

Roton Continuous Geared Aluminum Hinges



ROTON[®]

Roton Continuous Geared Aluminum Hinges

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.

As the name implies, continuous hinges extend the full length of the door and frame. Instead of a pin, typical of traditional hinges, it uses two centers to form a rotating joint. Since the two centers roll when they come in contact, lateral wear is minimized. The unique gear profile extends from top to bottom inside a high-strength cover channel. The door weight is supported and cushioned by bearings evenly spaced along the entire length of the interlocking leaves.

Choosing the Correct Roton Hinges

780 Series Standard Duty - Commercial Grade

All 780 standard duty series Roton hinges are manufactured with thrust bearings spaced along the hinge length on 5-1/8" centers. A typical 780 series 83" Roton hinge carries the door weight on sixteen bearings. The cover channel, the bearing spacings and screws fastener locations are designed for heavier loads.

780 "HD" Series Heavy-Duty - Commercial Grade

All 780 "HD" heavy-duty series Roton hinges are manufactured with thrust bearings spaced along the hinge length on 2-9/16" centers. A typical 780 "HD" series 83" Roton hinge carries the door weight on thirty-two bearings. These hinges are supplied with staggered screw holes to suit heavy-duty applications such as high traffic entrance ways, classroom doors, stairwell doors, etc.

Available Models

Concealed Leaf

Leaves are concealed between the rabbet of the frame and the hinge edge of the door.

Full Surface

The frame leaf is mounted to the face of the frame. The door leaf is mounted to the face of the door with bolts.

Half Surface

The frame leaf is concealed between the rabbet of the frame and the hinge edge of the door. The door leaf is mounted to the face of the door with bolts.

Choosing the Correct Roton Models

Frequency Determination

Many Roton equipped openings have estimated annual usages of over five million cycles per year in large schools, airports, shopping centers and government buildings.

Door Weight

Weight as much as frequency plays an important role in hinge performance. Equal consideration should be given to the design of the door itself.

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 guidelines:

Low frequency INTERIOR doors	20 lb per bearing
Medium frequency INTERIOR doors	15 lb per bearing
Medium frequency EXTERIOR doors	10 lb per bearing
High frequency EXTERIOR doors	7.5 lb per bearing

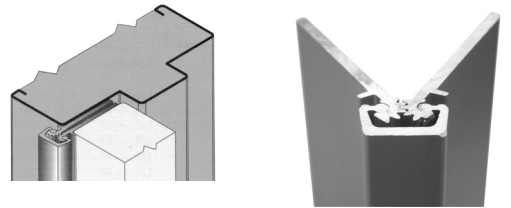
For best performance at very high frequency, 5 lb per bearing will provide maximum life. Low frequency, very heavy doors should not exceed approximately 30 lb per bearing, with doouble rows of fasteners.

CONTINUOUS HINGE BENEFITS

Long life	Typical problems such as door bind and sag are eliminated.
Ease of motion	All rotating parts are chemically lubricated to reduce friction.
Easy to install	Can be field cut to exact door measurements. No special machining or reinforcement is required. Includes fasteners.
Security	Eliminates the gap between the door and the frame so doors can't be pried open or removed.
Energy savings	Provides a continuous and permanent weather barrier.
Privacy	Conceals gaps typically left when the doors are open.
Warp resistant	Roton hinges may help eliminate the warping of wood or laminate door.
Sound reduction	Roton helps reduce noise transmission by eliminating the gap between the hinge and the door.
Safety	Various models of Roton hinge will help prevent pinched fingers. These models are specifically designed for use with stopless frames.
Appearance	Leaves are concealed between the rabbet of the frame and the hinge edge of the door.

Continuous Geared Concealed Leaf Aluminum Hinges

Clearance	5/16" (8 mm) hinge side plus standard lockside clearance
Door Reinforcement	200 lb or less - None required. Over 200 lb - Use 16 gauge channel
Frame Reinforcement	200 lb or less - None required. Over 200 lb - Use 16 gauge channel
Door Thickness	1-3/4" (45 mm)
Special Features	Frame and door leaf alignment ribs for proper hinge and door location
Standards	BHMA, UL Environment, UL Listed, WH, Lifetime Warranty



Standard Duty

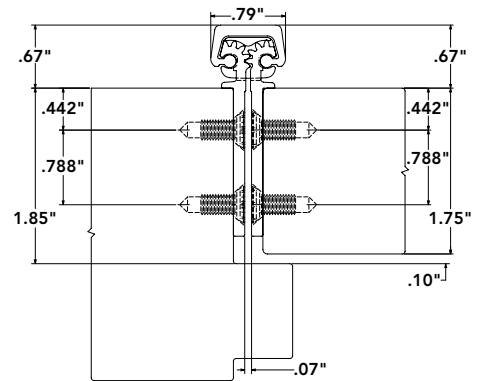
- For medium frequency doors up to 200 lb

NO.	FINISH	LENGTH	CASE
78011208310	Satin Aluminum	83" (2107 mm)	1
78011208313	Bronze	83" (2107 mm)	1

Heavy Duty

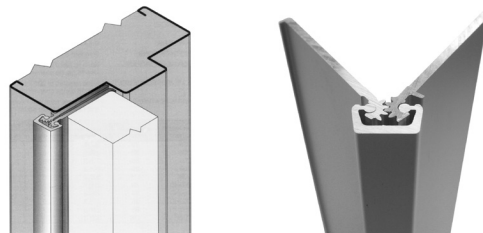
- For high or heavy frequency doors

NO.	FINISH	LENGTH	CASE
78011218310	Satin Aluminum	83" (2107 mm)	1
78011218313	Bronze	83" (2107 mm)	1
78011219510	Satin Aluminum	95" (2413 mm)	1
78011219513	Bronze	95" (2413 mm)	1



Continuous Geared Concealed Leaf Aluminum Hinge with Door Edge Protectors

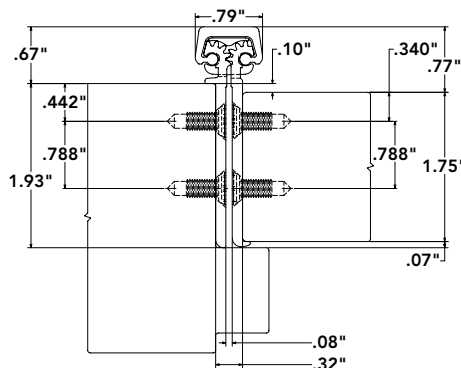
Clearance	5/16" (8 mm) hinge side plus standard lockside clearance
Door Reinforcement	200 lb or less - None required. Over 200 lb - Use 16 gauge channel
Frame Reinforcement	200 lb or less - None required. Over 200 lb - Use 16 gauge channel
Door Thickness	1-3/4" (45 mm)
Special Features	Door edge protection lip
Standards	BHMA, UL Environment, UL Listed, WH, Lifetime Warranty



Standard Duty

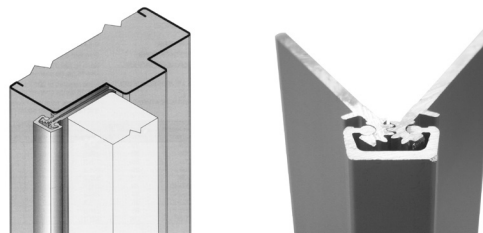
- For medium frequency doors up to 200 lb

NO.	FINISH	LENGTH	CASE
78022408310	Satin Aluminum	83" (2107 mm)	1
78022408313	Bronze	83" (2107 mm)	1



Continuous Geared Concealed Leaf Aluminum Hinge with Alignment Ribs

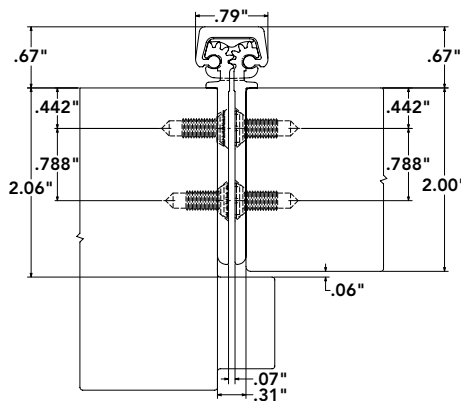
Clearance	5/16" (8 mm) hinge side plus standard lockside clearance
Door Reinforcement	200 lb or less - None required. Over 200 lb - Use 16 gauge channel
Frame Reinforcement	200 lb or less - None required. Over 200 lb - Use 16 gauge channel
Door Thickness	2" (51 mm)
Standards	BHMA, UL Environment, UL Listed, WH, Lifetime Warranty



Heavy Duty

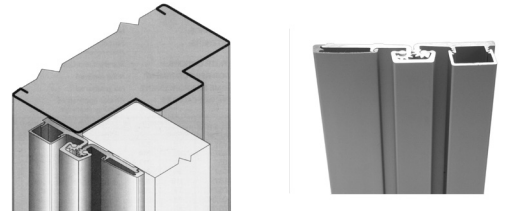
- For high or heavy frequency doors

NO.	FINISH	LENGTH	CASE
78022618310	Satin Aluminum	83" (2107 mm)	1



Continuous Geared Full Surface Aluminum Hinge for Narrow Frames

Clearance	None required for hinge side
Door Reinforcement	None required
Frame Reinforcement	200 lb or less - None required. Over 200 lb - Use 16 gauge channel
Door Thickness	1-3/4" (45 mm)
Special Features	<ul style="list-style-type: none"> • For surface applications where frame face dimension is limited • Security moldings • For narrow or inset frames with minimum 7/8" (22 mm) face width for retrofit application
Standards	BHMA, UL Environment, UL Listed, Lifetime Warranty



Standard Duty

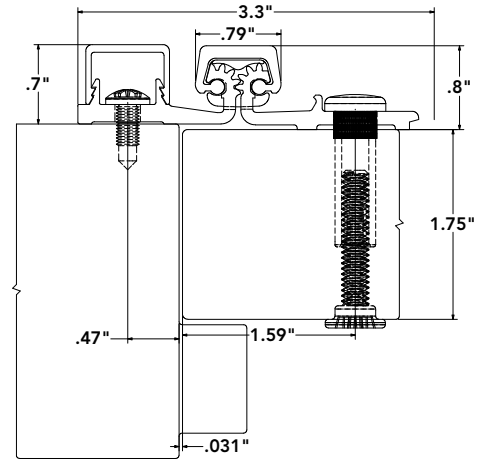
- For medium frequency doors up to 200 lb

NO.	FINISH	LENGTH	CASE
78015708310	Satin Aluminum	83" (2107 mm)	1
78015708313	Bronze	83" (2107 mm)	1

Heavy Duty

- For high or heavy frequency doors

NO.	FINISH	LENGTH	CASE
78015718310	Satin Aluminum	83" (2107 mm)	1
78015718313	Bronze	83" (2107 mm)	1
78015719510	Satin Aluminum	95" (2413 mm)	1



Replacement Molding for Roton Full Surface Aluminum Hinges

- Ideal parts for repairs and replacements
- Includes screws and allen key

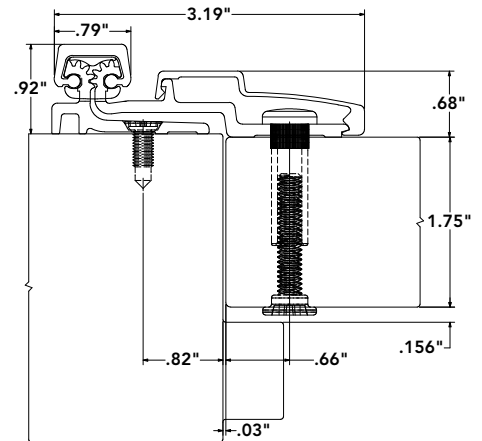
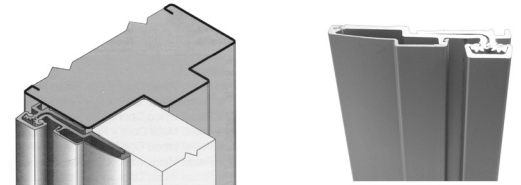
For 780157 series

NO.	FINISH	LENGTH	CASE
780052M8310	Satin Aluminum	83"	1



Continuous Geared Full Surface Aluminum Hinge - for Full Clearance Application

Clearance	None required for hinge side 1-5/8" (41 mm) min. frame face required plus 3/16" (5 mm) rotational clearance
Door Reinforcement	None required
Frame Reinforcement	200 lb or less - None required. Over 200 lb - Use 16 gauge channel
Door Thickness	1-3/4" (45 mm)
Special Features	<ul style="list-style-type: none"> • For doors that must swing completely out of frame • Security moldings • For narrow or inset frames with minimum 7/8" (22 mm) face width for retrofit application • For surface applications where frame face dimension is limited
Standards	BHMA, UL Environment, UL Listed, Lifetime Warranty



Standard Duty

- For medium frequency doors up to 200 lb

NO.	FINISH	LENGTH	CASE
78021008310	Satin Aluminum	83" (2107 mm)	1
78021008313	Bronze	83" (2107 mm)	1

Heavy Duty

- For high or heavy frequency doors

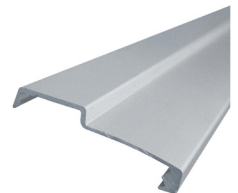
NO.	FINISH	LENGTH	CASE
78021018310	Satin Aluminum	83" (2107 mm)	1
78021018313	Bronze	83" (2107 mm)	1
78021019510	Satin Aluminum	95" (2413 mm)	1

Replacement Molding for Roton Full Surface Aluminum Hinges

- Ideal parts for repairs and replacements
- Includes screws and allen key

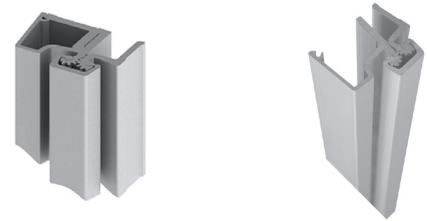
For 780210 series

NO.	FINISH	LENGTH	CASE
780210M8310	Satin Aluminum	83"	1
780210M8313	Bronze	83"	1



Continuous Geared Half Surface Aluminum Hinge

Clearance	None required 3/4" (19 mm) minimum inset
Door Reinforcement	200 lb or less - None required. Over 200 lb - Use 16 gauge channel
Frame Reinforcement	None required to 200 lb. Use 16 gauge channel at higher weight
Door Thickness	1-3/4" (45 mm)
Standards	UL Environment, Lifetime Warranty



Heavy Duty

- For high or heavy frequency doors

NO.	FINISH	LENGTH	CASE
78030018310	Satin Aluminum	83" (2107 mm)	1

