of inside spanner button provides lockout feature by keeping indicator thrown.
 • Inside lever always free for immediate egress.

Outside Inside



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Latches

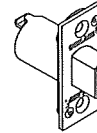
AL Series latches are adjustable for flat or beveled edge doors. Latches and strikes are furnished in brass, bronze or chrome finishes compatible with lock trim. When ordering separately, specify quantity, part number, and finish. Standard latches shown in bold type.

Latches

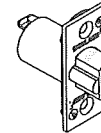
Backset	Faceplate description	Hsg dia	Deadlatch 1 1/8" (28 mm) throw	Springlatch 1 1/2" (38 mm) throw
2 3/8" (60 mm)	1" x 2 1/4" (25 mm x 57 mm) square corner	7/8" (22 mm)	11-085	11-068
	1" x 2 1/4" (25 mm x 57 mm) 1/4" (6 mm) radius round corner	7/8" (22 mm)	11-088	11-069
	1" (25 mm) circular drive-in (non-UL) 605 and 626 finishes only	1" (25 mm)	11-104	11-110
2 3/4" (70 mm)	1" x 2 1/4" (25 mm x 57 mm) square corner	7/8" (22 mm)	11-091	11-111
	1 1/8" x 2 1/4" (29 mm x 57 mm) square corner, standard	1" (25 mm)	11-096	11-116
	1" x 2 1/4" (25 mm x 57 mm) 1/4" (6 mm) radius round corner 605 and 626 finishes only	7/8" (22 mm)	11-092	11-112
	1" (25 mm) circular drive-in (non-UL)	1" (25 mm)	11-105	11-113
3 3/4" (95 mm)	1 1/8" x 2 1/4" (29 mm x 57 mm) square corner	1" (25 mm)	11-103	11-118
5" (127 mm)	Backset extension link*	7/8" (22 mm)	41-005*	

*Backset extension link 41-005 must be used with 2 3/4" backset latches.

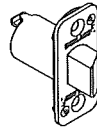
Square corner latches



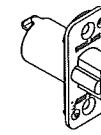
Deadlatch



Round corner latches



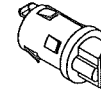
Deadlatch



Drive-in latches



Deadlatch

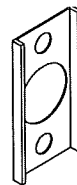


Long backsets

Backsets 5" require extension links. AL Series locks with long backsets are normally furnished with 1" faceplates and 7/8" housings. Links installed in 1" latch holes require one G506-815 sleeve (order separately) to join latch and link.

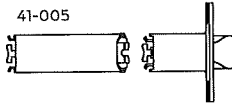
Latch front adapter

A501-878



Used to convert 1" wide square front faceplates for 1 1/8" wide door preparations. Furnished in black plastic. Order in units of 100 each.

5" extension link



(add to 2 3/8" backset latch)

Sleeve

G506-815
(order separately)

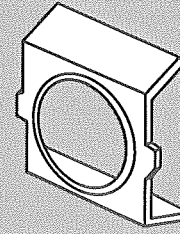


Door reinforcement

Reinforcing unit is required to reinforce and help prevent the collapse of hollow metal doors when lockers are tightly mounted. This kit should be used with long backsets for AL Series lock installations in hollow metal doors to prevent lateral movement of the latchbolt. Specify door thickness: 1 1/2" (35 mm) or 1 3/4" (44 mm), when ordering reinforcement kits.

Reinforcement kit
37-001

Kit includes:
Reinforcement
A501-566 for 1 1/4" doors or
A501-565 for 1 3/4" doors



Strikes

All Schlage strikes are furnished complete with screws. The 10-025 standard AL Series strike has a 1 3/8" (30 mm) lip. Standard strikes shown in bold type.

Strikes

Number	Lip length	Description
10-001	1", 1 1/8" (std), 1 1/4", 1 1/2", 1 3/4", 2" (25 mm, 29 mm, 32 mm, 38 mm, 44 mm, 51 mm)	1 1/8" x 2 3/4" (29 mm x 70 mm) square corner, box, standard
10-004	1 1/8" (29 mm)	1 1/8" x 2 3/4" (29 mm x 70 mm) 1/8" (3 mm) radius, round corner
10-025	1 3/8", 1 3/8" (30 mm, 35 mm)	1 1/4" x 4 7/8" (32 mm x 124 mm) ANSI
10-026	1 1/8" (29 mm)	1 3/8" x 2 1/4" (41 mm x 57 mm) full lip, square corner
10-027	1 1/8" (29 mm)	1 3/8" x 2 1/4" (41 mm x 57 mm) full lip, 1/4" (6 mm) radius, round corner
10-058	1 3/32" (31 mm)	1 3/4" (44 mm) circular, adjustable
K510-066	—	Box for ANSI strike

*Use with 2 3/4" square corner strikes only.

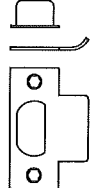
ANSI strike – standard

10-025
1 1/4" x 4 7/8" x 3/32"
(32 mm x 124 mm x 2 mm)



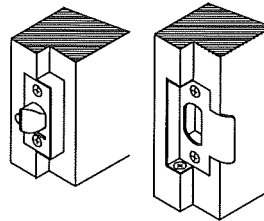
T-Strike

10-001
1 1/8" x 2 3/4" x 3/32"
(29 mm x 70 mm x 2 mm)



Rabbeted latch and strike kit

Rabbeted latch and strike kit finishes: 606, 626. This kit adapts square corner latches and strikes for 1/2" (13 mm) rabbeted door and frame preparations.



Rabbeted latch and strike kit
39-030

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Specifications

Handing:

Non-handed.

Door thickness:

1³/₈" to 1⁷/₈" (35 mm to 48 mm) standard.

2" (51 mm) optional.

Backset:

2³/₄" (70 mm) standard. 2³/₈" (60 mm), 3³/₄" (95 mm) and 5" (127 mm) optional.

Front:

Steel. 2¹/₄" x 1¹/₈" square corner, beveled, for 2³/₄" backset standard. Optional 1" square corner, 1" radius corner, and non-UL drive-in / round face. For availability with specific backsets, see page 16.

Lock chassis:

Steel, zinc dichromated for corrosion resistance

Latch bolt:

Brass, chrome plated, 1/2" throw, deadlocking on keyed and exterior functions.

Exposed trim:

Wrought brass and bronze. Levers are pressure cast zinc, plated to match finish symbols.

Strike:

ANSI curved lip strike 4⁷/₈" x 1¹/₄" x 1¹/₄" lip to center standard. Optional strikes, lip lengths and ANSI wrought strike box available. See page 17.

Cylinder and keys:

6-pin patented Everest 29 S123 keyway standard with two nickel silver keys per lock.

Keying options:

Interchangeable core and Primus® high security cylinders. Master keying, grand master keying, and construction keying.

Warranty:

Three-year limited.

Certifications

ANSI:

Meets or exceeds A156.2 Series 4000, Grade 2 strength and operational requirements.

Meets A117.1 Accessibility Code.

Federal:

Meets FF-H-106C.

California State Reference Code:

(Formerly Title 19, California State Fire Marshal Standard)

All levers with a return to door of 1/2" (64 mm)

or less comply.

UL / cUL:

All locks listed for A label single doors, 4' x 8'.

Letter F and UL symbol on latch front indicate listing.

UL437 Listed locking cylinder optional: specify Primus

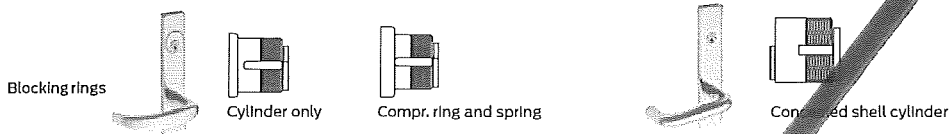
20-500 Series cylinder.

ADA compliant:

Schlage Lock Company offers a wide selection of locks designed to meet the Americans With Disabilities Act.

Cylinders

Cylinders for Schlage L Series mortise locksets

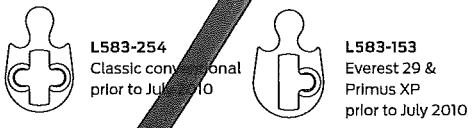


Cylinder mechanism		Conventional	Primus/ Primus XP	Primus UL437 Primus XP UL437	Primus XP lockout	Primus XP UL437 lockout
Design	Function					
	All except below	30-021	20-793/ 20-793-XP	20-593/ 20-593-XP	20-717**	20-517**
	L9060P outside	26-021	20-701/ 20-701-XP	20-501/ 20-501-XP	20-715**	20-515**
	L9485, L9486 Hotel functions	30-022*	N/A	N/A	N/A	N/A
	All except below	30-004	20-789/ 20-789-XP	20-589/ 20-589-XP	N/A	N/A
	L9060P outside	26-023	24-767/ 24-767-XP	24-567/ 24-567-XP	N/A	N/A
	L9485, L9486 Hotel functions	30-005*	N/A	N/A	N/A	N/A
	All except below	30-001	20-787/ 20-787-XP	20-587/ 20-587-XP	20-715	20-517
	L9060P outside	30-001	20-700/ 20-700-XP	20-500/ 20-500-XP	20-715	20-515
	L9485, L9486 Hotel Functions	30-002*	N/A	N/A	N/A	N/A

- * Specify door hand for hotel function cylinders.
- ** Discard compression ring for Lockout cylinders with escutcheon trim.

- Notes
1. Available in 605, 606, 609, 612, 613, 625, 626, 629, and 643E finish. Concealed shell cylinders available in 606 and 626 only.
 2. To differentiate between Classic and Everest 29, specify keyway. Example: C or CP (Classic), S123 (Everest 29), Everest 29 S123 keyway standard.
 3. 1 1/4" length standard. Optional lengths available in 1/4" (4mm) increments up to 1 1/4" (44mm).
 4. To order less Schlage logo, specify 1510-612 faceplate.
 5. Lockout keys must be ordered separately and lockout cylinders will not be master keyed by Schlage.
 6. Specify LKB if 0-bitted Primus XP cylinders are required less key blanks.

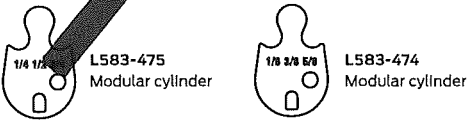
Cam for all functions except L9060 outside



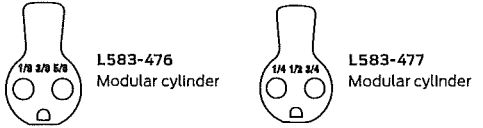
Cam for L9060 outside



Modular cylinder cams



Modular cam for L9060 outside



Modular cams are used for all cylinders made after Aug 2010, whether Classic, Everest 29 or Primus. L583-474 is used on cylinders 1 1/4", 1 1/2" and 1 3/4". L583-475 is used on cylinders 1 1/4", 1 1/2" & 1 3/4".

L583-476 is for cylinders 1 1/4", 1 1/2" & 1 3/4". L583-477 is for cylinders 1 1/4", 1 1/2" & 1 3/4".



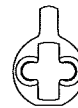
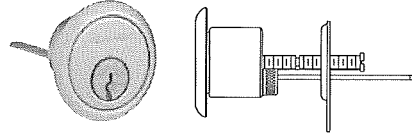
Turnbull Music Addition
Ottawa
Job No. 18-693
Submission Date: Nov15th 2018

Cylinders

Cylinders for exit devices, aluminum door, etc.

Rim cylinders		
Number	Description	Tail piece
20-022	Conventional cylinder	Horizontal
20-021	Conventional cylinder	Vertical
20-710	Primus cylinder	Horizontal
20-710-XP	Primus XP cylinder	Horizontal
20-709	Primus cylinder	Vertical
20-709-XP	Primus XP cylinder	Vertical
20-716	Primus lockout cylinder	Horizontal
20-716-XP	Primus XP lockout cylinder	Horizontal
20-510	Primus UL437 Listed cylinder	Horizontal
20-510-XP	Primus XP UL437 Listed cylinder	Horizontal
20-509	Primus UL437 Listed cylinder	Vertical
20-509-XP	Primus XP UL437 Listed cylinder	Vertical
20-516	Primus UL437 Listed lockout cylinder	Horizontal
20-516-XP	Primus XP UL437 Listed lockout cylinder	Horizontal

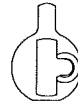
Available in 605, 606, 609, 612, 613, 619, 625 and 626 finish.



B502-292
Cam for classic conventional prior to July 2010



L583-447
Modular cam



B502-944
Cam for Everest 29 & Primus XP prior to July 2010



L583-446
Modular cam



B502-380
Cam for classic conventional prior to July 2010



L520-744
Modular Cam



B502-945
Cam for Everest 29 & Primus XP prior to July 2010



L520-743
Modular Cam

**Cylinders for Adams Rite MS 4500 and 4700 Series
Lori 4500 Series and Corbin Russwin DL3000 Series**

Number	Description
26-072	Conventional cylinder only
20-013	Conventional cylinder with 3/8" blocking ring
20-706	Primus cylinder with 3/8" blocking ring
20-706-XP	Primus XP cylinder with 3/8" blocking ring
20-506	Primus UL437 Listed cylinder with 3/8" blocking ring
20-506-XP	Primus XP UL437 Listed cylinder with 3/8" blocking ring
20-718	Primus lockout cylinder
20-718-XP	Primus XP lockout cylinder
20-518	Primus UL437 Listed lockout cylinder
20-518-XP	Primus XP UL437 Listed lockout cylinder

These cylinders include set screw pack B220-050 for Adams Rite locks.

Cylinders for Adams Rite 4070 Series

Number	Description
26-073	Conventional cylinder only
20-708	Primus cylinder only
20-708-XP	Primus XP cylinder only
20-508	Primus UL437 Listed cylinder only
20-508-XP	Primus XP UL437 Listed cylinder only

- Notes
1. Mortise cylinders available in 605, 606, 609, 612, 613, 619, 625, 626, 629, and 643E finish.
 2. To differentiate between Classic and Everest 29, specify keyway. Example: C or CP (Classic), S123 (Everest 29). Everest 29 S123 keyway standard.
 3. 1 1/8" length standard. Optional lengths available in 1/8" (4mm) increments up to 1 3/4" (44mm).
 4. To order less Schlage logo, specify with K510-612 faceplate.
 5. Lockout keys must be ordered separately and lockout cylinders will not be master keyed by Schlage.
 6. Specify LKB if 0-bitted Primus XP cylinders are required less key blanks.
 7. Plugs and FSIC cores available in 606 and 626 only.

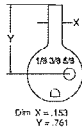
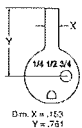

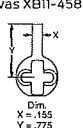
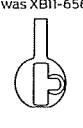

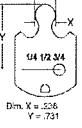

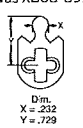
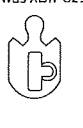
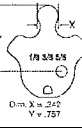
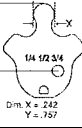

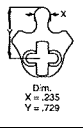

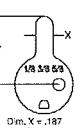
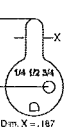

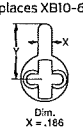
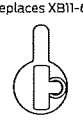
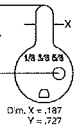
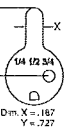

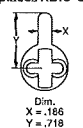
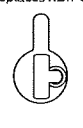
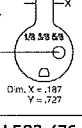
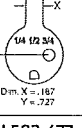

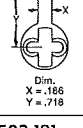

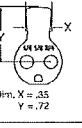
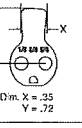

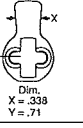
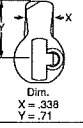


Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

Cams

Cams for Schlage mortise cylinders in other manufacturers' mortise locks

	Modular cylinder	Interchangeable core	Classic conventional non-IC	Everest 29 & Primus non-IC	
CAM substitutions only allowed on these cylinder numbers: (Order example: 20-001 X B210-731 626 S123)	20-001, 20-002, 20-500, 20-501, 20-515, 20-700, 20-701, 20-715, 26-021	20-059, 20-061, 26-064, 20-763, 20-771, 26-091, 26-094, 80-302, 80-110, 80-132, 80-102	For conventional cylinders manufactured before July 2010 not available with cylinder	For Primus & Everest cylinders manufactured before July 2010 not available with cylinder	
	1 1/8", 1 3/8", 1 5/8"	1 1/4", 1 1/2", 1 3/4"	N/A	N/A	
Corbin Russwin® DL4000 Series (Old Corbin 420 and Russwin 1503)	B520-730  Dim. X = .153 Y = .761	B520-731  Dim. X = .153 Y = .761	B520-254 (was XB11-426) 	B520-295 (was XB11-458)  Dim. X = .155 Y = .775	B520-366 (was XB11-656) 
Corbin Russwin® ML2200 Series (Old Corbin 7000-9000 and Russwin 4000-5000) All functions except ML2255 and ML2242 Inside (see straight cam)	B520-732  Dim. X = .230 Y = .731	B520-733  Dim. X = .228 Y = .731	B520-253 (was XB11-352) 	B520-233 (was XB08-899)  Dim. X = .232 Y = .729	B520-309 (was XB11-629) 
Corbin Russwin A65 ML2200 master ring deadbolt functions manufactured before 6/10/93 and old Russwin cast iron residential locks. For all Best 40H Series & 30H Deadbolt function	B520-734  Dim. X = .242 Y = .757	B520-735  Dim. X = .242 Y = .757	B520-360 (was XB11-817) 	B520-223 (was XB03-142)  Dim. X = .235 Y = .729	B520-367 (was XB11-887) 
Yale® 2160	B520-736  Dim. X = .187 Y = .727	B520-737  Dim. X = .187 Y = .727	B520-296 (was XB11-461, replaces XB11-484) 	B520-256 (was XB11-430, replaces XB10-659)  Dim. X = .186 Y = .718	B520-329 (was XB11-631, replaces XB11-630) 
Arrow® #004					
Sargent® 13-0660 All functions except 16 inside and 50 outside					
Best 30 Latch function	L583-476  Dim. X = .85 Y = .72	L583-477  Dim. X = .85 Y = .72	K510-730  Dim. X = .338 Y = .71	B502-191  Dim. X = .338 Y = .71	B502-948  Dim. X = .338 Y = .71
	Cam substitution with cylinders shown above are no charge			Not available for substitution	

The following complete cylinders are available. Specify the desired cam from the correct column above:

Cylinder mechanism

- Conventional cylinder
- Primus XP cylinder
- Primus XP UL437 Listed cylinder
- Full size IC with conventional core
- Full size IC housing less core
- Full size IC with Primus XP core
- Full size IC housing less core
- SFIC with Everest 29 core
- SFIC with keyed construction core
- SFIC with disposable construction core
- SFIC housing less core

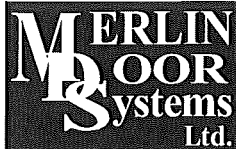
Collar

- compression ring and spring
- compression ring and spring
- compression ring and spring
- compression ring, spring, 3/8" blocking ring
- compression ring, spring, 3/8" blocking ring
- compression ring, spring, 1/4" blocking ring
- compression ring, spring, 1/4" blocking ring
- compression ring, spring, 1/4" blocking ring
- compression ring, spring, 1/4" blocking ring
- compression ring, spring, 1/4" blocking ring

How to order

- 20-001 x cam number
- 20-700 x cam number
- 20-500 x cam number
- 20-061 x cam number
- 20-771 x cam number
- 26-094 x cam number
- 80-302 x cam number
- 80-132 x cam number
- 80-110 x cam number
- 80-102 x cam number

Other manufacturers' registered trade names are for identification and reference only.





FINISHES / DECIMAL EQUIVALENT

3

STANDARD N.B.H.A. CODE	BHMA CODE	BASE MATERIAL AND DESCRIPTION
P	600	Steel, primed for painting
2C	602	Steel, cadmium plated
2G	603	Steel, zinc plated bright
3	605	Bright, brass, clear lacquered
3A		Bright brass, no lacquer
4	606	Satin brass, clear lacquered
5	609	Satin brass, oxidized and relieved (Antiqued)
9	611	Bright bronze, clear lacquered
9A		Bright bronze, no lacquer
10	612	Satin bronze, clear lacquered
10A		Satin bronze, no lacquer
10B	613	Satin bronze, oxidized and oil rubbed
14	618	Bright nickel
15	619	Satin nickel
17A	648	Nickel plated, blackened, matte relieved, clear coated
19		Aluminum, anodized black
20L	623	Bronze, oxidized light and lacquered
20M		Bronze, oxidized medium and lacquered
20D	624	Bronze, oxidized dark and lacquered
26	625	Bright chromium
26D	626	Satin chromium
27	627	Satin aluminum, clear lacquered
28	628	Satin aluminum, clear anodized
32	629	Stainless steel, bright
32D	630	Stainless steel, satin

INCHES		METRIC	INCHES		METRIC
DECIMAL	FRACTION	MILIMETER	DECIMAL	FRACTION	MILIMETER
.015625	1/64	.397	.515625	33/64	13.097
.03125	1/32	.794	.53125	17/32	13.494
.046875	3/64	1.191	.546875	35/64	13.891
.0625	1/16	1.588	.5625	9/16	14.288
.078125	5/64	1.984	.578125	37/64	14.684
.09375	3/32	2.381	.59375	19/32	15.081
.109375	7/64	2.778	.609375	39/64	15.478
.125	1/8	3.175	.625	5/8	15.875
.140625	9/64	3.572	.640625	41/64	16.272
.15625	5/32	3.969	.65625	21/32	16.669
.171875	11/64	4.366	.671875	43/64	17.066
.1875	3/16	4.763	.6875	11/16	17.463
.203125	13/64	5.159	.703125	45/64	17.859
.21875	7/32	5.556	.71875	32/32	18.256
.234375	15/64	5.953	.734375	47/64	18.653
.25	1/4	6.350	.75	3/4	19.050
.265625	17/64	6.747	.765625	49/64	19.447
.28125	9/32	7.144	.78125	25/32	19.844
.296875	19/64	7.541	.796875	51/64	20.241
.3125	5/16	7.938	.8125	13/16	20.638
.328125	21/64	8.334	.828125	53/64	21.034
.34375	11/32	8.731	.84375	27/32	21.431
.359375	23/64	9.128	.859375	55/64	21.828
.375	3/8	9.525	.875	7/8	22.225
.390625	25/64	9.922	.890625	57/64	22.622
.40625	13/32	10.319	.90625	29/32	23.019
.421875	27/64	10.716	.921875	59/64	23.416
.4375	7/16	11.113	.9375	15/16	23.813
.453125	29/64	11.509	.953125	61/64	24.209
.46875	15/32	11.906	.96875	31/32	24.606
.484375	31/64	12.303	.984375	63/64	25.003
.5	1/2	12.700	1.	1.	25.400



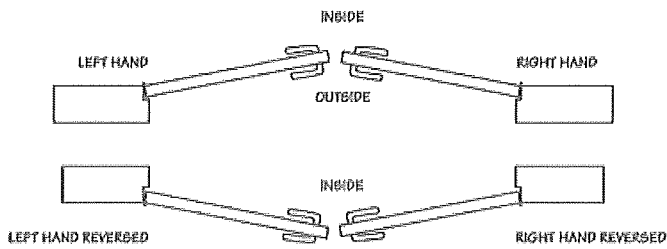
Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018



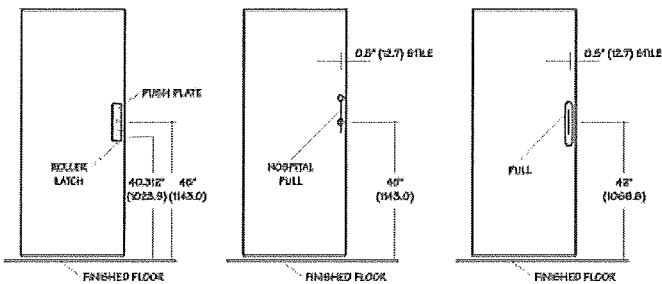
GENERAL INFORMATION / MOUNTING

4

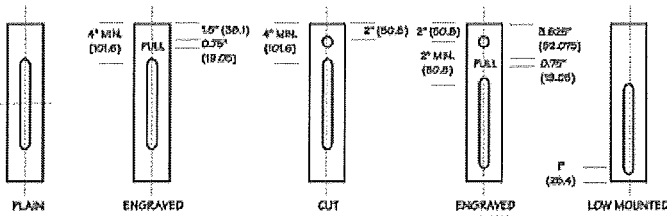


DOOR HANDS DETERMINED FROM OUTSIDE

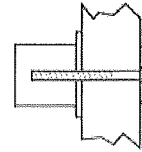
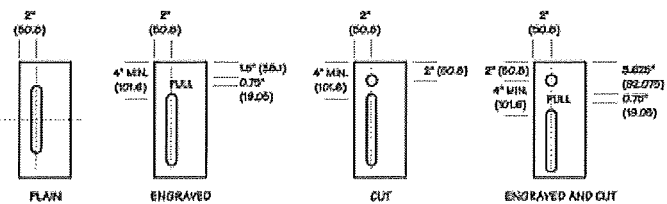
RECOMMENDED LOCATION ON DOOR



PULL POSITION ON PLATES 4" (101.6) OR LESS IN WIDTH

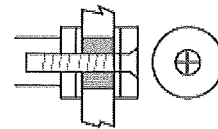


PULL POSITION ON PLATES WIDER THAN 4" (101.6)



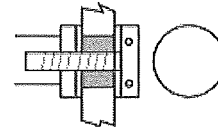
#2 MTG

THRU BOLT MOUNTING - MACHINE SCREWS THRU DOOR WITH GRONMET WASHER.



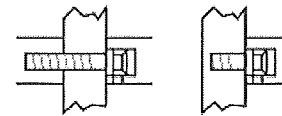
#4A MTG

GLASS DOOR WASHER SUPPLIED WITH VINYL PAD.



#4B MTG

SECURITY BOLT, VINYL PAD SUPPLIED FOR GLASS DOOR APPLICATIONS.



#6 MTG

CONCEALED MOUNTING FOR BACK TO BACK OR SINGLE UNITS. MACHINE SCREW STANDARD. WOOD SCREW FOR SINGLE MOUNTING ON WOOD DOORS AVAILABLE UPON REQUEST.

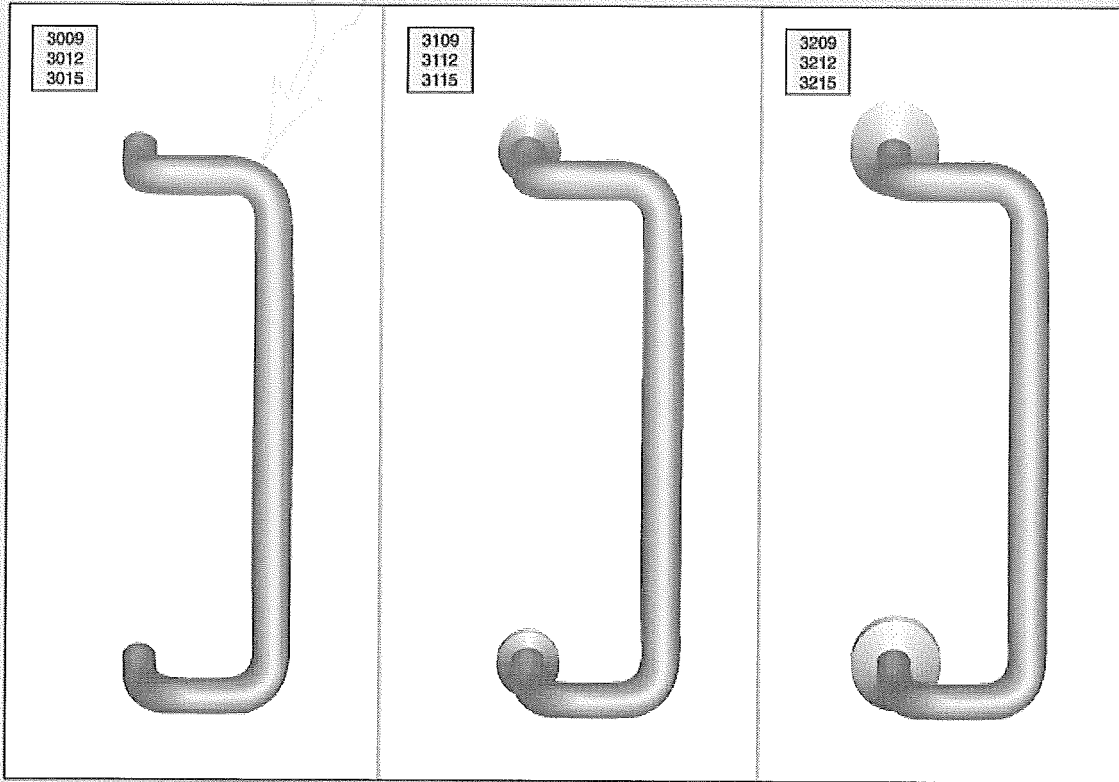


Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018



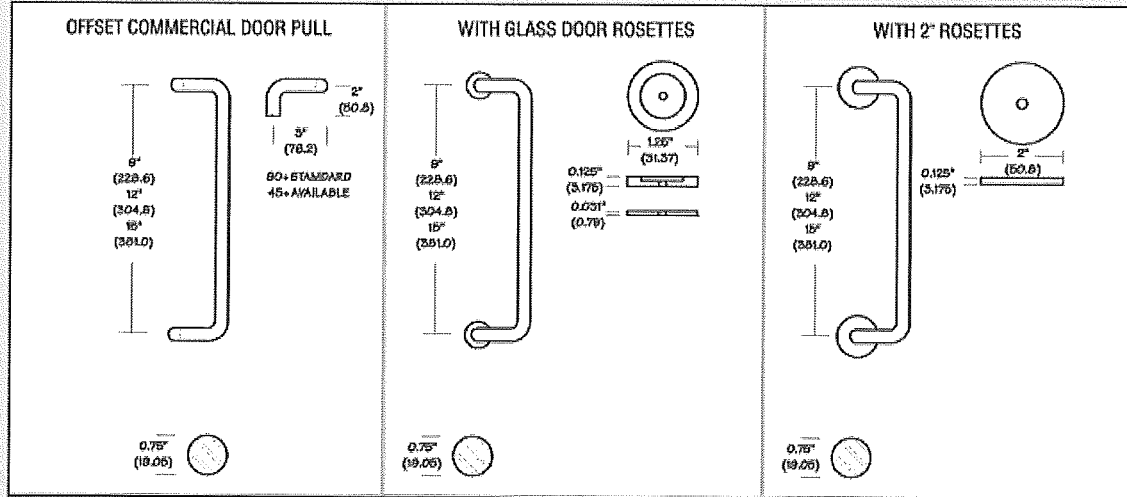
DOOR PULLS 3000 SERIES



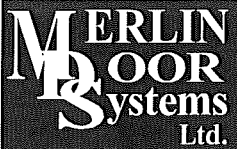
3009
3012
3015

3109
3112
3115

3209
3212
3215



DIAMETER CODE	FINISHES	HOW TO ORDER
<p>-2 = 1" -3 = 1.25" -4 = 1.5"</p>	<p>ALL STANDARD</p>	<p>3012-2 = 1" (25.4) DIAMETER x 12" (304.8) C/C 3115 = 0.75" (19.05) DIAMETER x 15" (381.0) C/C C/W GLASS DOOR ROSETTES 3209 = 0.75" (19.05) DIAMETER x 9" (228.6) C/C C/W ROSETTES</p>



Turnbull Music Addition
Ottawa
Job No. 18-693

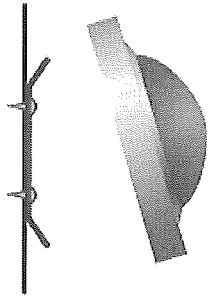
Submittal Date: Nov15th 2018



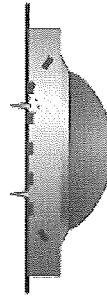
WALL STOPS S SERIES

52

FOR A POSITIVE SECURE INSTALLATION

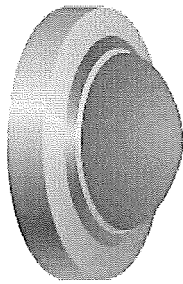


METAL BACKPLATE SECURES TO WALL WITH SCREWS AND SHIELDS

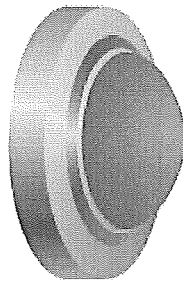


HOUSING AND RUBBER FITS OVER BACKPLATE AND SECURED WITH SET SCREW

S120 CONVEX WALL STOP



S121 HEAVY DUTY CONVEX WALL STOP



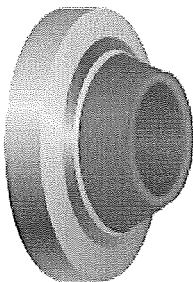
CONVEX WALL STOP

- S120
- 2.375" (60.325) DIAM. x 1" (25.4) PROJECTION
- ZINC DIE CAST
- 0.187 LBS EACH (0.085 KG.)
- COMPLETE WITH SCREWS AND SHIELDS
- ALL STANDARD FINISHES

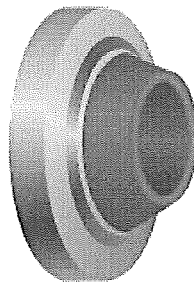
HEAVY DUTY CONVEX WALL STOP

- S121
- 2.375" (60.325) DIAM. x 1" (25.4) PROJECTION
- SOLID CAST BRASS OR BRONZE
- 0.375 LBS EACH (0.17 KG.)
- COMPLETE WITH SCREWS AND SHIELDS
- ALL STANDARD FINISHES

S122 CONCAVE WALL STOP



S123 HEAVY DUTY CONCAVE WALL STOP



CONCAVE WALL STOP

- S122
- 2.375" (60.325) DIAM. x 1" (25.4) PROJECTION
- ZINC DIE CAST
- 0.187 LBS EACH (0.085 KG.)
- COMPLETE WITH SCREWS AND SHIELDS
- ALL STANDARD FINISHES

HEAVY DUTY CONCAVE WALL STOP

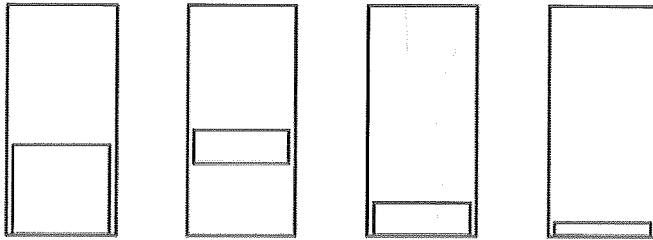
- S123
- 2.375" (60.325) DIAM. x 1" (25.4) PROJECTION
- SOLID CAST BRASS OR BRONZE
- 0.375 LBS EACH (0.17 KG.)
- COMPLETE WITH SCREWS AND SHIELDS
- ALL STANDARD FINISHES



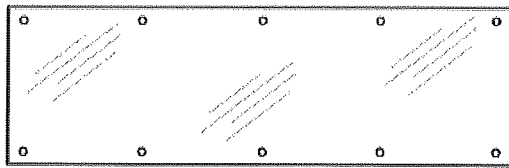
DOOR PLATES K SERIES

54

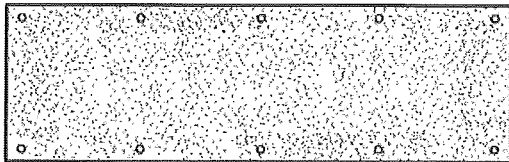
ARMOR STRETCHER KICK MOP



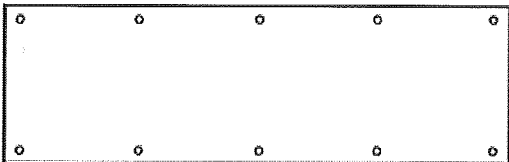
K08



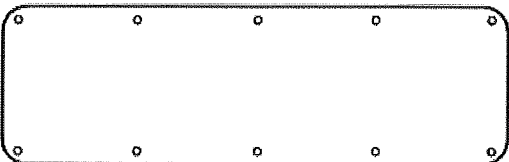
K09



K10A



K10R



STANDARD FEATURES:

- * ALL ARCHITECTURAL FINISHES ARE AVAILABLE
- * PROTECTIVE PLASTIC COVER
- * COUNTERSUNK SCREW HOLES
- * #6 x 0.625" (16) UNDERCUT S.M.S.
- * #6 x 0.375" (9.5) MACHINE SCREWS ON REQUEST
- * AVAILABLE TAPE OR EPOXY MOUNTING
- * BRASS & BRONZE PLATES STOCKED UP TO 24" (609.6) HEIGHT
- * ALUMINUM, ACRYLIC, KYDEX & ST. STEEL PLATES, STOCKED UP TO 48" (1219.2) HEIGHT

CLEAR ACRYLIC PLATE OR PUSHPLATE

K08

- * 0.125" (3.81) THICKNESS
- * ALL EDGES BEVELLED

KYDEX (PVC & ACRYLIC, TEXTURED FINISH) PLATE OR PUSHPLATE

K09

- * 0.060" (1.52) OR 0.090" (2.28) THICKNESS
- * ALL EDGES BEVELLED
- * TAPE OR EPOXY MOUNTING (EPOXY RECOMMENDED)
- * STOCK COLOURS: BEIGE, BLACK, BLUE, GRAY & WHITE
- * OVER 30 COLOURS AVAILABLE

SOLID METAL PLATES: ALUMINUM, BRASS, BRONZE & STAINLESS STEEL

K10A * 0.050" (1.27) THICKNESS

K10B * 0.062" (1.57) THICKNESS

K10C * 0.125" (3.81) THICKNESS

K10R

- * KICK PLATE WITH RADIUS CORNERS

ECONOMY DOORPLATES

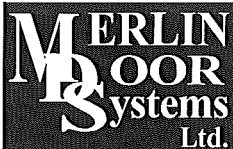
- * AVAILABLE IN STAINLESS STEEL ONLY

K10-430

- * TYPE 430, LOW GRADE STAINLESS

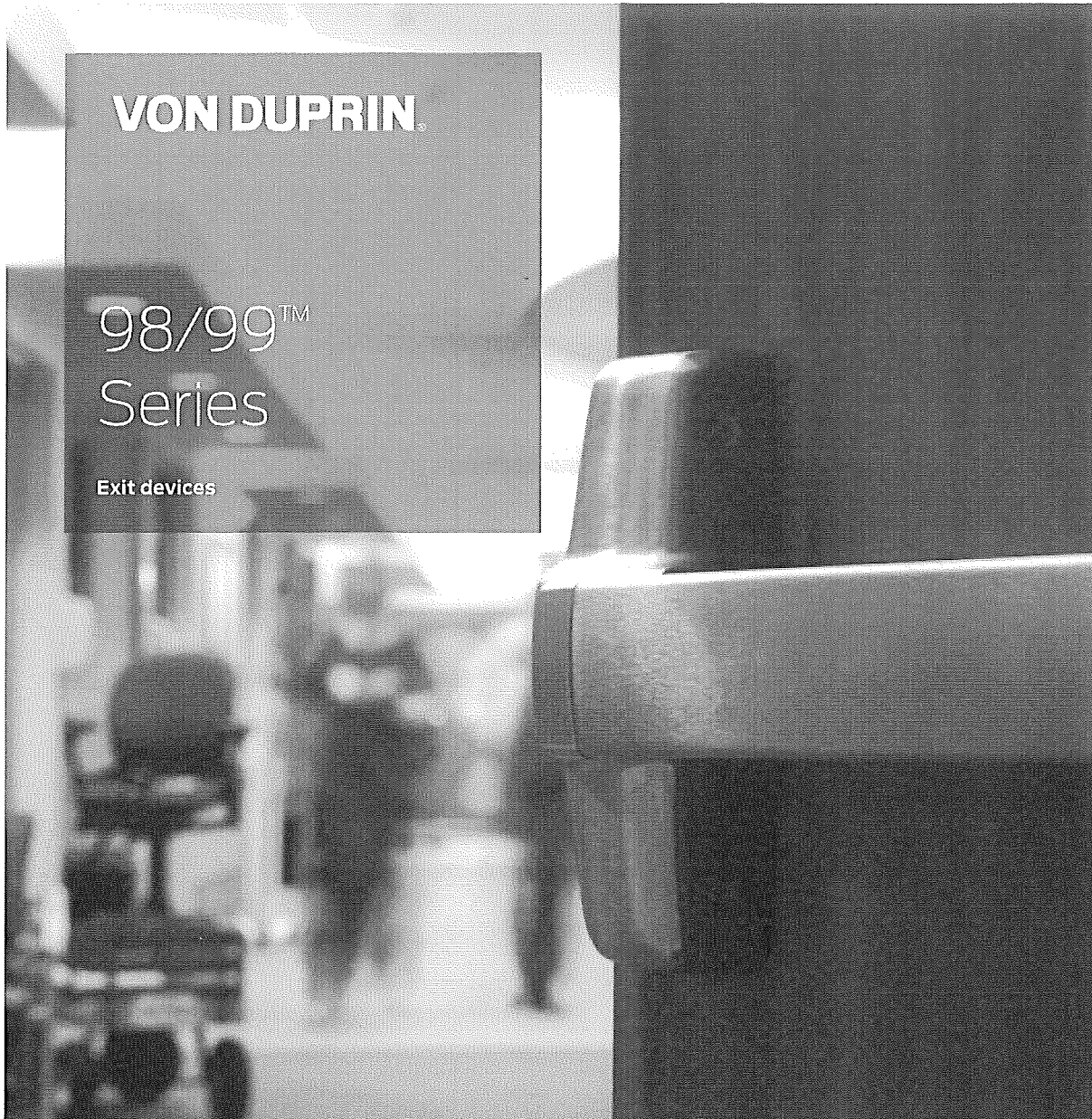
K10-20

- * 20 GAUGE THICKNESS, 0.037" (0.94)



Turnbull Music Addition
Ottawa
Job No. 18-693

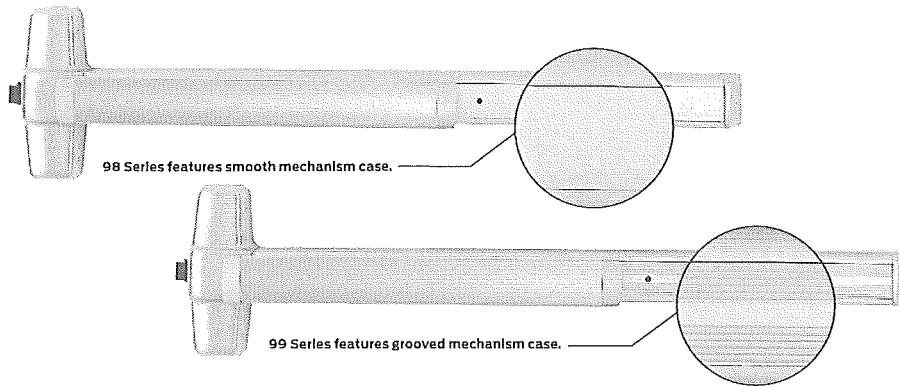
Submission Date: Nov15th 2018



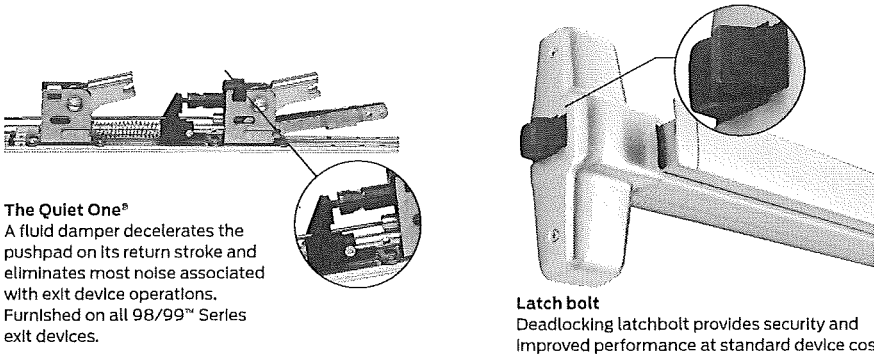
Introduction

Exit devices are a critical part of the fire and life safety egress system and will provide safe and reliable service when properly applied and maintained. Von Duprin designs and manufactures exit devices in accordance to ISO 9001 Quality Management System and meets or exceeds accepted U.S. domestic and International standards. All 98 and 99 Series exit devices are UL listed for panic hardware or fire hardware, and are certified to ANSI A156.3, 2008, Grade 1. Many models are also certified for Hurricane Resistant Applications. Consult your local Security & Safety consultant (SSC) or the Von Duprin factory for current listings.

It is intended that the information included in this publication, when properly used, will provide clear and reliable guidelines to the proper general selection and application. However, the scope of the information is necessarily limited.



Von Duprin exit devices are available in two external surface styles, designated 98 and 99 Series.



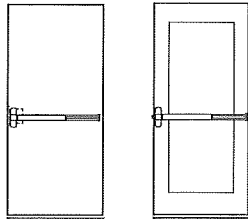
VON DUPRIN
Administrative Offices
2720 Tobey Dr.
Indianapolis, IN 46219

Customer Service
877-671-7011
800-999-0328 - Fax

Technical Support
877-671-7011

Popular double door applications

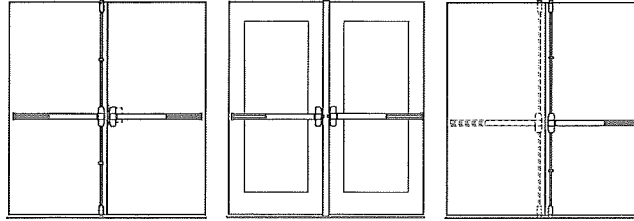
Single door applications



Single mortise lock device

Single rim device

Double door applications

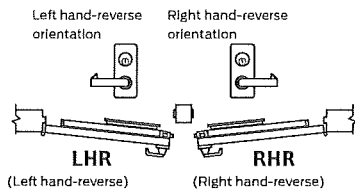


Mortise lock and surface mounted or concealed vertical cable/rod device combination—same direction

Two rim devices with mullion—same direction

Two vertical rods—double egress

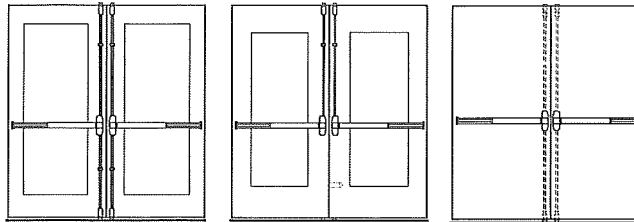
Door handing



LHR (Left hand-reverse)

RHR (Right hand-reverse)

Outside



Two surface mounted vertical rod devices—same direction (do not use with overlapping astragal)

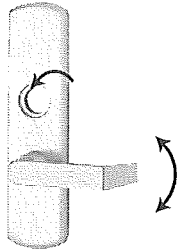
Two fire exit hardware vertical cables/rods with auxiliary fire latch-LBR option

Two concealed vertical cables/rods

Outside trim operation

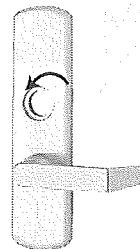
Trim operation lever or knob

Standard



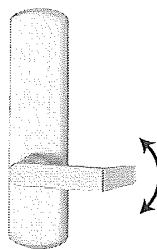
Key locks and unlocks lever or knob, e.g., 996L (Classroom)

Night latch



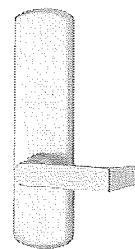
Key retracts latch bolt. Lever or knob is rigid. Use NL suffix, e.g., 996LNL (Storeroom)

Blank escutcheon



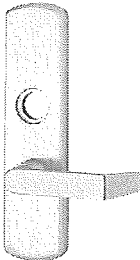
Lever or knob always active. Use BE suffix, e.g., 996L-BE (Passage)

Dummy



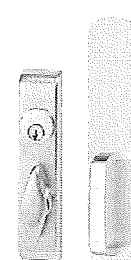
Lever or knob rigid for pull operation. Use DT suffix, e.g., 996L-DT.

996L Breakaway™ lever



The 996L Breakaway trim has become the standard lever trim offering on the 98L/99L Series devices. The Breakaway design is especially effective in areas where vandalism to door hardware is a problem. The design intent is to discourage costly repairs from becoming necessary. The Breakaway feature is not available on the NL (night-latch) or DT (dummy trim) versions.

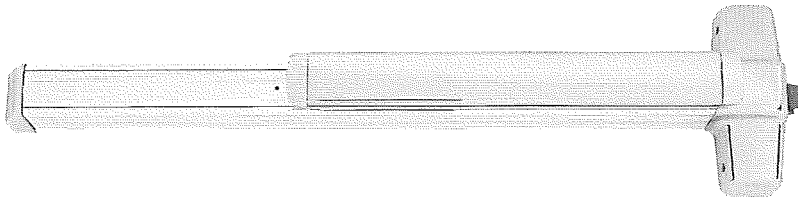
374T/376T Series thumbturn control



Standard operation, key locks and unlocks thumbturn. Optional operation, key unlocks thumbturn, re-locks when key is removed. This operation is created by changing the cylinder plate included with control. Use 1 1/4" mortise cylinder with a straight cam. Schlage cam reference L583-475. Use with a pull trim (990DT pictured).

6 • Von Duprin 98/99 Series

98/99 Rim exit device



The 299 Strike ships standard, optional strikes available

Hex key dogging comes standard on 98/99 Rim exit devices



98 and 99 Rim exit devices for all types of single and double doors with mullion, UL listed for panic exit hardware. Devices are ANSI A156.3 – 2014 Grade 1. The 98 device has a smooth mechanism case and the 99 device has a grooved case. The rim device is non-handed except when the following device options are used: SD (special dogging), -2 (double cylinder) or SS (signal switch). See Opposite page for available outside trim and device functions. Covers stock hollow metal doors with 86 or 161 cutouts on single doors (may cover cutouts on pairs – consult template).

Finishes – US3, US3A, US4, US4A, US10, US26, US26D, US26D-AM Antimicrobial, US28, 313, 315 & 643E, US15 and US32D available with 98 Series only.

Specifications

Device functions	Device ships EO/DT/NL. Field selectable. For TP, K or L remove NL drive screw from device.
Device lengths	3' 2'4" to 3' (711mm to 914 mm) Door size 4' 2'10" to 4' (864 mm to 1219 mm) Door size
Device centerline from finished floor	39 ¹³ / ₁₆ " (1011 mm) 39 ⁷ / ₁₆ " (1008 mm) with mullion
Center case dimensions	8" x 2 ¹ / ₂ " x 2 ³ / ₈ " (203mm x 70mm x 60mm)
Mechanism case dimensions	2 ¹ / ₄ " x 2 ¹ / ₄ " (57mm x 57mm)
Projection	Pushbar neutral – 3 ³ / ₁₆ " (97 mm) Pushbar depressed – 3 ¹ / ₁₆ " (78 mm)
Latch bolt	Deadlocking, 3/4" (19mm) throw
Fasteners & sex bolts (SNB)	Includes screw pack for 1 ³ / ₄ " (44mm) and 2 ¹ / ₄ " (57mm) thick metal or wood doors. Optional 425 SNB available, see page 9 for quantities.
Electric options	LX Latchbolt monitor switch RX Pushpad monitor switch RX2 Double pushpad monitor switch E Electric locking & unlocking trim EL Electric latch retraction QEL Quiet electric latch retraction SS Signal switch CX Chexit delayed exit ALK Alarm exit kit WP-RX Waterproof request to exit CON Allegion Connect
Mechanical options	-2 Double cylinder AX Accessible device GBK Glass bead kit PN Pneumatic latch retraction XP Extra protection SNB Sex bolts SEC Security screws
Dogging feature	Hex key dogging standard
Dogging options	CD Cylinder dogging SD Special center case dogging LD Less dogging DI Dogging indicator CI Cylinder dogging Indicator
Strikes	299 – Dull black

XP
Extra protection

- 90° latch-to-strike contact
- Force resistance of 2,000+ lbs.

CD
Cylinder dogging

- Replaces hex key dogging
- Requires 1 1/2" mortise cylinder with inverted cam

QEL
Quiet electric latch retraction

- Bolt retraction via switch
- Converts exit door to push-pull operation

RX
Pushpad monitor switch

- Signals use of an opening
- SPDT switch to monitor pushpad

CX
Chexit delayed exit

- Meets NFPA 101 requirements
- Self-contained controls, locking, alarm

AX
Accessible device

- UL certified to meet new 5 lb. maximum operating force requirement
- Exceeds ANSI/BHMA requirements

EL
Electric latch retraction

- Enables remote unlatching
- Alternative to manual dogging

ALK
Alarm exit kit

- Unauthorized opening triggers 85-decibel horn
- Set in armed or disarmed mode by key

PN
Pneumatic latch retraction

- For areas where electrical devices banned
- Special linkage for mechanical or pneumatic dogging

CON
Allegion Connectors

- Common connectors to connect various door hardware all the way to the power supply

Standard trim				
	EO	DT	NL	NL-OP
Product description	98EO 99EO	98DT 99DT	98NL 99NL	98NL-OP 99NL-OP
Trim description	—	990DT	990NL-R/V	110NL-MD 110NL-WD
Escutcheon plate size	—	3" x 14 ¹³ / ₁₆ " x 1 ¹ / ₃₂ " (76x360x2mm)	3" x 14 ¹³ / ₁₆ " x 1 ¹ / ₃₂ " (76x360x2mm)	—
Pull center to center	—	5 ¹ / ₂ " (140mm)	5 ¹ / ₂ " (140mm)	—
Projection	—	2" (51mm)	2" (51mm)	—
ANSI function	01	02	03	03
Cylinder type	—	—	Rim	Rim
Handing	—	—	—	—
Optional trim	x990EO x996EO	x996K-DT x996L-DT x696DT x697DT	x996K-NL x996L-NL x696NL x697NL	
Optional #425 SNB quantity for device	6	2	2	6

	L	L-NL	L-BE	L-DT
Product description	98L 99L	98L-NL 99L-NL	98L-BE 99L-BE	98L-DT 99L-DT
Trim description	996L-R/V*	996L-NL-R/V	996L-BE-R/V*	996L-DT
Escutcheon plate size	2 ³ / ₄ " x 10 ³ / ₄ " x 7 ⁷ / ₃₂ " (70x273x21mm)	2 ³ / ₄ " x 10 ³ / ₄ " x 7 ⁷ / ₃₂ " (70x273x21mm)	2 ³ / ₄ " x 10 ³ / ₄ " x 7 ⁷ / ₃₂ " (70x273x21mm)	2 ³ / ₄ " x 10 ³ / ₄ " x 7 ⁷ / ₃₂ " (70x273x21mm)
Pull center to center	—	—	—	—
Projection	2 ⁷ / ₁₆ " (73mm)	2 ⁷ / ₁₆ " (73mm)	2 ⁷ / ₁₆ " (73mm)	2 ⁷ / ₁₆ " (73mm)
ANSI function	08	03	14	02
Cylinder type	Rim	Rim	—	—
Handing	Handed/Reversible	Handed/Reversible	Handed/Reversible	Handed/Reversible
Optional #425 SNB quantity for device	2	2	2	2

* Electrified lever operation available

Notes

98/99 Strike/Stile information

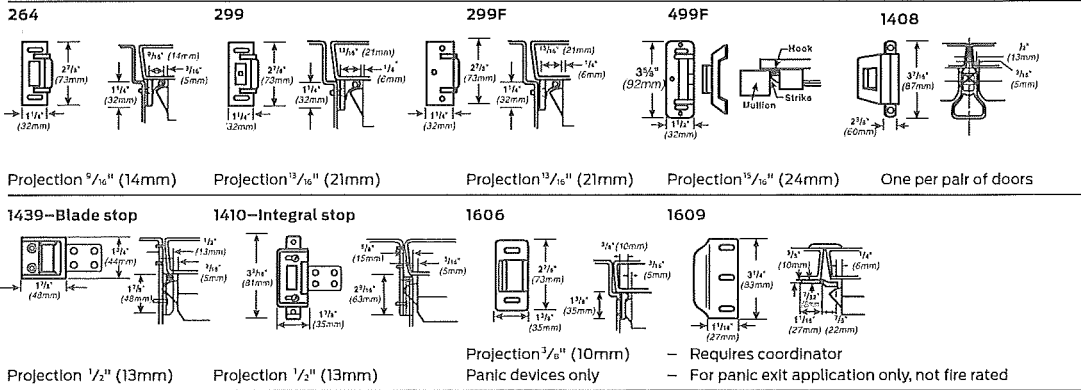
Strike options / Dogging options

Device type	Standard single door	Optional single door			Optional double door		
	Strike	Strike	Trim/stile	696/697	Strike w/mullion*	Trim/Stile	
98/99	299	1439 or 1410	3 ⁹ / ₁₆ " (97mm)	3 ⁹ / ₁₆ " (97mm)	299 x 5654	4 ¹ / ₂ " (113mm)	4 ¹ / ₂ " (108mm)
					1408 x 5754	3 ⁹ / ₁₆ " (97mm)	3 ⁹ / ₁₆ " (97mm)
					1606 x 1654	4 ¹ / ₂ " (112mm)	4 ¹ / ₂ " (108mm)
XP 98/99	909	—	—	—	—	—	—
98-F/99-F	299F	—	—	—	499F x 9854 KR9954	—	—
XP98-F/XP99-F	909	—	—	—	—	—	—
9875 9975	575	—	—	—	576A-576B	4 ¹ / ₂ " (121mm)	4 ¹ / ₂ " (121mm)
9875-F 9975-F	575	—	—	—	576A-576B	4 ¹ / ₂ " (121mm)	4 ¹ / ₂ " (121mm)
9857 9957	299 (Top) 299 (Middle) 304L/248L-4 (Bottom)	1439 or 1410	3 ⁹ / ₁₆ " (97mm)	3 ⁹ / ₁₆ " (97mm)	299 x 5654	4 ¹ / ₂ " (113mm)	4 ¹ / ₂ " (108mm)
					1408 x 5754	3 ⁹ / ₁₆ " (97mm)	3 ⁹ / ₁₆ " (97mm)
					1606 x 1654	4 ¹ / ₂ " (112mm)	4 ¹ / ₂ " (108mm)
9857-F 9957-F	299F* (Top) 299F (Middle) 304L (Bottom)	—	—	—	—	—	—
	Strike	Optional strike			Application	Trim/Stile	
9827 9927 Latch retraction	299 (Top) 304L/248L-4 (Bottom)	260U (Top) 385A (Bottom)			Single door	3 ⁹ / ₁₆ " (94mm)	3 ⁹ / ₁₆ " (92mm)
			PL9827/PL9927 Pullman latch	299 (Top) 304L/248L-4 (Bottom)			Two vertical rod devices
9827-F 9927-F	299F* (Top) 304L (Bottom)	260U (Stainless) 385A (Bottom)			Vertical rod with Mortise lock device	4 ¹ / ₂ " (121mm)	4 ¹ / ₂ " (121mm)
9847 9947 9848 9948	338 (Top) 385A (Bottom)	304L (Bottom)			Two vertical rods	4 ¹ / ₂ " (108mm)	4 ¹ / ₂ " (105mm)
9847-F 9947-F 9848-F 9948-F	338 (Top) 385A (Bottom)	304L (Bottom)			Vertical rod with Mortise lock device	4 ¹ / ₂ " (121mm)	4 ¹ / ₂ " (121mm)
9847WDC 9947WDC	338 (Top) 385A (Bottom)	304L (Bottom)			Single door	4 ¹ / ₂ " (108mm)	4 ¹ / ₂ " (108mm)
					Two vertical rod devices	4 ¹ / ₂ " (108mm)	4 ¹ / ₂ " (108mm)
					Vertical rod with Mortise lock device	4 ¹ / ₂ " (121mm)	4 ¹ / ₂ " (121mm)
9847WDC-F 9947WDC-F	338 (Top) 385A (Bottom)	304L (Bottom)			Two vertical rod devices	4 ¹ / ₂ " (108mm)	4 ¹ / ₂ " (108mm)
9849 9949	249 (Top) 349 (Bottom)	—			Vertical cable with Mortise lock device	4 ¹ / ₂ " (121mm)	4 ¹ / ₂ " (121mm)
9849-F 9949-F	249 (Top) 349 (Bottom)	—			Two vertical cable	4 ¹ / ₂ " (108mm)	4 ¹ / ₂ " (105mm)
9849-F 9949-F	249 (Top) 349 (Bottom)	—			Vertical cable with Mortise lock device	4 ¹ / ₂ " (121mm)	4 ¹ / ₂ " (121mm)
9850WDC 9950WDC	150 (Top) 450 (Bottom)	—			Single door	4 ¹ / ₂ " (108mm)	4 ¹ / ₂ " (108mm)
					Two vertical Cable devices	4 ¹ / ₂ " (108mm)	4 ¹ / ₂ " (108mm)
					Vertical cable with Mortise lock device	4 ¹ / ₂ " (121mm)	4 ¹ / ₂ " (121mm)
9850WDC-F 9950WDC-F	150 (Top) 450 (Bottom)	—			Two Vertical Cable Devices	4 ¹ / ₂ " (108mm)	4 ¹ / ₂ " (108mm)

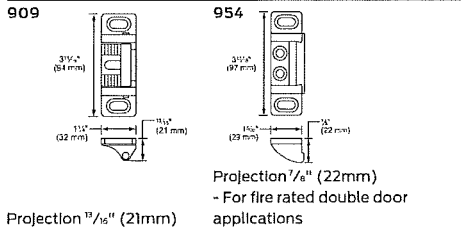
*499F strike is the top strike for LBR applications.

98/99 Strike information

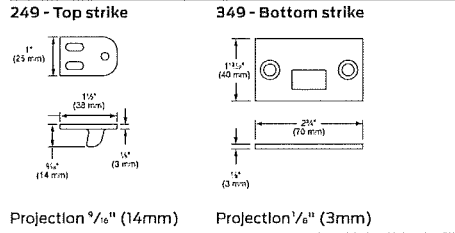
Strikes for rim devices



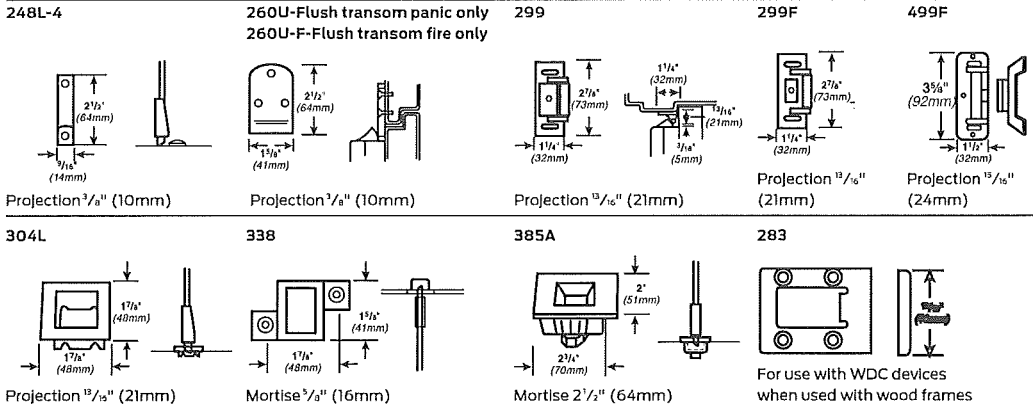
XP Strikes for rim devices



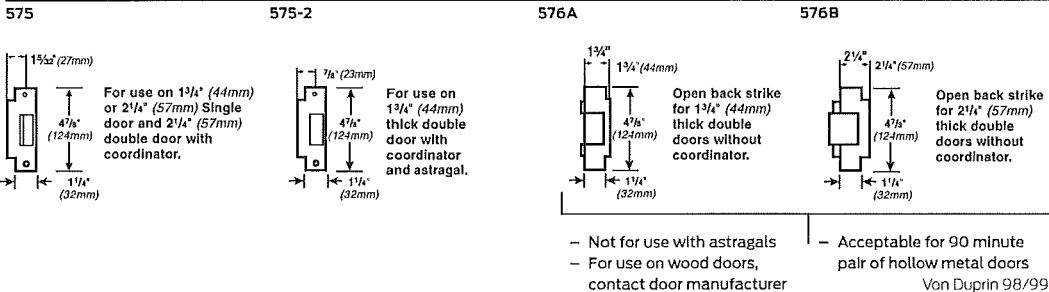
Strikes for vertical cable devices



Strikes for vertical rod devices



Strikes for mortise lock devices



Strike options / Dogging options

Van Duprin 98/99 Series • 59

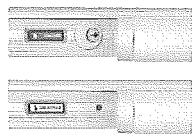


Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

98/99 Dogging options

CDSI/HDSI dogging indicators



Indicator provides an at-a-glance verification of the status of the door from inside of the room. Visible "LOCKED" and "UNLOCKED" indicators show whether the device is undogged or dogged. This feature can be used with Hex key (HDSI) or Cylinder dogging (CDSI) options

on various device types – rim, mortise and vertical systems.

- Modular conversion kits allow you to quickly and easily upgrade your existing devices
- Available for 98/99 & 33A/35A Series panic devices

To order, specify:

- Use prefix, CDSI or HDSI, example CDSI99L

CD Cylinder dogging



Cylinder dogging is available on all 98/99™ Panic exit devices to replace the standard hex key dogging. Unit requires a standard 1 1/4" (32mm) mortise cylinder with an inverted straight cam. When ordering, reference Schlage cylinder 20-001, 1 1/4", XQ11-949. This provides the L583-477 cam inverted at the factory.

To order, specify:

- Use prefix, CD, example CD99L

CDK Cylinder dogging kit*

For field conversion, a cylinder dogging conversion kit is available.

To order, specify: 99CDK or 98CDK, specify finish.

*Cannot be added to fire exit hardware.



HDK Hex key dogging kit*

For field conversion, a hex key dogging conversion kit is available.

To order, specify: 99HDK or 98HDK, specify finish.

*Cannot be added to fire exit hardware.

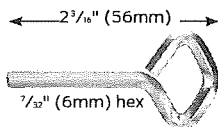
LD Less dogging

Less dogging is available in all 98/99™ Panic exit devices to remove the dogging option.

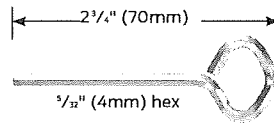
To order, specify: Use prefix LD, example LD99L

Dog keys

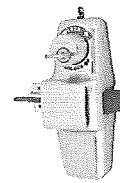
Dog key (old style)



Dog key (standard)



-2SI Double cylinder with security indicator

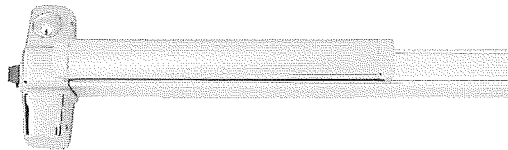


The Von Duprin Classroom Security Indicator provides an at-a-glance verification of the locked/unlocked status of the door from inside of the room. This option can be ordered as a new product or as a retrofit conversion kit to an existing 98/99 device. Indicator in Unlocked state presents a 1/2" x 1/2" metal flag (white background with black icon) at top of device head. Indicator in Locked state has no flag present.

To order, specify:

1. Suffix-2SI with device/trim number, example 99L-2SI.
 2. Handing required, LHR or RHR.
 3. *Specify keyed rim cylinder or thumbturn rim cylinder.
- * Rim cylinder (3216) sold separately. Rim cylinder with thumbturn available from Schlage (part #XB11-979).

Double cylinder



Double cylinder features an inside key cylinder which locks or unlocks the outside trim and an outside key cylinder which retracts the latch bolt only (Night latch function). Available on rim or mortise lock device.

Rim requires two rim type cylinders. Mortise device requires 1 rim cylinder and 1 mortise cylinder 1 1/4" with a straight cam. (Schlage cam reference L583-475.)

Available functions are thumbpiece, knob or lever.

To order, specify:

1. Suffix-2 with device/trim number, example 99TP-2.
2. Handing required, LHR or RHR.

SD Special center case dogging



Special cylinder dogging in the center case is available for Chexit, EL, QEL, ALK panic devices to allow for mechanical push/pull operation. With this option, the latchbolt is held retracted and pushbar is still operable. Specify handing—RHR or LHR.

SD requires 1 1/4" (32mm) mortise cylinder with an inverted straight cam. When ordering, reference Schlage cylinder 20-001, 1 1/4", XQ11-949. This provides the L583-477 cam inverted at the factory.

Note: Available on Rim and Vertical Rod Panic Exit Devices only.

To order, specify:

1. Prefix SD, example SD99L and Handing.
2. Not for 98/9975 Devices.

98/99 Electrical options

RX Request to exit

The RX (2xit) feature is used to signal the use of an opening. This device is equipped with one internal SPDT switch which monitors the pushpad.

The device can be connected to a security console, or may be used as a single door alarm when used with a horn and power supply.

The RX switch option should not be used to control a load, but as a signalling switch (0.5 amps. resistive maximum).

The RX switch is available in a low current (LC) switch. Most commonly used in computer operated monitoring systems.

To order, specify:

- Standard – use prefix RX, example RX99EO
- Low Current – use prefix RX-LC, example RX-LC98EO

RX2 Double request to exit

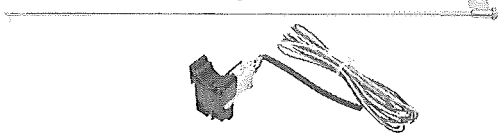
The RX2 feature uses two RX switches.

To order, specify:

- Standard – Use prefix RX2, example RX299EO

WP-RX Waterproof request to exit

LX Latchbolt monitoring



The LX feature is used to signal the use of an opening. This device is equipped with one internal SPDT switch which monitors the latch bolt.

The device can be connected to a security console, or may be used as a single door alarm when used with a horn and power supply.

The LX switch option should not be used to control a load, but as a signalling switch (0.5 amps. resistive maximum).

The LX switch is available in a low current (LC) switch. Most commonly used in computer operated monitoring systems.

To order, specify:

- Standard – Use prefix LX, example LX99EO
- Low Current – Use prefix LX-LC, example LX-LC98EO

Electrical rating for all switches:

- Standard – 2 Amp maximum @ 24VDC
- Low Current (LC) – below 50 Milliamps @ 24VDC

Note: All switches can be either factory or field installed



SS Signal switch

Monitors pushpad and latch bolt

The SS feature is used to signal the unauthorized use of an opening. This device is equipped with two internal SPDT switches. One switch monitors both the pushpad and the latch bolt assembly, making the latch bolt tamper resistant, for positive security. An additional SPDT switch is connected to the 1 1/4" (32mm) mortise cylinder with straight cam for alarm "bypass." (Schlage cam reference L583-475). The device can be connected to a security console, or may be used as a single door alarm when used with a horn and power supply.

Pushpad reads: "Emergency Exit ONLY – Push To Open And Sound Alarm." Pushpad is only available in US32D finish with red silk-screened lettering.

The SS mortise lock device is furnished with both the signal switch device and the SS7500 mortise lock. The SS7500 mortise lock has the versatility and advantages of the 7500 lock with the addition of signalling functions to monitor latch bolt operation and the trim locking function. The SS7500 mortise lock is supplied standard with the SS mortise lock device.

To order, specify:

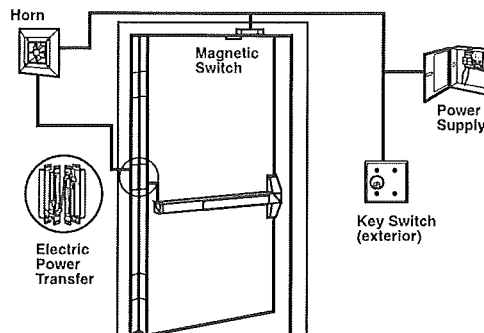
1. Prefix SS, example SS99L.
2. Handing required, LHR or RHR.

Electrical ratings:

Up to 2.0 AMPS @ 24VDC

Popular SS application

Unauthorized use of this opening will activate the local horn. The key switch permits inhibiting this system for authorized entry.



Von Duprin 98/99 Series • 61

98/99 Finishes

Finishes

Finishes*

Color	US number	BHMA number
Chromium, polished	US26	625
Anodized, aluminum	US28	628
Chromium, dull	US26D	626
Brass, polished	US3	605
Brass, dull	US4	606

Special finishes

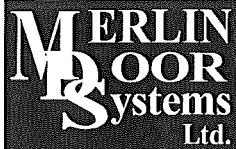
Color	US number	BHMA number
Satin chrome, Antimicrobial	US26D-AM	626-AM
Satin stainless steel, antimicrobial	US32D-AM	630-AM

Color	US number	BHMA number
Bronze, dull	US10	612
Satin nickel Available for 98 ONLY	US15	619
Satin stainless steel	US32D	630
Duranodic dark bronze	313	710
Black, painted (not flat powder)	SPBLK	693
Flat Black	US19/315	622/711
Aged bronze	-	643e

Pushpad options — Knurled
 Embossed "Push"
 Braille (Caution-Stairwell), satin stainless steel only
 RSS — (Emergency Exit — Push to open and sound alarm) — Red Silkscreen lettering on US32D

* Note: Durable powder coated finishes available at specific special request. PLEASE CONTACT FACTORY.

78 • Von Duprin 98/99 Series

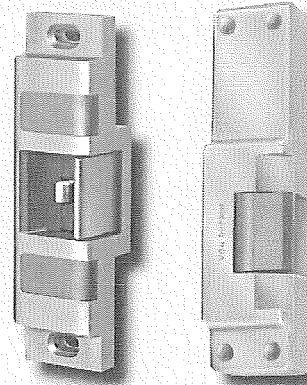


Turnbull Music Addition
 Ottawa
 Job No. 18-693

Submittal Date: Nov15th 2018

VON DUPRIN

6100 Series
Strikes for rim exit devices



Overview

Von Duprin electric strikes are known for their reliability, durability and security. The 6100 Series strikes are designed to withstand abuse. Their heavy-duty stainless steel construction is UL1034 listed and meets ANSI/BHMA Grade 1.

6100 Series electric door strikes are designed for use with a variety of rim exit devices including rim nightlatch. Electrified strikes allow remote release of a locked door by activating a movable lip (keeper) using an entry/exit button or credential reader and can be a cost effective means for managing access. 6100 Series strikes come standard as 24 VDC in fail secure mode. 12 VDC and AC operation can be selected, as can fail safe mode and other options that enable you to configure these strikes to fit your exact needs.

Use 6100 Series electric strikes for retrofit applications or new construction. To assure the proper selection of an electric strike on new applications, lockset compatibility charts are shown on the next page. When using a lockset not listed or if retrofitting a strike to an existing application, please contact Von Duprin technical support for application assistance.

Features and benefits

- Five configurations available for rim exit and nightlatch devices
- Heavy-duty stainless steel construction
- Strike box allows horizontal adjustment to compensate for misalignment of the door or frame
- 24 VDC standard with 12 VDC and AC operation optional
- Two-piece plug connectors are furnished for ease of installation and removal during strike servicing
- Options include rectifier kit for VAC to VDC conversion, dual monitor switches, entry buzzer and Allegion Connect wire extension
- Six popular finishes available to suite with existing hardware
- Suitable for interior or exterior doors
- UL 10C 3-hour fire-rated electric strike (models 6111, 6112 and 6113)
- UL 1034 listed for burglary-resistant electric door strikes
- Meets ANSI/BHMA A156.31, Grade 1 for endurance and dynamic strength
- Meets ANSI/BHMA A156.31, Grade 1, 1500 lbs static strength
- Dynamic strength 70 ft lbs
- Endurance 1,000,000 cycles



Model specifications

Model number	6111	6112	6113	6114	6121	
Retrofits model	VD 3031	FA 310-4	VD 3011 VD 3021	FA 310-5	FA 310-4-100	
Latchbolt throw	3/4"	3/4"	3/4"	3/4"	3/4"	
Face plate length	6"	9"	6"	7 1/2"	9 1/8"	
Backbox depth	1 5/8"	1 1/16"	1 15/16"	N/A	N/A	
Lockset	Rim exit device	Rim exit device	Rim exit device	Rim nightlatch	Rim exit device	
Number of doors	Single	■	■	■	■	
	Double door with mullion	■	---	---	---	
	Double door without mullion	---	---	---	■	
Door/frame type	Hollow metal	■	■	■	■	
	Aluminum	■	■	■	■	
	Wood	■	■	■	---	■
Options	Blade stop shim	Yes	No	Yes	No	No
	DS or DS-LC (dual monitor switches)	Yes	Yes	Yes	Yes	Yes
	EB (entry buzzer - fail-secure only)	Yes	Yes	Yes	Yes	Yes
Certifications	UL 1034	■	■	■	■	■
	UL 10C Single Door	3 hour	3 hour	3 hour	---	---
	UL 10C Pair Door*	90 minutes	90 minutes	90 minutes	---	---
	ANSI/BHMA 156.31	Meets Grade 1, 1500 lbs static strength; 70 ft lbs dynamic strength; 1,000,000 cycles endurance				
Application notes	1	2	3	4	5	

*With manufacturer's mullion.

Note: 16 VDC and 28 VDC solenoid are sold as replacement parts for existing strikes. Please contact customer care for details.

Application notes:

- 1/2" projection blade stop shim 010055-XX available for use on cased opening or blade stop frames. Specify when using 55 rim devices. May also be used with vertical rod exit devices noted on previous page x Pullman latch LBR (non-fire rated).
- When used to replace Folger Adam 310-4, minor fame prep modification required.
- 1/2" projection blade stop shlm 010055-XX available for use on cased opening or blade stop frames (non-fire rated).
- Surface applied strike designed to replace Folger Adam 310-5 with different mounting hole locations from Folger Adam.
- Designed to mount on inactive leaf.

Rim exit device compatibility 6111, 6112, 6113 & 6121 strikes

Manufacturer	Device
Von Duprin	22, 33A, 35A, 55 ¹ , 88, 98, 99 8827 LBR ⁴ x Pullman latch Non-Fire rated 9827 LBR ⁴ x Pullman latch Non-Fire rated 9927 LBR ⁴ x Pullman latch Non-Fire rated
Falcon Monarch ²	XX-R, 18-R, 19-R, 24-R, 25-R
Falcon Doromatic	1790
Precision ²	2100
Sargent	2800, 6500, 6800, 8500, 8800, 9500, 9800 ³ , 9898
Yale	1500, 700

- Strike must be factory modified, specify when using with a 55 Rim device.
- Deadlocking feature will not properly function, consult factory.
- Panic only, not fire-rated.
- 6111 is recommended for LBR applications.

Note: When using a lockset not listed or when retrofitting an existing application, please contact Von Duprin technical support for application assistance.

Von Duprin • 6100 Series



Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

6100 Series power requirements

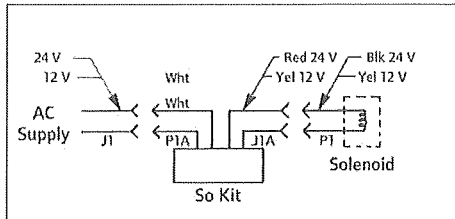
Models	Voltage	Current	Duty	Amps	Ohms
All	12V	DC	Continuous	0.60	21
All	24V	DC	Continuous	0.33	83

Continuous duty = Energized 1 minute or more

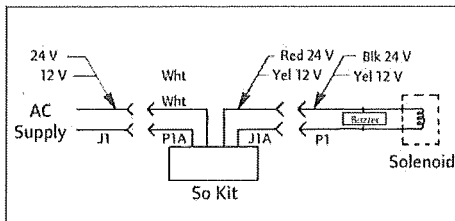
Dimensions

Wiring

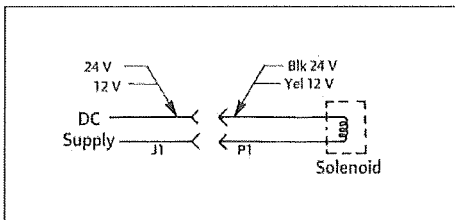
AC



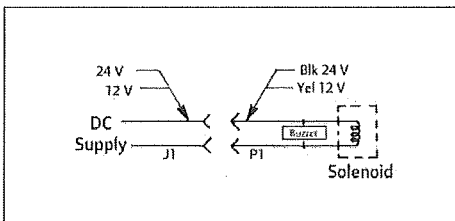
AC with
buzzer



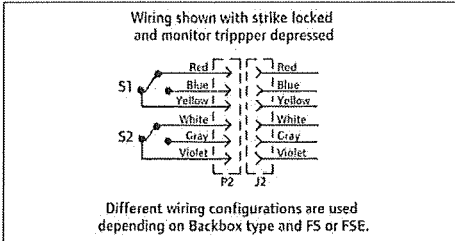
DC



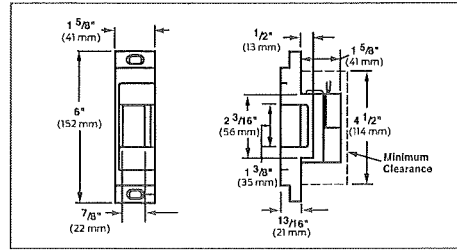
DC with
Buzzer



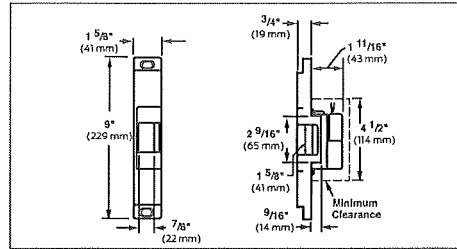
Optional
DS (FSE
Shown)



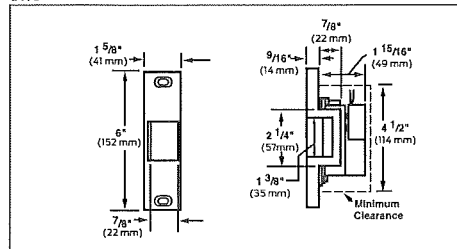
6111



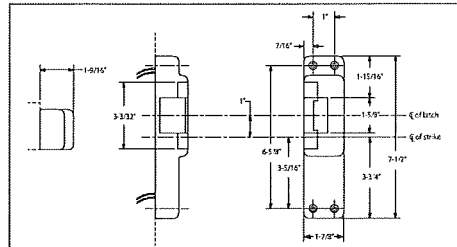
6112



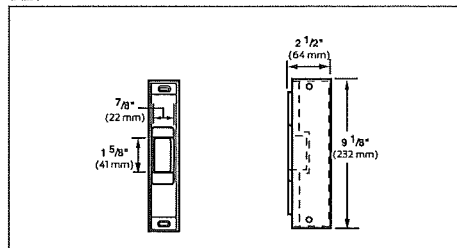
6113



6114



6121



Von Duprin · 6100 Series

Ordering information

6112-FSE-DS-24-S024-US3-EB-CON

Model	Power failure mode	Dual switch*	Voltage	Rectifier kit*	Finish	Buzzer*	Allegion Connect*
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* Optional

Selections correspond with the numbers above

1	Model
Reference specification chart to make the proper model selection	
2	Power failure mode
FSE	Fall-secure. Requires power to be applied to unlock the strike lip. On loss of power, the strike lip is locked. Fire-rated.
FS	Fall-safe. Requires power to be applied to lock the strike lip. On loss of power, the strike lip is unlocked. Non-fire-rated.
3	Dual switch (optional)
DS	Monitors latch bolt and lock status. DS switches rated for 24 VDC at .050 - 2.0 amps.
DS-LC	Low current option for computer monitoring. Monitors latch bolt & lock status. DS-LS switches rated for 24 VDC at .050 amp or less.
4	Voltage (VDC)
24	Low voltage DC power
12	Low voltage DC power
If AC power is required, specify rectifier kit.	
5	Rectifier kit (optional)

S012	Converts 12 VAC voltage to 12 VDC to operate the solenoid
S024	Converts 24 VAC voltage to 24 VDC to operate the solenoid
6	Finish
US3	Plated polished brass on stainless steel
US4	Plated satin brass on stainless steel
US10	Plated satin bronze on stainless steel
US10B	Plated dark bronze, oil rubbed on stainless steel
BHMA 629/US32	Stainless steel, polished
BHMA 630/US32D	Stainless steel, satin
7	Buzzer (optional)
EB	Entry Buzzer
Only available if Fail-Secure (FSE) is specified.	
8	Allegion Connect
CON	Allegion Connect Connector
6 in. wire extension harness available	

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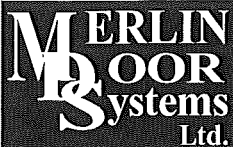
About Allegion

Allegion (NYSE: ALLE) is a global pioneer in safety and security, with leading brands like CISA®, Interflex®, LCN®, Schlage® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion produces a range of solutions for homes, businesses, schools and other institutions. Allegion is a \$2 billion company, with products sold in almost 130 countries. For more, visit www.allegion.com.

optiQ LCN Schlage STEELCRAFT VONDUPRIN



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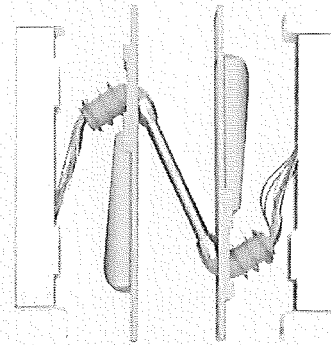


Turnbull Music Addition
Ottawa
Job No. 18-693

Submission Date: Nov15th 2018

VON DUPRIN

Electrical power transfer



Overview

Electric power transfer provides a means of transferring electrical power from a door frame to the edge of a swinging door. The units are completely concealed when the door is in the closed position, and are ideally suited for installations involving abuse or heavy traffic.

Two models are available; EPT-2, two 18 gauge wires and EPT-10, ten 24 gauge wires.

Features and benefits

- UL Listed for use on fire doors
- UL listed as Miscellaneous Door Accessory
- Ball-and-socket joint construction provides cut and pinch protection for wiring
- Built for heavy traffic and high abuse openings

Door applications

- Up to 5" butt hinges – 180° swing.
- 5 1/2" butt hinges – 130° swing.
- 6" butt hinges – 110° swing.
- 3/4" offset pivots – 180° swing.

Not for use with swing clear hinges, center-hung pivots, pocket pivots or balanced doors.

Door applications shown are for 1 3/4" door thickness, for all other applications contact Technical Support to confirm compatibility.

Finishes

- SP28 (sprayed aluminum)
- SP313 (sprayed duranodic)

Dimensions

Housing	9" X 1 1/4" X 1 1/8" (229mm X 32mm X 38mm)
EPT-2	Two 18 gauge wires, up to 2 AMPS @ 24VDC, with a 16 AMPS maximum surge
EPT-10	Ten 24 gauge wires, up to 1 AMPS @ 24VDC, with a 16 AMPS maximum surge
PNT-1	5/32" tubing

To order, specify

- EPT-2, EPT-10 or PNT-1.
- Finish, SP28 or SP313.

About Allegion

Allegion (NYSE: ALLE) is a global pioneer in safety and security, with leading brands like CISA®, Interflex®, LCN®, Schlage® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion produces a range of solutions for homes, businesses, schools and other institutions. Allegion is a \$2 billion company, with products sold in almost 130 countries. For more, visit www.allegion.com.

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CM-60
6" ROUND ALL-ACTIVE SWITCHES



FEATURES

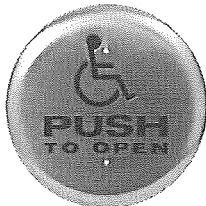
- LARGE, EASY TO OPERATE SWITCHES
- 6" ROUND
- ALL-ACTIVE DESIGN REQUIRES MINIMAL ACTUATION FORCE
- DURABLE STAINLESS STEEL OR SOLID BRASS CONSTRUCTION
- MEETS ADA REQUIREMENTS
- FLUSH MOUNT OR SURFACE MOUNT
- UL/CSA APPROVED SPDT MOMENTARY SWITCH, RATED 15 AMPS @ 30V DC
- VARIOUS LOGOS & MESSAGES
- ARCHITECTURAL FINISHES



CM-60/2



CM-60/3



CM-60/4

DESCRIPTION

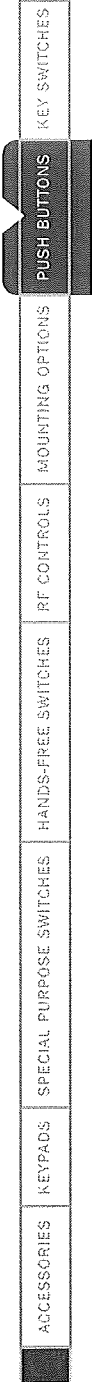
CAMDEN DOOR CONTROLS CM-60 Series all-active switches are heavy-duty, ADA-compliant door controls. The 6" round faceplates are stainless steel or solid brass, and the assembly is designed for easy installation in single-gang electrical boxes, or with included adapter plate – double-gang and 4x4 boxes. The SPDT and optional DPDT switches are UL/CSA approved, and rated 15 amps @ 30 VDC.

APPLICATION

Camden all-active switches are designed for areas where an easy-to-activate, high-visibility switch is desired. Ideal for high-traffic areas, hospitals, wheelchair access, seniors' residences, etc. They can be surface or flush mounted.

Camden all-active switches are designed to control electric strikes, electromagnetic locks and automatic doors. They may also be used for shunting, bypassing alarms, request to exit, timed functions and many other applications.

The switches are made for high frequency usage, for both indoor and outdoor environments. Camden switches are versatile, and can be supplied in various configurations and finishes, to suit any commercial, industrial or residential application.



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Tel: (905) 366-3377 • Fax: (905) 366-3378 • E-mail: info@camdencontrols.com • www.camdencontrols.com



Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

6" ROUND ALL-ACTIVE SWITCHES

ARCHITECTS /ENGINEERS SPECIFICATIONS

The switches to be used throughout the complex shall be CAMDEN DOOR CONTROLS CM-60 all-active switches.

The switches shall be easy-to-activate, ADA compliant and 6" round in diameter. Switches shall be all-active, whereby pressing any part of the faceplate will activate the device. Faceplates shall be constructed of 18-gauge stainless steel or solid brass, and have concealed mounting screws for tamper resistance. Switches shall use plastic spacers and rubber dampers for noise reduction. Switches shall be rated at a minimum of 15 amps @ 30 VDC.

Their design shall allow mounting in single-gang electrical boxes, or, with included adapter plate – double-gang and 4x4 boxes.

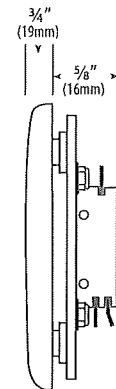
ORDERING INFORMATION

All CM-60 series all-active switches are complete ready-to-install assemblies. They are supplied with stainless steel Allen screws and Allen wrench for mounting.

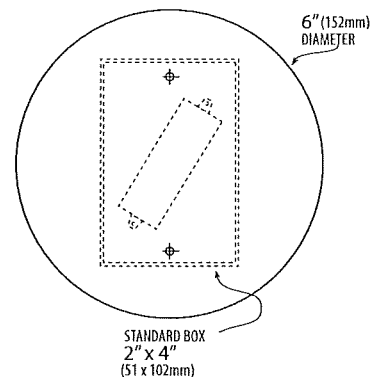
MODEL	DESCRIPTION
CM-60	6" ROUND
CM-60/1	ROUND STAINLESS STEEL PLATE, NO EMBOSING
CM-60/2	EMBOSSSED WITH WHEELCHAIR LOGO IN BLUE
CM-60/3	EMBOSSSED WITH PUSH TO OPEN LOGO IN BLACK
CM-60/4	EMBOSSSED WITH WHEELCHAIR LOGO AND PUSH TO OPEN LOGOS IN BLUE
CM-60/5	EMBOSSSED WITH WHEELCHAIR LOGO AND PUSSEZ POUR OUVRIR IN BLUE
CM-60/6	EMBOSSSED WITH PUSSEZ POUR OUVRIR IN BLACK
CM-60/C	CUSTOM ENGRAVING, PLEASE SPECIFY WHEN ORDERING

OPTIONS/FINISHES:

- DP Add DP to product # to order DPDT switch instead of SPDT switch
- WR Add WR to product # for weather resistant boot
- WT Add WT to product # for boot and water tight coating
- AL Add AL to product # for arrow left
- AR Add AR to product # for arrow right
- AB Add AB to product # for antique brass finish (US5/C5)
- PB Add PB to product # for polished brass finish (US3/C3)
- SB Add SB to product # for satin brass finish (US4/C4)
- OB Add OB to product # for oil rub bronze finish (US10B/C10B)
- MS Add MS to product # for mirrored stainless steel finish (US32/C32)



CM-60



CM-60



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LIT-SP-60



Certified ISO 9001:2008

FS 541752



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Job No. 18-693

Submittal Date: Nov15th 2018

4 1/2" ROUND SWITCH MOUNTING ENCLOSURES

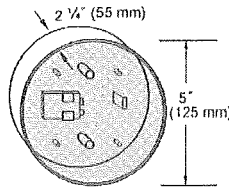
Model: CM-47

Size: 5" round, std. depth

Type: Surface mount box

Construction: Flame and Impact resistant black polymer (ABS)

Application: Indoor/outdoor, wired. Required for wireless
For Switch Series: CM-40



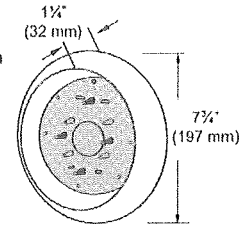
Model: CM-59S

Size: 7 3/4" round, std. depth

Type: Surface mount escutcheon

Construction: Heavy gauge stainless steel

Application: Vandal resistant indoor/outdoor, wired.
For Switch Series: CM-40



Model: CM-49

Size: 8 3/4" round, 1 13/16" depth

Type: 2 pcs. surface or semi flush mount escutcheon, gasket and adapter plate included

Construction: Flame and impact resistant black polymer (ABS)

Application: Vandal resistant indoor/outdoor

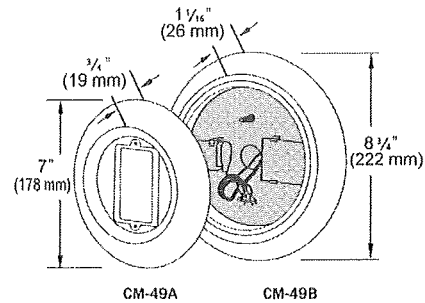
CM-49A: Semi flush mounting on single gang electrical box, wired

CM-49B: Surface mount. Wired, required for wireless. Must be used with CM-49A

CM-49C: Adapter plate to mount CM-49A on double gang and 4" square electrical box

CM-49G: Gasket for CM-49A or CM-49B

For Switch Series: CM-40



6" ROUND SWITCH MOUNTING ENCLOSURES

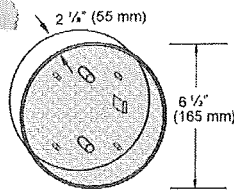
Model: CM-69S

Size: 6 1/2" round, std. depth

Type: Surface mount box

Construction: Flame and Impact resistant black polymer (ABS)

Application: Indoor/outdoor, wired. Required for wireless
For Switch Series: CM-60



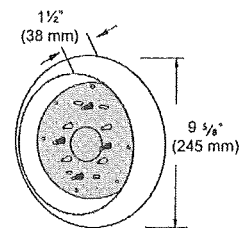
Model: CM-89S

Size: 9 5/8" round, std. depth

Type: Surface mount escutcheon

Construction: Heavy gauge stainless steel

Application: Vandal resistant indoor/outdoor, wired.
For Switch Series: CM-60



Model: CM-79

Size: 9 5/8" round, 1 13/16" depth

Type: 2 pcs. surface and semi flush mount escutcheon, gasket and adapter plate included

Construction: Flame and impact resistant black polymer (ABS)

Application: Vandal resistant indoor/outdoor

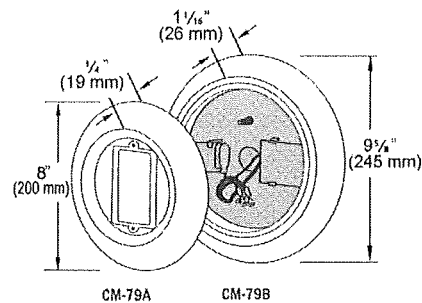
CM-79A: Semi flush mounting on single gang electrical box, wired

CM-79B: Surface mount. Wired, required for wireless. Must be used with CM-79A

CM-79C: Adapter plate to mount CM-79A on double gang and 4" square electrical box

CM-79G: Gasket for CM-79A or CM-79B

For Switch Series: CM-60



Camden
DOOR CONTROLS

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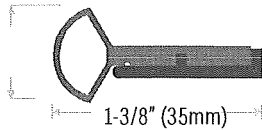
MERLIN
DOOR
Systems
Ltd.

Turnbull Music Addition
Ottawa
Job No. 18-693

Submittal Date: Nov15th 2018

Door Hollow Bulb Weatherseal

5/8" (16mm)



DS143CT Extruded aluminum clear anodized with TPE (T) insert, black

DST43BL Replacement TPE (T) insert, black.

WWW.DRAFTSEAL.COM | INFO@THEDSGROUP.COM

Head Office: Vancouver, Canada | Branch Offices: Toronto, Canada & Los Angeles, USA

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1. GENERAL

1.01 SUMMARY

A. Work included:

1. Electro-mechanical swing door operating equipment
2. Controls and safety devices
3. Accessories

B. Related Work: [Insert applicable section including]

1. Section 07900 – Caulking
2. Section 08400 – Entrances and Storefronts
3. Section 08710 – Finished Hardware
4. Section 08800 – Glazing
5. Section 12670 – Entrance Mats
6. Section 16120 – Electrical Supply and Termination

1.02 SUBMITTALS

A. Product Data: Provide manufacturer's product and complete installation data for all materials in this specification.

B. Shop Drawings: Show profiles, joining methods, location of components, anchorage details, adjacent construction interfacing and dimensions as well as all necessary wiring and electrical requirements.

C. Samples: Sized to adequately represent material

D. Contract Closeout: Submit the Manufacturer's warranty and performance certification (if applicable)

E. Installation Guide: Provide written installation and operating manuals and/or installation recommendations.

1.03 QUALITY ASSURANCE

A. Installation and maintenance shall be performed by an authorized dealer and in strict compliance with the manufacturers recommendations.

B. Conform to UL Std. 325 & ANSI-BHNA Std. A156.19 certified to Can. CSA Std. C22.2#247.

1.04 PRODUCT HANDLING

A. All materials shall arrive in the manufacturers original sealed, labelled containers.

B. Store materials in a dry, protected, well-vented area. Report damaged material immediately to the delivering carrier; note the damage on the carrier's freight bill of lading.

C. Remove all protective materials after installation.

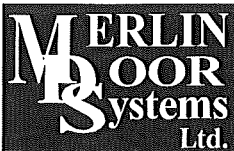
1.05 JOB CONDITION

A. Verify that other trades are complete before installing the automatic swinging door system.

B. Mounting surfaces shall be plumb, straight and secure; substrates shall be proper dimension and material.

C. Refer to the construction documents, shop drawings and manufacturer's installation instructions.

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Toll free US: 1 866 901 4284



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Ottawa
Job No. 18-693

Submission Date: Nov15th 2018

- D. Coordinate installation with the glass, glazing and electrical work.
- E. Observe all appropriate OSHA safety guidelines for this work.

1.06 WARRANTY/GUARANTEE

- A. Manufacturer's Standard Warranty: Warranted materials shall be free of defect in material and workmanship for a TWO year period after installation.

2. PRODUCTS

2.01 MANUFACTURER

- A. Hunter Automatics Inc.
11 Dansk Court
Toronto, Ontario
M9W 5N6
Phone: 1-877-3HUNTER
Email: hunterauto@look.ca

2.02 AUTOMATIC SWINGING DOOR SYSTEM

- A. Automatic Door Operator: Shall be HUNTER HA-8. The system shall be an electro-mechanical system installed in a header to resist dust, dirt and corrosion. Bearings shall be fully lubricated and sealed to minimize wear and friction. Entire operator shall be removable from the header as a unit. All equipment shall operate between temperature extremes of -30 degrees F and +130 degrees F.
- B. Power Opening: Operator shall open door with a 1/8 HP motor through reduction gears splined spindle, door arm and linkage assembly. Drive train shall have positive constant engagement. Operator shall stop the door in the open position by electrically reducing the motor voltage and stalling against stop.
- C. Spring Close: Operator shall close door by spring energy. Employing the motor as a dynamic brake shall control closing speed. Closing spring shall be pre-loaded for positive closing action at low material stress level. "Low energy" operator door closing time shall not be less than 4.5 seconds.
- D. Manual Operation: Operator shall function as a manual door closer in the direction of swing with or without electrical power. To facilitate easy manual operation of door and to prolong gear and motor life the operator must have a one-way clutch in the gear train.
- E. Entrapment Protection: Door forces and speeds generated during power opening and manual opening in both directions of swing and spring closing in both directions of swing shall conform to the requirements of A 156.19.
- F. Electrical Control: Electronic controllers with quick connect plugs shall incorporate the following features:
 - 1. Mode of Operation: To be "low energy" as defined by A 156.19.
 - 2. Respond to push plates, transmitters and receivers.
 - 3. Immediate reverse-on-obstruction during opening capability.
 - 4. Open, back check and closing speed adjustment.
 - 5. Adjustable time delays.
 - 6. On/Off switch.
- G. Header: Shall be 4-1/2" wide by 6-1/2" high, 6063-T6 aluminum extrusions with structurally integrated end caps. Structural sections shall have a minimum wall thickness of 0.25". Provide a full length removable cover for access to operator and electronic control box.

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- H. Aluminum Extrusion Finish: Standard anodized finish shall be Clear, Bronze or Light Bronze. Special anodized, painted and clad finishes are available upon request. Specify type and colour.
- I. Linkage Assembly: Shall provide positive control of door through entire swing; Surface applied permit use on butt-hung or offset pivots. Concealed permit use on center pivot, butt-hung, and offset pivots.
- J. Controls: Push Plates, Transmitters, Pull Cords, Card Readers

3. EXECUTION:

3.01 INSPECTION

- A. The door installer shall verify that the installation area is dry, clean and free of foreign matter. Check as-built conditions and verify the manufacturer's details for accuracy to fit the wall assembly prior to fabrication. Report in writing to the Contractor any detrimental conditions to the proper functioning of the swinging door operator and correct prior to any installation in accordance to the manufacturer's recommendations.

3.02 INSTALLATION OF AUTOMATIC SWING DOOR SYSTEM

- A. Installation shall be by an installer approved and trained by the manufacturer in strict accordance with the manufacturer's instructions and fire marshal's listing requirements.
- B. Comply with the automatic swinging door system manufacturer's recommendations and/or installation guide when installing the automatic swinging entrance system. Set all units plumb, level and true.
- C. Provide all fasteners required for installation of the automatic swinging door system.
- D. Adjustment and Cleaning: After repeated operation of the completed installation, re-adjust door operators and controls for optimum operating condition and safety. Clean all metal surfaces promptly after installation.
- E. Explain and review the Daily Safety Check Procedure.

END SECTION 08460

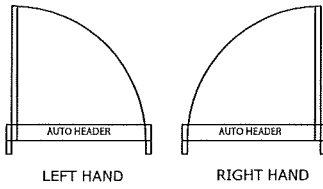
Hunter Automatics adheres to continuous development. For this reason, specifications may change without notice.

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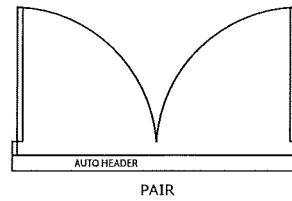
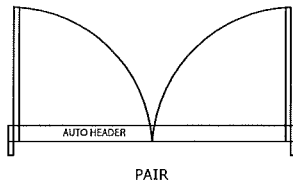
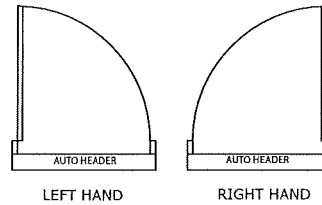


VISIBLE APPLICATION

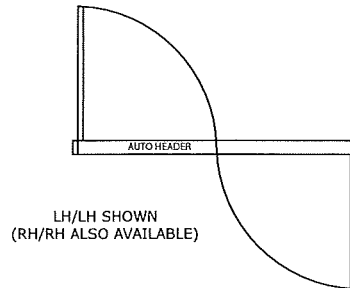
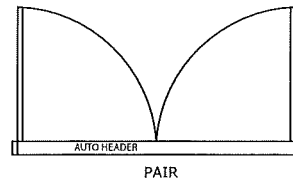
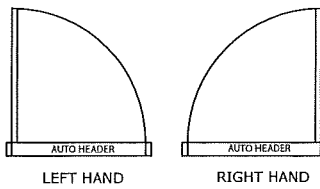
PULL APPLICATION



PUSH APPLICATION



CONCEALED APPLICATION

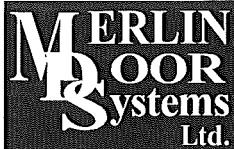


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SHEET	DOOR TYPE	DESCRIPTION
P1	HA-8-1-3	RIGHT HAND PUSH
P2	HA-8-1-4	LEFT HAND PUSH
P3	HA-8-1-5	PAIR DOORS PUSH
P4	HA-8-2-3	RIGHT HAND PULL
P5	HA-8-2-4	LEFT HAND PULL
P6	HA-8-2-5	PAIR DOORS PULL
P7	HA-8-CH-3	CONCEALED RIGHT HAND SINGLE DOOR CENTER PIVOT
P8	HA-8-CH-4	CONCEALED LEFT HAND SINGLE DOOR CENTER PIVOT
P9	HA-8-CH-5	CONCEALED PAIR DOORS CENTER PIVOT
P10	HA-8-CS-3	CONCEALED RIGHT HAND WITH BUTT HUNG OR OFFSET PIVOT
P11	HA-8-CS-4	CONCEALED LEFT HAND WITH BUTT HUNG OR OFFSET PIVOT
P12	HA-8-CS-5	CONCEALED PAIR DOORS WITH BUTT HUNG OR OFFSET PIVOT

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 Job No. 18-693

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