



FULL MORTISE HINGES

Ball Bearing • Standard Weight • Template

For use on Medium Weight Doors or Doors Requiring Average Frequency Service

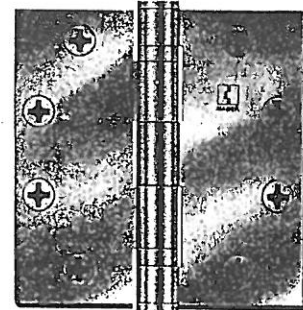
BB1191/BB1279

Brass ANSI A2112
Stainless Steel ANSI A5112
with stainless steel pin
Steel with steel pin ANSI A8112

Five knuckle two ball bearings non-rising removable pin button tip and plug.
Specify Screw Requirements.



For Hospital type
prefix "HT" to
catalog number



Size Open (Inches)	3 1/2 x 3 1/2	4 x 4	4 1/2 x 4 4 1/2 x 4 1/2	5 x 4 5 x 4 1/2 5 x 5	6 x 4 1/2 6 x 5 6 x 6
Gauge of metal	.119	.129	.134	.145	.160
Number of holes	6	8	8	8	10
Machine screw size	1/2 x 10-24	1/2 x 12-24	1/2 x 12-24	1/2 x 12-24	1/2 x 1/4-20
Wood screw size	1 x 9	1 1/4 x 12	1 1/4 x 12	1 1/4 x 12	1 1/2 x 14
Box quantity	1 pr (2 ea)	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)
Pair in case	50	24	24	12	12
Average weight per case (lbs)					
Steel-Stainless	66	43	55	37	57
Brass	72	47	60	40	62

Ball Bearing • Heavy Weight • Template

For use on Heavy Weight Doors or Doors Requiring High Frequency Service

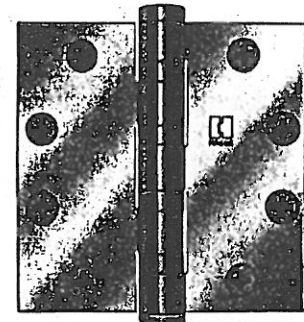
BB1199/BB1168

Brass ANSI A2111
Stainless Steel ANSI A5111
with stainless steel pin
Steel with steel pin ANSI A8111

Five knuckle four ball bearings, non-rising removable pin button tip and plug.
Specify Screw Requirements.



For Hospital type
prefix "HT" to catalog number

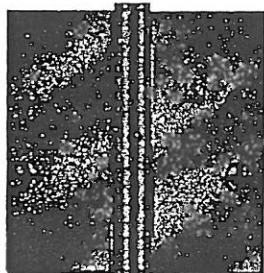


Size Open (Inches)	4 1/2 x 4 4 1/2 x 4 1/2	5 x 4 5 x 4 1/2 5 x 5	6 x 4 1/2 6 x 5 6 x 6	8 x 6 8 x 8
Gauge of metal	.180	.190	.190 Stainless Steel .203 Steel & Brass	.190 Stainless Steel .203 Steel & Brass
Number of holes	8	8	10	16
Machine screw size	1/2 x 12-24	1/2 x 12-24	1/2 x 1/4-20	1/2 x 1/4-20
Wood screw size	1 1/4 x 12	1 1/4 x 12	1 1/2 x 14	1 1/2 x 14
Box quantity	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)
Pair in a case	12	12	12	6
Average weight per case (lbs.)				
Steel—Stainless	35	44	70	67
Brass	38	48	65	62
Stainless				

Furnished with screw hole location to conform to standards approved by (ANSI) A156.7—1988.
Hinge testing conform to ANSI - A156.1—1988.

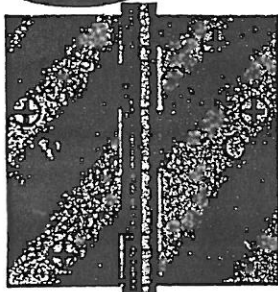
BASIC HINGE SELECTION

Three additional features that are commonly used are the Non-removable Pin (NRP), the Safety Stud (SH) and our Reverse Security Stud (RSS).

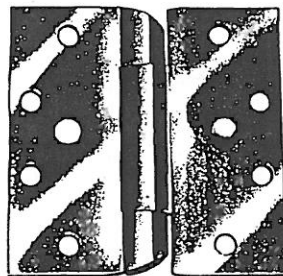


The non-removable pin (NRP) has a small set screw in the body of the barrel. This set screw is tightened down against the pin. The pin has a groove in the position where the set screw makes contact, allowing the set screw to seat. The set screw is positioned so it cannot be reached unless the door is

opened. If pin removal is necessary, the set screw is merely removed and the pin tapped from the bottom in the usual manner.



The safety stud (SH) is another feature which places a stud on one leaf and a locking hole on the other leaf; when the door is closed, the stud is anchored into the opposite leaf. Even if the hinge pin is removed, the door is secure because the leaves are locked together.



The reverse security stud (RSS) is a feature that has a stud projecting from the back of both leaves into the reinforcing plate of both the frame and the door. It is intended to keep the hinge locked in place from abuse of battering or trying to shear the hinge and screws. This feature is

primarily used in prisons and psychiatric areas.

One important point must be made here. *These features are intended as deterrents only.* If someone wants to gain entry through a door badly enough, eventually they will get through.

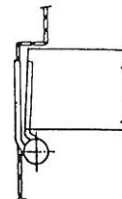
Another special function available is the **RAISED BARREL** hinge, this is used when the door is set deep back into the frame. There are three different types of applications: *Jamb Surface Mount*, *Raised Barrel for Square Edged Door* and *Raised Barrel for Beveled Edged Door*. The hinge knuckle is offset to allow it to clear the obstruction of the frame.

On the Jamb Surface Mount (JSM) application, the door is

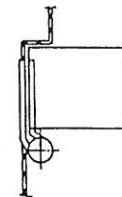
mortised to accommodate both hinge leaves or what is sometimes referred to as double mortised. The Jamb Surface Mount may be applied to either a square or beveled edge door.

The Raised Barrel for Square Edged door (RBS) and the Raised Barrel for Beveled Edged (RBB) door applications are mortised into the frame and door as a standard full mortised hinge.

Depending on the depth of the frame, all three of these applications may restrict the degree of opening.

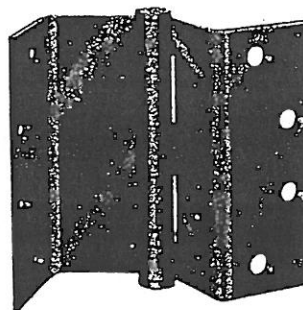


Raised Barrel Beveled



Raised Barrel Square

Another special feature hinge is the Swing Clear type. This is used mostly in hospitals and institutional buildings when the passage area must be the full width of the opening. One such case would be an eight foot wide corridor that requires the full opening for the passage of two beds or carts. With the use of swing clear hinges this passage can be accomplished.



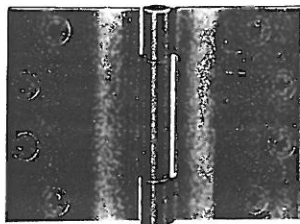
The hinges are designed to swing the door completely clear of the opening when the door is opened 95 degrees. The standard way to accomplish this degree of opening is to build a pocket in the wall to accept the door. This allows the door to be concealed in the wall and not obstruct the flow of traffic.

One additional point to remember: only on the Full Mortise hinges are there two dimensions, such as a 4 1/2" x 4 1/2". The first dimension indicates the height and the second dimension indicates the width when the hinge is in the open position. On all other classifications there is only one dimension, that is the height.



FULL MORTISE HINGES

Concealed Bearing Hinge • Heavy Weight • Template • Wide Throw
For use on Heavy Weight Door or Doors Requiring High Frequency Service



WTAB850/WTAB750

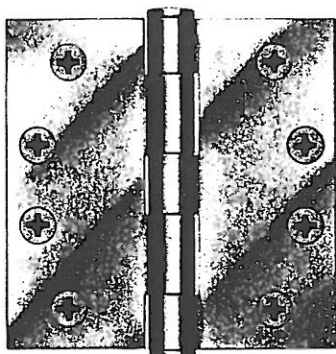
Brass ANSI A2111
 Stainless Steel ANSI A5111
 Steel ANSI A8111
 With stainless steel pin

Three knuckle with concealed hinge bearings non-rising removable pin concealed pin head and plug.
 Specify Screw Requirements.

Size Open (Inches)	4 1/2 x 5 4 1/2 x 6 4 1/2 x 7 4 1/2 x 8	5 x 6 5 x 7 5 x 8
Gauge of metal	.180	.190
Number of holes	8	8
Machine screw size	1/2 x 12-24	1/2 x 12-24
Wood screw size	1 1/4 x 12	1 1/4 x 12
Box quantity ¹	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)
Pair in a case	12	6
Average weight per case (lbs)		
Steel — Stainless	55	32
Brass	60	35

Plain Bearing • Standard Weight • Template

For use on Medium Weight Doors Requiring Low Frequency Service
Not for use with Door Closer



For Hospital type
 prefix "HT" to catalog
 number

~~1101~~ 1279

Brass ANSI A2133
 Stainless Steel ANSI A5133
 with stainless steel pin
 Steel with steel pin ANSI A8133
 Sizes, 2 x 2, 2 1/2 x 2 1/2, 3 x 3

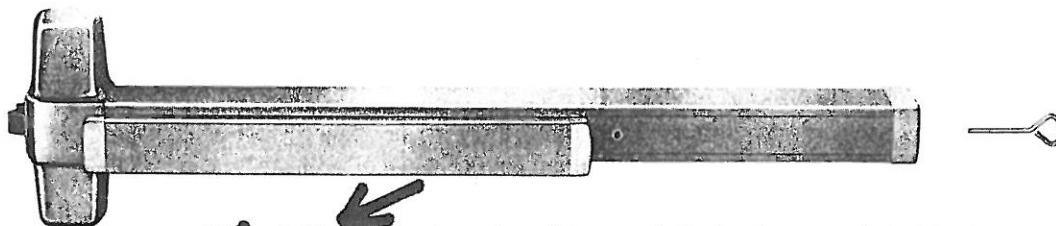
Five knuckle non-rising removable pin button tip and plug.
 Specify Screw Requirements.

Size Open (Inches)	2 x 2	2 1/2 x 2 1/2	3 x 3	3 1/2 x 3 1/2	4 x 4	4 1/2 x 4 4 1/2 x 4 1/2	5 x 4 5 x 4 1/2 5 x 5	6 x 4 1/2 6 x 5 6 x 6
Gauge of metal	.083	.089	.097	.119	.129	.134	.145	.160
Number of holes	4	6	6	6	8	8	8	10
Machine screw size	1/2x8-32	1/2x8-32	1/2x10-24	1/2x10-24	1/2x12-24	1/2x12-24	1/2x12-24	1/2x1/4-20
Wood screw size	3/4x8	3/4x8	1x9	1x9	1 1/4x12	1 1/4x12	1 1/4x12	1 1/2x14
Box quantity	5 pr (10 ea)	5 pr (10 ea)	1 pr (2 ea)	1 pr (2 ea)	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)	1 1/2 pr (3 ea)
Pair in case	100	100	50	50	24	24	12	12
Average weight per case (lbs)								
Steel — Stainless	32	34	37	66	43	55	37	61
Brass	35	39	40	72	47	60	40	66

Furnished with screw hole location to conform to standards approved by (ANSI) A156.7—1988.

VON DUPRIN®

98/99 Rim Devices



98 and 99 rim devices for all types of single doors and double doors with mullion, UL listed for accident hazard installations. Covers stock hollow metal doors with 86 or 161 cutouts.



299

FEATURES

- Nonhanded
- Field sizeable
- $\frac{3}{4}$ " (19mm) throw, latch bolt
- Latch bolt deadlocking
- Eight popular finishes
- Hex key dogging

DIMENSIONS

Touchbar height to finished floor	39 $\frac{13}{16}$ " (935mm) at center
Touchbar projection —	
neutral	3 $\frac{13}{16}$ " (97mm)
depressed	3 $\frac{1}{16}$ " (78mm)
Center case	8" × 2 $\frac{1}{4}$ " × 2 $\frac{3}{4}$ " (203mm × 57mm × 70mm)
Device length — Short 3'	2'6" to 3' (762mm to 914mm) door size
Long 4'	3'1" to 4' (940mm to 1219mm) door size

OUTSIDE TRIM

Standard

990NL-R/V
990TP-R/V
990DT
110NL-MD
991K-R/V
992L-R/V

Optional

990EO
696NL-R/V
696TP-R/V
696DT
697NL-R/V
697TP-R/V
697DT
KP992L-R/V
994L-R/V
110NL-WD
392-7

For complete outside trim information, see pages 18-19.

STRIKES AND FASTENERS

Device is furnished with standard 299 strike in dull black finish. All necessary fasteners are included. Optional strikes and finishes are available. For strike applications, dimensions, and minimum door stile information refer to pages 22, 23.

A combination of fasteners are included for surface mounting and through bolting to trim on 1 $\frac{3}{4}$ " (44mm) and 2 $\frac{1}{4}$ " (57mm) thick doors.

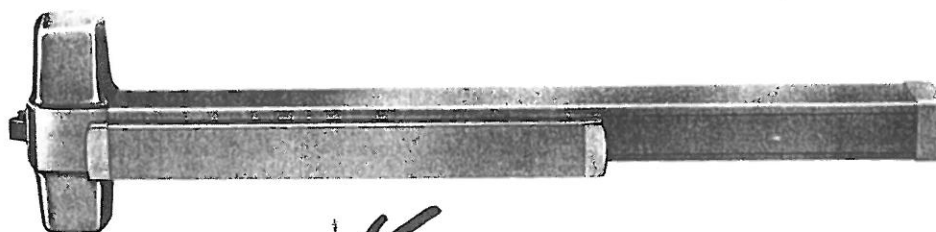
DEVICE OPTIONS

Electric latch retraction, page 24
Pneumatic latch retraction, page 27
Electric rim device, page 25
Request to exit switch, page 26
Latch bolt monitoring, page 26
Signal switch, page 26
Cylinder dogging, page 30
Double cylinder, page 27

For How-To-Order Information on all devices, see page 35.

VON DUPRIN®

98/99 Fire Exit Rim Devices



98-F and 99-F fire exit rim devices for all types of 4' x 8' (1219mm x 2438mm) single doors or 8' x 8' (2438mm x 2438mm) double doors with 9954 or 9854 mullion, UL listed for fire exit hardware, 3 hour rating.



299F



499F

FEATURES

- Nonhanded
- Field sizeable
- 3/4" (19mm) throw, latch bolt
- Latch bolt deadlocking
- Eight popular finishes

DIMENSIONS

Touchbar height to finished floor	39 ³ / ₁₆ " (935mm) at center
Touchbar projection — neutral	3 ¹³ / ₁₆ " (97mm)
depressed	3 ¹ / ₁₆ " (78mm)
Center case	8" x 2 ¹ / ₄ " x 2 ³ / ₄ " (203mm x 57mm x 70mm)
Device length — Short 3'	2'6" to 3' (762mm to 914mm) door size
Long 4'	3'1" to 4' (940mm to 1219mm) door size

STRIKES AND FASTENERS

Device is furnished with standard 299F strike in dull black finish (optional finishes are available) for single door applications. All necessary fasteners are included. Optional 499F strike is **required** on double doors. For strike applications, dimensions, and minimum door stile information refer to pages 22, 23.

A combination of fasteners are included for surface mounting and through bolting to trim on 1³/₄" (44mm) and 2¹/₄" (57mm) thick doors.

DEVICE OPTIONS

- Electric latch retraction, page 24
- Pneumatic latch retraction, page 27
- Electric rim device, page 25
- Request to exit switch, page 26
- Latch bolt monitoring, page 26
- Signal switch, page 26
- Double cylinder, page 27

OUTSIDE TRIM

Standard

990NL-R/V
990TP-R/V
110NL-MD
991K-R/V
992L-R/V

Optional

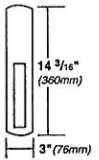
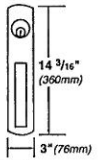

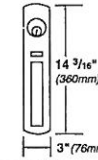
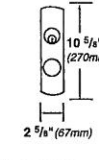
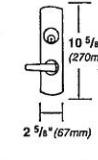
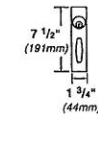
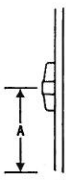
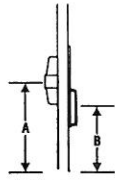
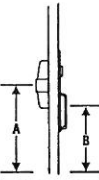
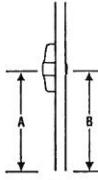
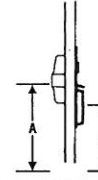
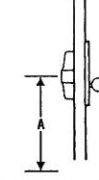
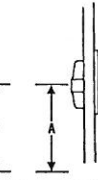
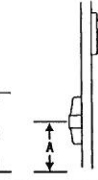
990EO
696NL-R/V
696TP-R/V
697NL-R/V
697TP-R/V
KP992L-R/V
994L-R/V
110NL-WD

For complete outside trim information, see pages 18-19.

For How-To-Order Information on all devices, see page 35.

VON DUPRIN®

98/99 Trim Selection

Function	01 Exit Only	02 Pull When Dogged	03 Key Retracts Latch Bolt	03 Key Retracts Latch Bolt	05 Key Locks Thumbpiece	08* Key Locks Knob	08* Key Locks Lever	11 Key Locks Thumbturn
Trim Number and Dimensions		990DT  14 3/16" (360mm) 3" (76mm)	990NL  14 3/16" (360mm) 3" (76mm)	110NL (Pull Required)  Cylinder Only 1 1/4" (32mm) Rim	990TP  14 3/16" (360mm) 3" (76mm)	991K  10 5/16" (270mm) 2 5/16" (67mm)	992L  10 5/16" (270mm) 2 5/16" (67mm)	374T  7 1/2" (191mm) 1 3/4" (44mm)
Device/Trim Center Line To Finished Floor								
Projection	—	2" (51mm)	2" (51mm)	—	2" (51mm)	3 1/4" (95mm)	2 3/4" (70mm)	1 3/4" (44mm)
Rim	Panic	98EO 99EO	98DT 99DT	98NL 99NL	98NL-OP, 99NL-OP	98TP 99TP	98K 99K	98L 99L
	Fire	98EO-F 99EO-F	—	98NL-F 99NL-F	98NL-OP-F 99NL-OP-F	98TP-F 99TP-F	98K-F 99K-F	98L-F 99L-F
	Ctr. Line	A 39 1/16" 1011mm	A 39 1/16" 1011mm B 33 7/16" 860mm	A 39 1/16" 1011mm B 33 7/16" 860mm	A 39 1/16" 1011mm B 40 1/16" 1018mm	A 39 1/16" 1011mm B 33 7/16" 860mm	A 39 1/16" 1011mm B 37 7/16" 945mm	A 39 1/16" 1011mm B 39 1/16" 945mm
Mortise Lock	Panic	9875EO 9975EO	9875DT 9975DT	9875NL 9975NL	—	9875TP 9975TP	9875K 9975K	9875L 9975L
	Fire	9875EO-F 9975EO-F	—	9875NL-F 9975NL-F	—	9875TP-F 9975TP-F	9875K-F 9975K-F	9875L-F 9975L-F
	Ctr. Line	A 39 5/16" 1006mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 39 7/16" 1012mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 37" 940mm	A 39 5/16" 1006mm B 37" 940mm
Surface Mounted Vertical Rod	Panic	9827EO 9927EO	9827DT 9927DT	9827NL 9927NL	9827NL-OP 9927NL-OP	9827TP 9927TP	9827K 9927K	9827L 9927L
	Fire	9827EO-F 9927EO-F	—	9827NL-F 9927NL-F	9827NL-OP-F 9927NL-OP-F	9827TP-F 9927TP-F	9827K-F 9927K-F	9827L-F 9927L-F
	Ctr. Line	A 39 5/16" 1006mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 39 7/16" 1012mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 37" 940mm	A 39 5/16" 1006mm B 37" 940mm
Concealed Vertical Rod	Panic	9847EO 9947EO	9847DT 9947DT	9847NL 9947NL	9847NL-OP 9947NL-OP	9847TP 9947TP	9847K 9947K	9847L 9947L
	Fire	9847EO-F 9947EO-F 9848EO-F 9948EO-F	—	9847NL-F 9947NL-F 9848NL-F 9948NL-F	9847NL-OP-F 9947NL-OP-F 9848NL-OP-F 9948NL-OP-F	9847TP-F 9947TP-F 9848TP-F 9948TP-F	9847K-F 9947K-F 9848K-F 9948K-F	9847L-F 9947L-F 9848L-F 9948L-F
	Ctr. Line	A 39 5/16" 1006mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 39 7/16" 1012mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 37" 940mm	A 39 5/16" 1006mm B 37" 940mm
Concealed Vertical Rod Wood Door	Panic	9847WDC-EO 9947WDC-EO	9847WDC-DT 9947WDC-DT	9847WDC-NL 9947WDC-NL	9847WDC-NL-OP 9947WDC-NL-OP	9847WDC-TP 9947WDC-TP	9847WDC-K 9947WDC-K	9847WDC-NL 9947WDC-NL
	Fire	9847WDC-EO-F 9947WDC-EO-F	—	9847WDC-NL-F 9947WDC-NL-F	9847WDC-NL-OP-F 9947WDC-NL-OP-F	9847WDC-TP-F 9947WDC-TP-F	9847WDC-K-F 9947WDC-K-F	9847WDC-L 9947WDC-L
	Ctr. Line	A 39 5/16" 1006mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 39 7/16" 1012mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 37" 940mm	A 39 5/16" 1006mm B 37" 940mm
Three Point Latch	Panic	9857EO 9957EO	9857DT 9957DT	—	—	9857TP 9957TP	9857K 9957K	9857L 9957L
	Fire	9857EO-F 9957EO-F	—	—	—	9857TP-F 9957TP-F	9857K-F 9957K-F	9857L-F 9957L-F
	Ctr. Line	A 39 5/16" 1006mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 39 7/16" 1012mm	A 39 5/16" 1006mm B 33 11/16" 856mm	A 39 5/16" 1006mm B 37" 940mm	A 39 5/16" 1006mm B 37" 940mm
Additional SNB requirements	6	2	2	6	2	2	2	2

*Refer to additional lever or knob information, page 19.

VON DUPRIN® 98/99 Accessories

DUMMY PUSH BAR

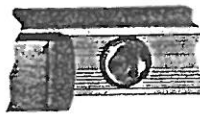


The 330 grooved and 350 smooth dummy push bars are designed as a companion unit for all 98 or 99 devices. The touch bar is rigid and non-functioning. A push/pull operation can be accomplished by using 990DT, 696DT, or 697DT trim.

To order, specify:

1. 330 or 350.
2. Size, 3' or 4' (914mm or 1219mm).
3. Finish, see page 35.

CYLINDER DOGGING — CD



Cylinder dogging is available on all 98/99 devices to replace the standard hex key dogging. Furnished, not installed. Unit requires a standard 1 1/4" (32mm) mortise cylinder.

To order, specify:

1. Prefix CD, example CD99NL.

CYLINDER DOGGING KIT — CDK

For field conversion, a cylinder dogging conversion kit is available. Order: 33/99CDK or 35/98CDK, specify finish.

HEX KEY DOGGING KIT — HDK

For field conversion, a hex key dogging conversion kit is available. Order: 33/99HDK or 35/98HDK, specify finish.

GLASS BEAD KIT

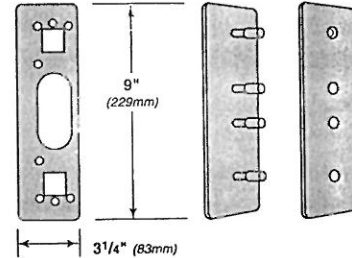
Glass bead conversion kits are available for all 99 Series devices for use on doors with raised glass beads. Each kit consists of 1/4" (6mm) shim sets.

To order, specify:

1. 99GBK.
2. Device type (rim, mortise, surface vertical and concealed vertical rod.)
3. Wood door, when used with concealed vertical.

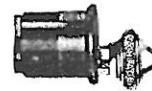
COVER PLATES KIT — 997 KIT

For 99 rim device, kit contains inside and outside plates for hinge stile cutouts, an inside plate for the lock stile, and necessary screws. Plates are designed to cover cutouts required by most existing exit device installations. Specify finish.

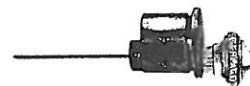
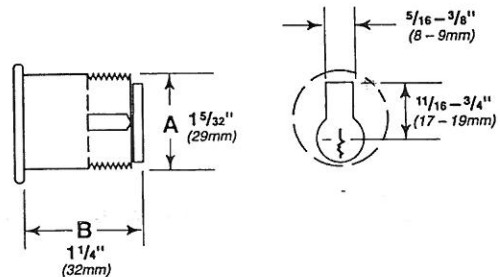


CYLINDERS

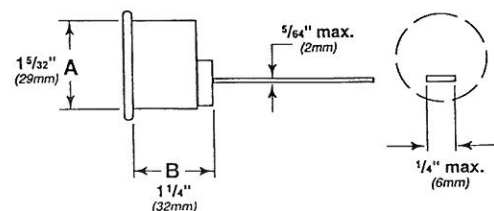
Cylinders are not furnished with device or trim and must be specified when ordering. Rim, surface vertical rod, and concealed vertical rod exit devices use rim type cylinders. Mortise lock exit devices and series 370 controls use mortise type cylinders.



Mortise — 3215 (Schlage B502-191 cam)



Rim — 3216



VON DUPRIN®

General Information

UL LISTINGS

Most Von Duprin exit devices are UL listed for Accident Hazard or Fire Exit Hardware, and are tested in accordance to ANSI A156.3, 1994, Grade 1.

Accident hazard

To be UL listed a device must pass rigorous tests to prove it is mechanically sound and reliable.

One test puts the device through 100,000 controlled open and close cycles. In another, the activating mechanism is required to operate with 50 pounds of pressure or less when 250 pounds of pressure is applied to the door in the direction of the swing.

Fire exit hardware

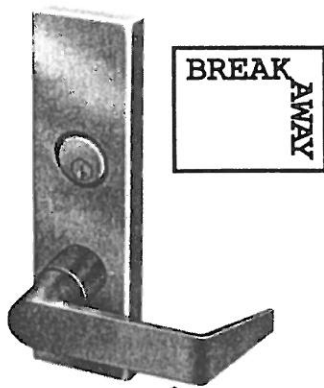
To carry the UL label for Fire Exit Hardware, a device first must meet the Accident Hazard requirements. Secondly, the device must pass the burn test to prove that it can hold fire doors closed for up to a three hour period in temperatures over 1900°F. Immediately after burning, a fire hose with approximately 45 lbs. PSI pressure at the nozzle puts stress on the opening as a final test of the hardware's ability to hold the doors closed.

ABBREVIATIONS

AL — Aluminum
AN — Anodized
ATMS — All template machine screws
BRZ — Bronze
CD — Cylinder dog
CK — Conversion kit
CVR — Concealed vertical rod
CYL — Cylinder
DR — Door
DT — Dummy trim
E — Electric trim
EL — Electric latch retraction
EO — Exit only
FEH — Fire exit hardware
FPH — Flat phillips head
FR — Frame
FS — Fail safe
FSE — Fail secure
HB — Hold back feature
HM — Hollow metal
IS — Inside
K — Knob
KA — Keyed alike
KAL — Kalamein
KR — Knob rigid
KS — Knurled surface
L — Lever
LBR — Less bottom rods
LHR — Left hand reverse bevel

LR — Latch retractor
LX — Latchbolt monitor switch
M — Mortise
MS — Machine screws
NL — Night latch action
NL-OP — Night latch (optional pull)
OA — Over all
OPH — Oval phillips head
OS — Outside
OST — Outside trim
PL — Pullman Latch
PN — Pneumatic latch retraction
R — Rim
RHR — Right hand reverse bevel
RX — Request to exit switch
SHM — Stock hollow metal
SNB — Sex nuts and bolts
SS — Stainless steel
SS — Signal switch
SSKD — Stock size, knocked down
STMS — Strike template machine screws
TBSK — Touchbar switch kit
TL — Turn level control
TP — Thumbpiece action
V — Vertical rod
WD — Wood
WDC — Wood door concealed
WS — Wood screws

VON DUPRIN® 98/99 Trim Selection



BREAKAWAY™ LEVER TRIM

Breakaway Lever Trim Series 994L will significantly reduce damage from vandalism and abuse, while helping meet ADA-mandated accessibility standards. The patented Breakaway trim is available for Von Duprin Series 98 and 99 exit devices and can be installed on existing 992L lever trim prep for retrofit applications.

Lever trim, mandated on public buildings since January 26, 1992, is vulnerable to vandalism and abuse that can cause the lever or internal trim parts to break, rendering the door inoperable and necessitating costly, recurring repairs. The Breakaway design allows the lever to break away and drop into a "down" position when abused, discouraging further abuse and protecting its internal parts. Further, it can be easily reset to its operating position by a simple uplift motion.

When unlocked, the unit operates as a normal lever trim. When locked, the lever feels locked but when more than 35 pounds of torque are applied, the lever breaks away and travels to a 90-degree down position. To prevent further damage to internal trim parts or to the exit device, an easily replaced shear pin breaks at 65 to 75 pounds of torque.

Series 994L trim features a smooth precise operation and a flip cam design to allow easy handing in the field. Installation or repairs are simple. An embossed cylinder improves aesthetics and security.

The Breakaway design was lab tested to 500,000 cycles in the unlocked position and to 10,000 "break" cycles, after which it still maintained the required 35 pounds torque to break away.

All standard lever designs and function options are available.

To order specify:

1. 994L Trim.
2. Function option, NL, BE, or DT (see page 19).
3. Lever style, other than #06 (see page 19).

Note: Night latch and dummy trims have rigid levers and do not break away.

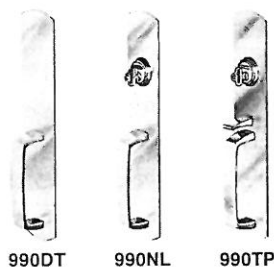
VON DUPRIN®

98/99 Trim Selection

STANDARD TRIM

SERIES 990

Heavy 10 gauge (2.4mm) brass, bronze, or stainless steel. Available functions: 990DT, 990NL, and 990TP. Optional 990EO exit only trim plate is available in this series. When ordering with the exit device, use 99EOx990EO.

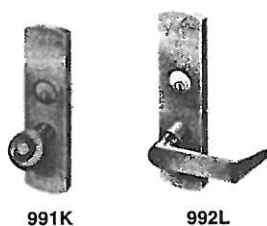


990DT 990NL 990TP

SERIES 992L and 991K

Lever trim has a forged brass $\frac{3}{4}$ " (19mm) thick escutcheon and is available in three operating options, 992LxDT, 992LxNL, and 992LxBE. Refer to operation options for additional information.

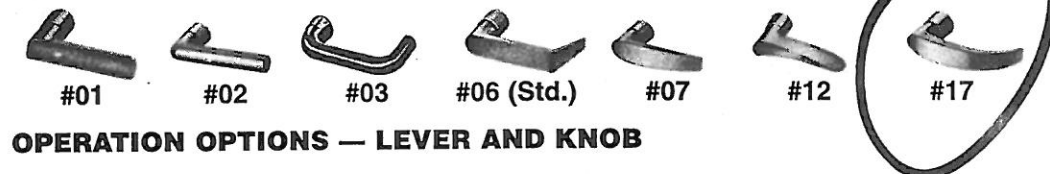
Knob trim has a forged brass $\frac{3}{4}$ " (19mm) thick escutcheon and is available in three operating options, 991KxDT, 991KxNL, and 991KxBE. Refer to operation options for additional information.



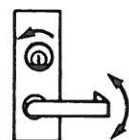
991K

992L

LEVER DESIGN OPTIONS



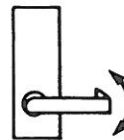
OPERATION OPTIONS — LEVER AND KNOB



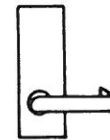
Standard operation, key locks and unlocks lever or knob.



Night latch, key retracts latch bolt. Lever or knob is rigid. Use NL suffix, e.g., 992L-NL.



Blank escutcheon, lever or knob always active. Use BE suffix, e.g., 992L-BE.



Dummy trim, lever or knob rigid for pull operation. Use DT suffix, e.g., 992L-DT.

SERIES 370

Thumbturn control has a forged brass $\frac{7}{8}$ " (22mm) thick escutcheon. Often used with DT trim or pull.

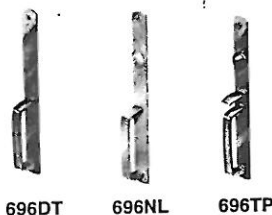


370

OPTIONAL TRIM

SERIES 696

Narrow design $\frac{3}{16}$ " (5mm) thick brass, bronze, or stainless steel with flat pull grip. Available functions: 696DT, 696NL, and 696TP. When ordering with the exit device, specify trim. Example: 99NLx696NL.



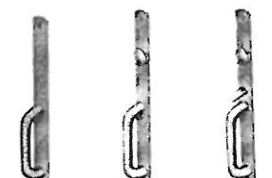
696DT

696NL

696TP

SERIES 697

Narrow design $\frac{3}{16}$ " (5mm) thick brass, bronze, or stainless steel with round pull grip. Available functions: 697DT, 697NL, and 697TP. When ordering with the exit device, specify trim. Example: 99NLx697NL.



697DT

697NL

697TP

SERIES 392-7

Offset solid brass, bronze, or stainless steel $\frac{3}{4}$ " (19mm) wire pull. Through bolts to exit device.



392-7

INTERCHANGEABLE CORE MORTISE CYLS.

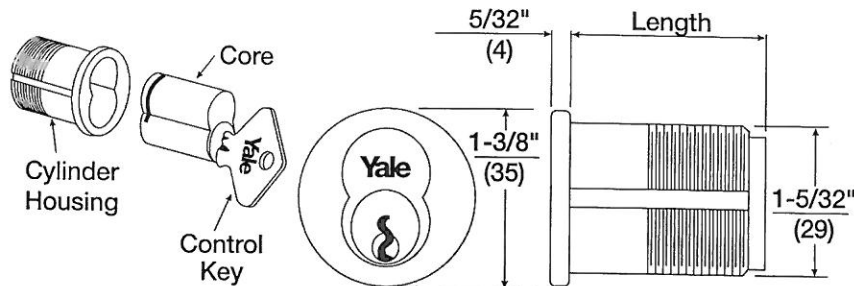
Steel Case Mortise Locks

List Number 2196, 2197, 2196H, 2196S and 2197S

Cylinders are available as options for Yale mortise locks as listed in the chart. These cores are interchangeable with other Yale locks with corresponding interchangeable core list numbers.

Cylinder Rings: List number 1134, 1135 and 1765 are supplied with Yale mortise locks depending upon the trim design selected. Ring size and thickness must be supplied to suit the length of the cylinder, the thickness of the door and the type of trim ordered.

When ordered separately, list no. 1135 cylinder ring will be supplied. List numbers 1134 or 1765 are available to special order. When ordered separately, specify finish.



For Use With 4600, 8600 & 8700 Series Steel Case Mortise Locks

Cylinder List No.	Pins	Length	Housing Assy. Less Core	Core List No.	Cams
2196	6	1-1/2"	2221	1210	2160
2197	7	1-11/16"	2213	1220	2160
2196H	6	1-11/16"	2213	1210H	2160
2196S*	6	1-1/2"	2214S	1210	2130
2197S*	7	1-11/16"	2217S	1220	2130

* For inside operation of 8717-2 and 8634-2 lock functions only.

Note: When ordering interchangeable core cylinders or cores only, control keys are not furnished. If control keys are required they must be ordered separately.

Cast Iron Mortise Locks & Other Applications

List Numbers 1194 and 1196

Yale mortise locks are available with the Yale interchangeable core cylinders. These cores are interchangeable with other Yale brand products using corresponding core list nos. These cylinders are available in 6 or 7 pin systems as indicated in the chart.

Cylinder Rings: List numbers 1135 and/or 1134 cylinder rings are normally supplied with these cylinders. List no. 1765 cylinder ring is available to special order. Ring size and thickness must be supplied to suit the length of the cylinder, the thickness of the door and the type of trim ordered.

For Use With 4000/8000 Series Cast Iron Mortise Locks and Other Applications

Cylinder List No.	Pins	Length	Housing Assy. Less Core	Core List No.	Cams
1194	6	1-1/2"	1214	1210	1160E
1194	7	1-11/16"	1214H	1220	1160E
1194H	6	1-11/16"	1214H	1210H	1160E
1196†	6	1-1/2"	1221	1210	1160R
1196†	7	1-11/16"	1213	1220	1160R
1196H†	6	1-11/16"	1213	1210H	1160R
1198H**	6	1-11/16"	1213A	1210H	1160

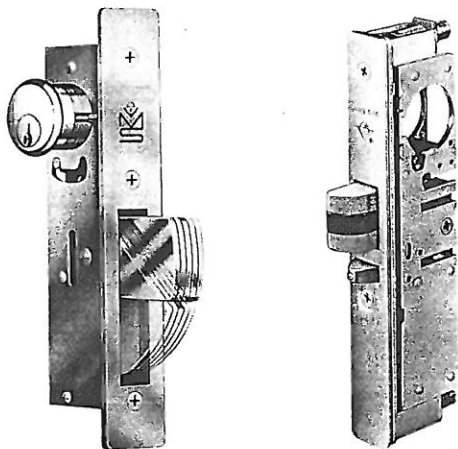
**Used with 7/8" throw deadbolts.

†Used with 1" throw deadbolts (300 Series Mortise locks).

Note: When ordering interchangeable core cylinders or cores only, control keys are not furnished. If control keys are required they must be ordered separately.

CYLINDERS FOR NARROW STILE LOCKS

AdamsRite® Style Locks



For use with AdamsRite MS® 1800 Series Locks and 4700 Series Latches

Cylinder x Cam List No.	Cam No.	Disc Part No.	Screw Size
1152 x 1161L Standard	1161L	10-6120-9010	3-48 x 1/4" FHMS Part No. 81-0011-0154
1194 x 1160L Interchangeable Core	1160L		3-48 x 7/32" FHMS Part No. 81-0011-1153
S1052H x 1161L Thumbturn	1161L		3-48 x 1/4" FHMS Part No. 81-0011-0154

Comparative Chart of Cylinder Length and Ring Thickness for 1-3/4" Thick Narrow Stile Aluminum Doors

Cylinder x Cam List No.	Adams-Rite Lock Number	Cylinder Length	No. of Pins	Cylinder Ring
Standard 1152 x 1161L Cylinder	MS Series Locks	1" (25)	5	1134 - .250"
		1-1/8" (29)	6	1134 - .344"
		1-1/4" (32)	7	1134 - .500"
	4700 Series Latches	1" (25) 1-1/8" (29) 1-1/4" (32)	5 6 7	1134 - .250" 1134 - .344" 1134 - .500"
Interchangeable Core 1194 x 1160L Cylinder	MS Series Locks	1-1/2" (38)	6	1134 - .750"
		1-11/16" (43)	7	1134 - .937"
	4700 Series Latches	1-1/2" (38)	6	1134 - .656"
		1-11/16" (43)	7	1134 - .844"
S1052H x 1161L Thumbturn Cylinder	MS Series Locks	1-1/8" (29)	---	1134 - .250"
	4700 Series Latches	1-1/8" (29)	---	1134 - .156"

When ordering cylinder, specify length, number of pins, cylinder ring required and finish.

Example:

1152 x 1161L - 1-1/8" (29mm) 6 pin cylinder x 1134 - .344" cylinder ring - US26D

NOTE: 1134 cylinder ring length was determined by using the formula given in the Adams-Rite catalog.