SOSS®
Door Hardware
Great doors
hinge on SOSS®

Stylish, durable… and invisible. The original concealed hinge, the

SOSS® INVISIBLE HINGE

is the perfect addition to a wide variety of elegant environments.

Model #418 shown in satin chrome finish.

CONTENTS

3 *History*
5 *Craftsmanship*
9 *Applications*
- *SOSS Frank Lloyd Wright*
- *SOSS Around the World*
- *SOSS Safety and Security*
- *SOSS Specialty Applications*

25 *Invisible Hinges Catalog*
- *New Products:*
  - *Wrap Around Hinges*
- *SOSS Hercules Hinges*
- *Invisible Closer Hinges*
- *Power Transfer Hinges*
- *Specifications*
- *Fire-Rated*
- *Metal Cabinet Applications*
- *Standard Hinge Modifications*
- *Path & Clearance*
- *Barrel Hinge*
- *Quadrant Hinge*

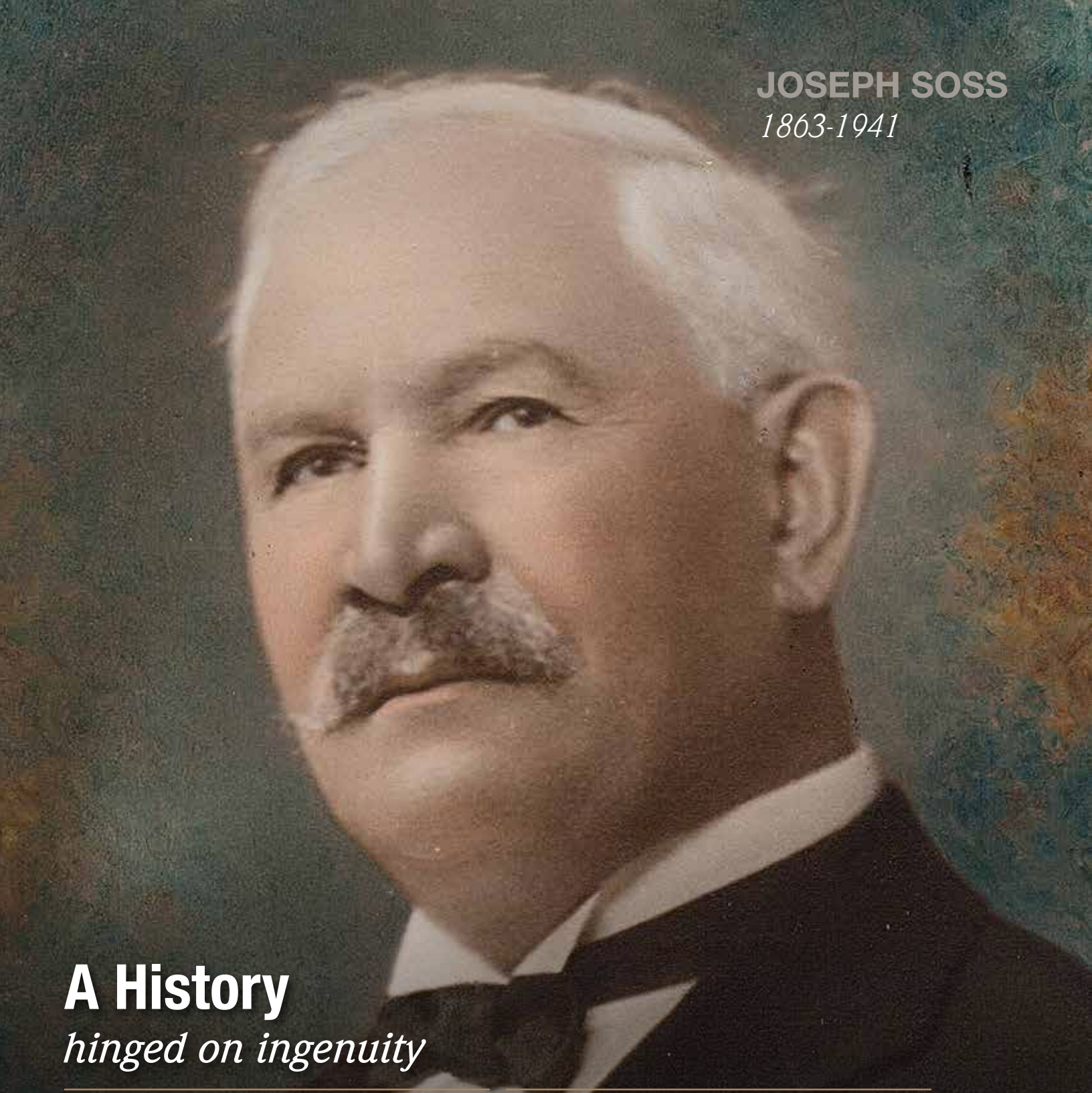
41 *Accessories Catalog*
- *Magnetic Door Holder & Stop*
- *Router Guide Templates & Template System*
- *Router Bits*
- *Router Guide Bushing & Lock Nut*
- *Steel Door Reinforcements*

44 *Installation Information*

45 *Hinge Sizing Chart*

Since 1903 SOSS® Door Hardware

www.soss.com

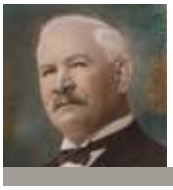


JOSEPH SOSS
1863-1941

A History
hinged on ingenuity

From penicillin to the pacemaker to Post-it® notes, history is filled with groundbreaking innovations that were discovered quite by accident. Such was the case in 1903 when our founding father, Joseph Soss, tripped on a protruding hinge on the deck of a ship. And while the stumble certainly wasn't planned, the resulting idea—and subsequent patent—for a concealed, invisible hinge can hardly be considered a mistake.

More than a century later, Joseph Soss' breakthrough lives on in the millions of SOSS Invisible Hinges found worldwide in buildings and homes, as well as elevators, computers, jet planes… and, yes, even cargo holds on ship decks. In fact, many of the most recognized landmarks around the world are equipped with SOSS Invisible Hinges, including the White House, Buckingham Palace, Disneyland, the Mormon Temple in Salt Lake City, Esplanade By The Bay in Singapore, Dubai Mall in Dubai and Taikoo Place in Hong Kong.



1902

Young Rumanian immigrant Joseph Soss trips over a protruding hinge on a ship deck during an ocean voyage, inspiring his invention of the world's first concealed hinge.

1903

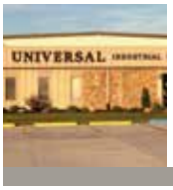
Joseph Soss patents the SOSS Invisible Hinge and forms a company in New York to manufacture it.

1940

After managing the company for more than 35 years, Joseph is succeeded by his sons Sam, CJ and Henry, who move the SOSS operation to the Detroit suburb of Warren, Michigan, to be closer to their key automotive customer base.

1960

After the company goes public, Sam's son-in-law Hal Marko becomes president. During the next three decades, dozens of industrial and electronic firms are added to the company roster, increasing annual sales to more than $250 million.



1977

The hinge business is relocated to Pioneer, Ohio.

1997

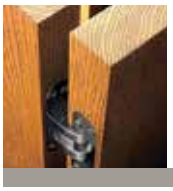
Neil Marko, great grandson of Joe Soss, purchases UIP and the SOSS product line.

1999

Marko acquires the existing hinge supplier in Singapore. Today it is the Asian headquarters for sales and manufacturing.

2018

SOSS continues expanding the product line by adding Power Transfer Hinges in 2015, SOSS Hercules Hinges in 2017 and Fire-Rated Invisible Closers in 2018.



2022

SOSS expands the Invisible Hinge Line to include Wrap-Around Hinges that stop at 92 degrees.

ALLEGION

2024

SOSS is acquired by Allegion, a global pioneer in safety and security.

Watch Video

Did You Know?

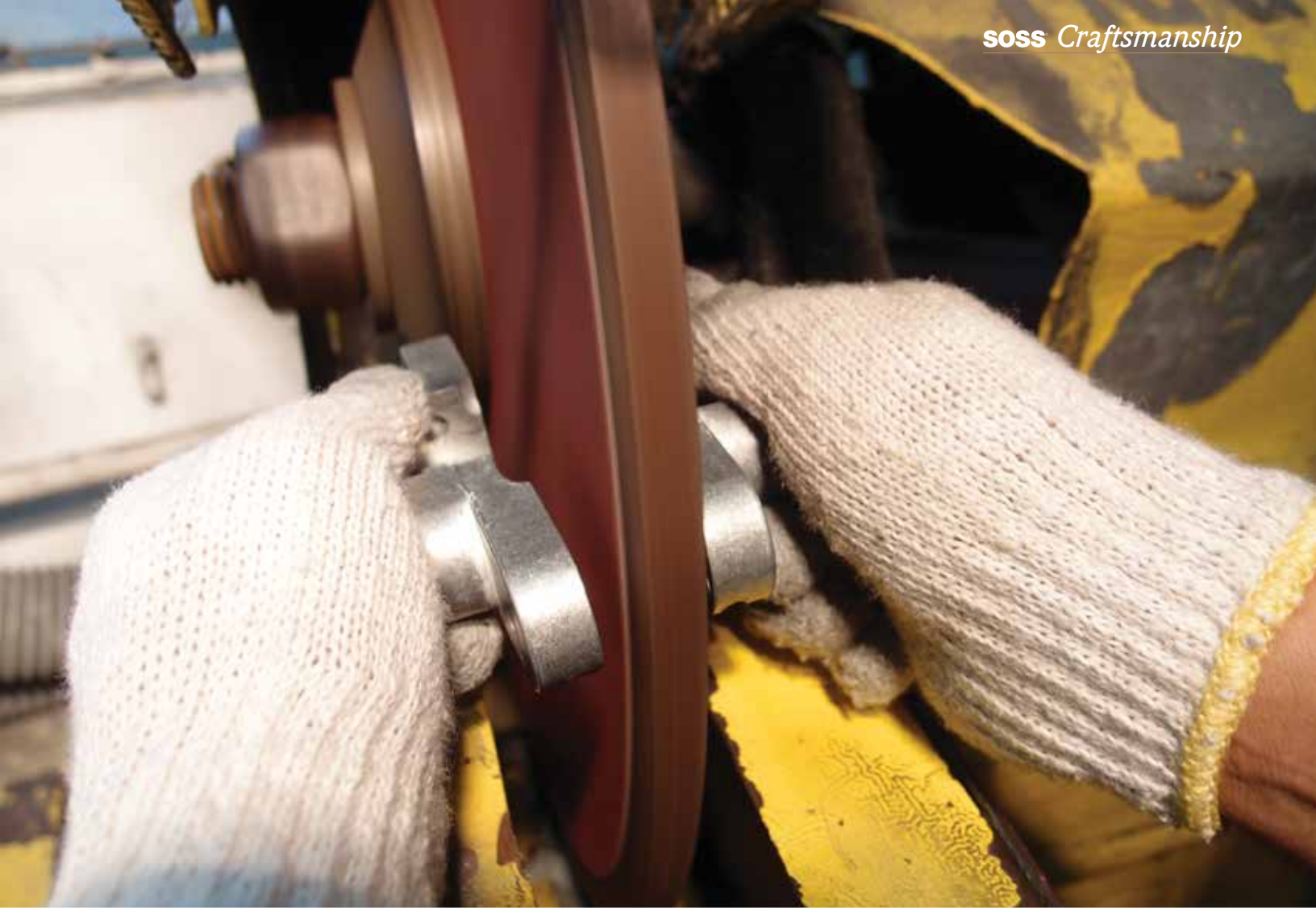
HIDDEN TREASURES

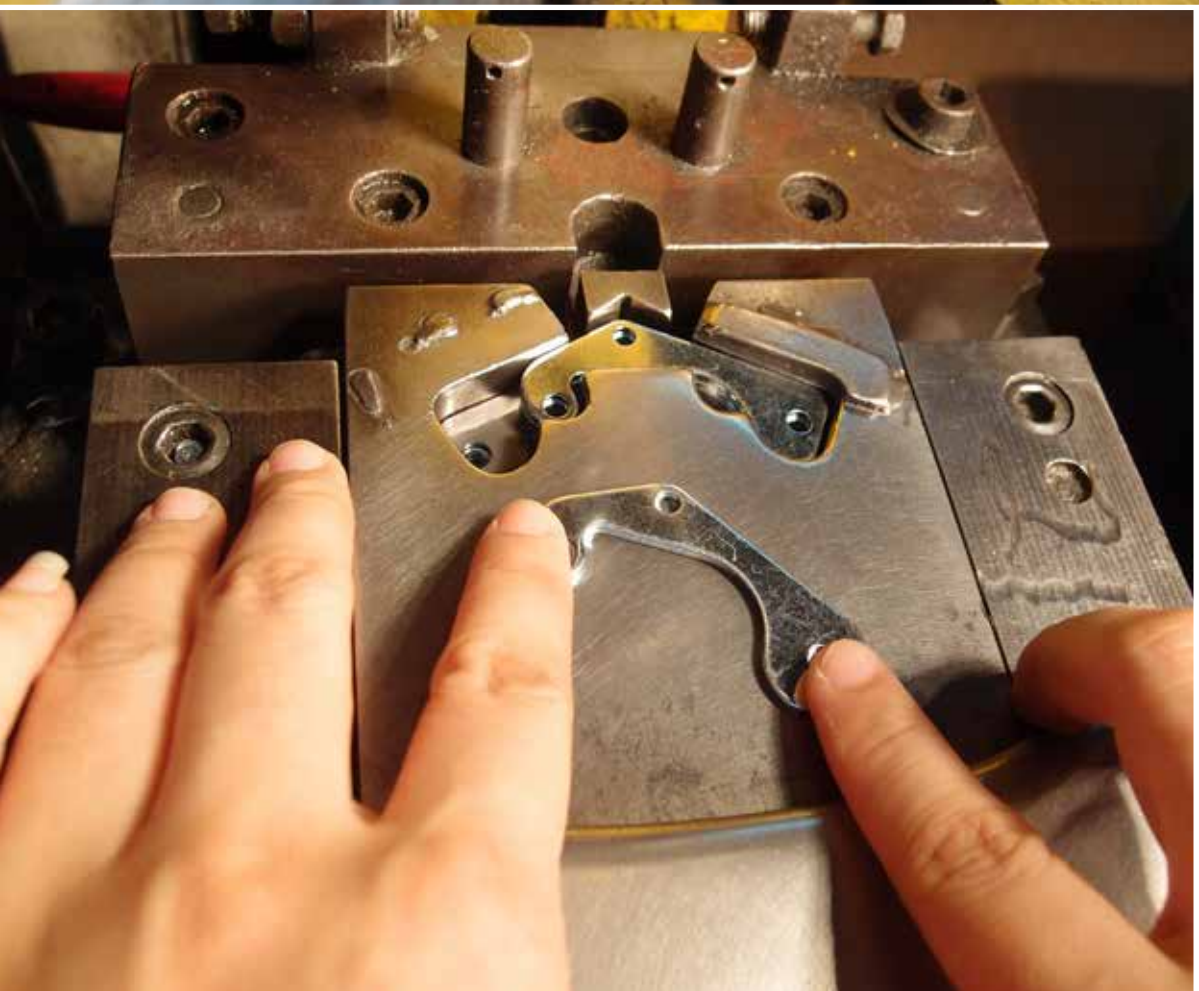
Upon its inception more than 120 years ago, the SOSS Invisible Hinge quickly became the choice of designers, scientists, agencies and historical luminaries alike.

- Notable early customers of the SOSS Invisible Hinge included Singer Sewing Machines, Otis Elevator, Burroughs Adding Machines and Player Pianos.
- The Rolls Royce Motor Cars Company used SOSS Invisible Hinges in trunk lids of the 1930's models of the Phantom II and Silver Ghost.
- Automotive pioneer Henry Ford used the SOSS hinge on the glove boxes of his early model automobiles.
- Legendary architect Frank Lloyd Wright specified the SOSS hinge on many of his most prominent commercial and residential structures, including Pennsylvania's Fallingwater, considered one of the finest private homes in America.
- Government agencies favored SOSS invisible hinges for security purposes. Today most post offices and hundreds of courthouses throughout the U.S. are equipped with SOSS invisible hinges.
- Designers specify the SOSS hinge in engineered plastics and other space age materials where flush fit, compact size and smooth operation are required, including computers, corporate jets, copy machines and medical devices.

Classic Craftsmanship
meets modern manufacturing

Our founder, Joseph Soss, built our company upon the bedrock of ingenuity and invention, evidenced by his creation of the groundbreaking concealed hinge more than a century ago. But his work didn't end with innovative ideas alone; he saw his ideas through to quality production, tweaking and enhancing his products to meet his own high standards. This approach to quality control actually led to the development and patent of the SOSS die-casting machine, allowing Mr. Soss to address concerns over breakage with the original hinge prototypes. This spirit of innovation informing manufacturing lives on at SOSS today. From superior material selection through constant, on-going testing, SOSS hinges are manufactured to deliver better form, fit and function across a wide variety of applications and environments.



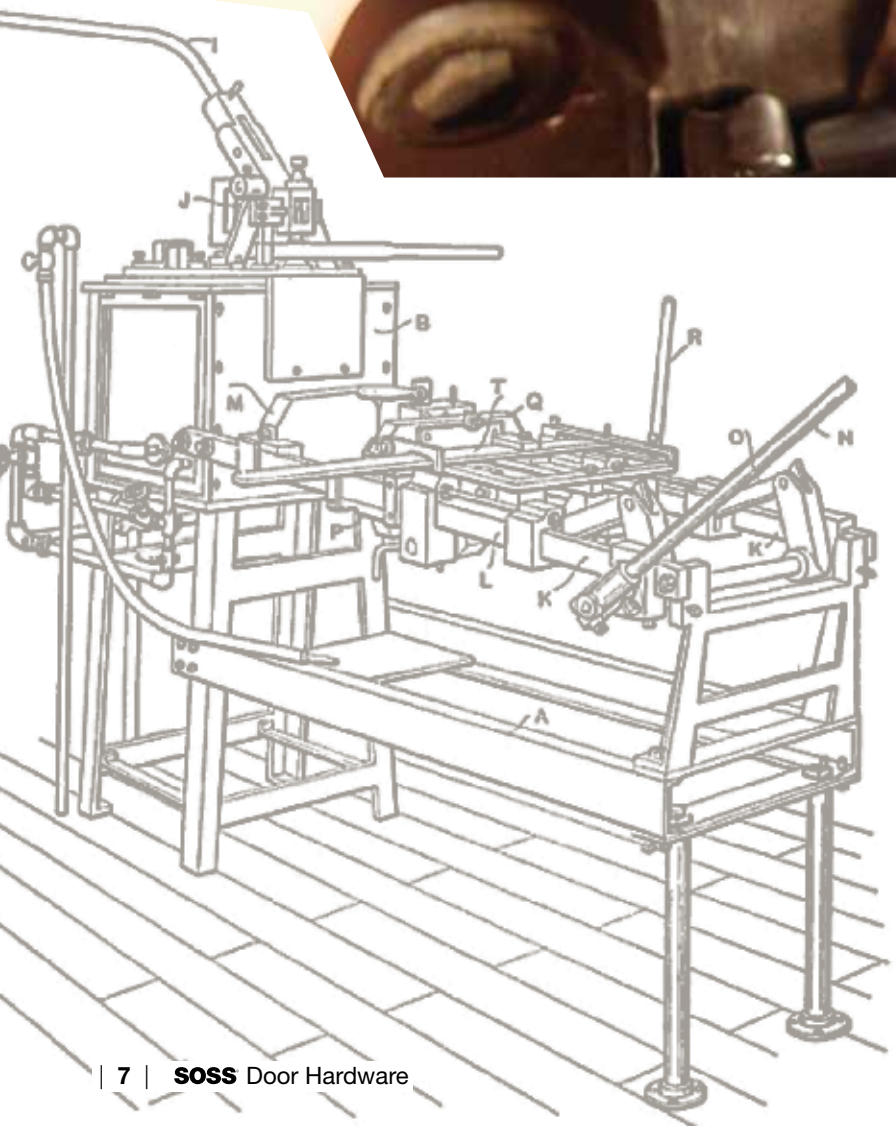


↑

Facing of Casting Body

←

Link assembly process on the invisible hinge.



Invisible hinge pins being installed during assembly.

BIRTH OF AN ENGINEERING MARVEL

Developed by Joseph Soss in the early 1900s, the SOSS die-cast machine was the first die-casting machine to be sold in the open market in North America, advancing the art of die casting and becoming the springboard for the die-casting industry as a whole.

Invisible hinge inspection process

FRANK LLOYD WRIGHT (1867-1959)

is considered one of the greatest American architects of the 20th century. He designed over 1,000 structures and completed 532 works, including homes, offices, churches, schools, and museums. During his career, he challenged the prevailing schools of thought on design and revolutionized the field of architecture by founding what would later be known as “organic architecture,” which emphasized a harmonious relationship between a building and its surroundings. He believed that a building should be designed to fit into the natural environment and flow with it instead of dominating it. The American Institute of Architects pronounced him "the greatest American architect of all time." Many architects today still credit Frank Lloyd Wright as the contributing influence on their design styles and reason for pursuing architecture.

Nowhere is his style more prevalent than in one of his most famous works, Fallingwater located in Mill Run, Pennsylvania, and commissioned by Mr. and Mrs. Edgar J. Kaufmann, Sr., in 1935. The private home shown here exemplifies his organic architecture. Fallingwater is one of Frank Lloyd Wright’s most famous designs and today is run by the Pennsylvania Conservatory and open to the public.

Frank Lloyd Wright’s attention to detail was legendary. He personally chose the products used in each of his designs. One of those choices was the SOSS Invisible Hinges in the Fallingwater property. SOSS Invisible Hinges fit with the design principles Frank Lloyd Wright practiced. The sight of door hinges was not significant to his design. Since its construction, people have been walking past SOSS Invisible Hinges at Fallingwater without ever realizing they were there. The next time you visit Fallingwater, take a moment to look at the doors that use SOSS hinges. These doors have been in operation for almost 100 years using SOSS Invisible Hinges.

Mill Run, Pennsylvania

Fallingwater

The smooth, projectionless quality of SOSS Invisible Hinges has appealed to architects for more than a century. That's why Frank Lloyd Wright used them on the interior doors at world famous Fallingwater in Mill Run, Pennsylvania.

Photo courtesy of Western Pennsylvania Conservancy

Washington D. C.
The White House

SOSS Invisible Hinges are as iconic to the door industry as the White House is to our nation's capital. SOSS Invisible Hinges were chosen for its beautiful interior.

London
Buckingham Palace

From some of the most recognized global landmarks—including the White House, Buckingham Palace and Disneyland—to healthcare facilities, offices, schools and homes just down the street, SOSS door hardware adds sophisticated style and fine functionality to more discriminating environments all over the world.

Marrying visionary innovation and a century-long reputation for industry-leading quality, our collection of premium concealed hinges and next-generation door hardware together provide the perfect entrance to any room that is deserving of advanced aesthetics and conforming convenience.

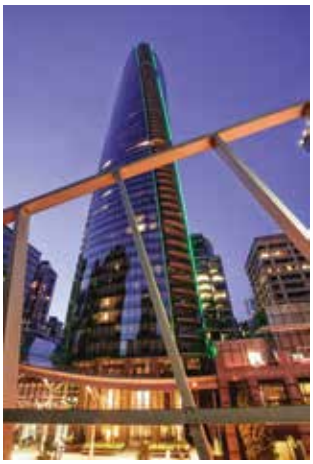
THE MARINA BAY SANDS

From its boat-shaped "SkyPark" some 55 stories high and its breathtaking 360-degree views of the Singapore skyline, to its indoor canal and the largest atrium casino in the world, the Marina Bay Sands resort in Singapore has been dubbed the "world's most expensive hotel." The more than 2,500 guestrooms at this stunning resort boast an appropriately modern style, appointed with the most chic furnishings, including the SOSS door hardware that fits the elegant ambiance seamlessly… literally.

Model #218 shown in black E-coat finish.

PARADOX HOTEL VANCOUVER

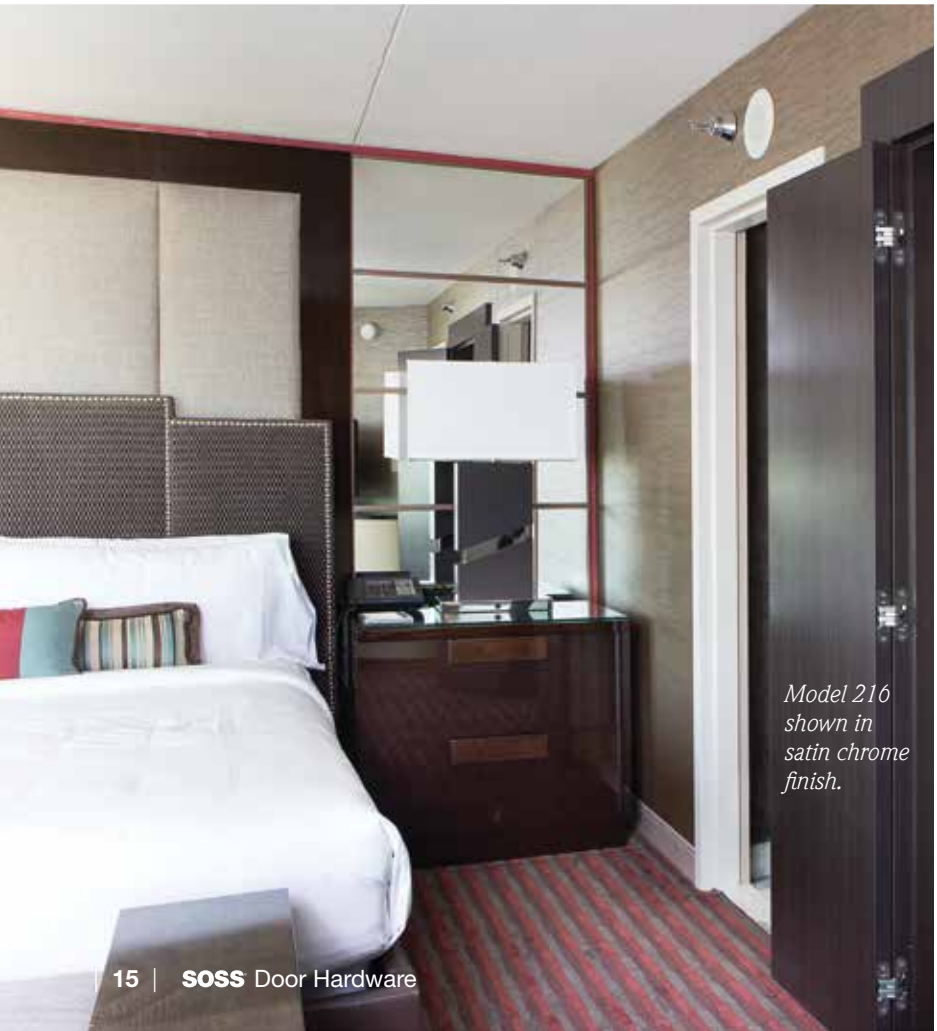
This luxurious hotel is the second tallest building in downtown Vancouver. The building totals 69 stories, reaching 616 feet. The Arthur Erickson designed tower was built so that no two views from the inside would be the same. This incomparable experience complements luxurious amenities and guest rooms, including unique and intriguing SOSS Door Hardware.



THE MIRA HOTEL

Interiors of the award winning and indulgent Mira Hotel were meticulously designed by visionary architect Charles Allem and famed stylist-to-the-stars Colin Cowie. So it's a safe bet that every single detail of this downtown Hong Kong retreat was painstakingly considered when appointing its nearly 500 ultra-chic guestrooms and suites. Among the upscale appointments inside the rooms, one will find SOSS door hardware, perfectly picked to meet the unique blend of experimental design and modern technology featured within.

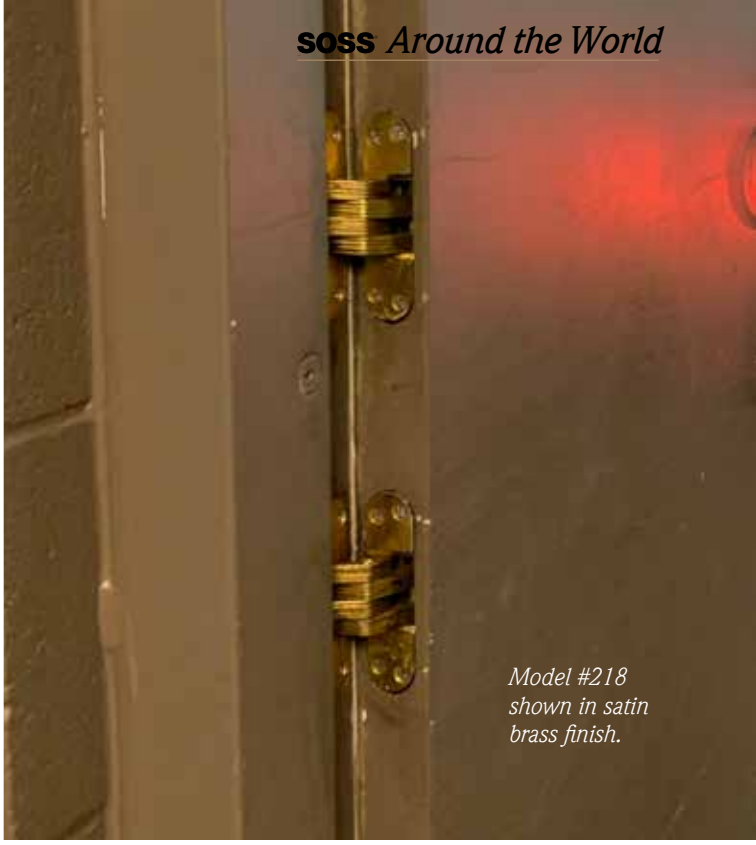
Model #418 shown in satin chrome finish.



Model 216 shown in satin chrome finish.

MGM GRAND

With 16 restaurants, six nightclubs, a variety of theaters and arenas and a seven-acre pool complex boasting five separate pools, the MGM Grand is the epitome of the larger-than-life Las Vegas experience. Inside the complex are more than 5,000 hotel rooms of various sizes and accommodations. While varying in approach, rooms feature a contemporary design with a glamorous Las Vegas touch… including the fashionable SOSS door hardware that flawlessly complements the room.



Model #218 shown in satin brass finish.

THE RITZ-CARLTON RESIDENCES

Ladies and Gentlemen, when you think of luxury, do you think of Hawaii too? This property located in Waikiki Beach, Hawaii uses SOSS Invisible Hinges to provide the refined ambience you have come to expect. This is the luxury you are looking for. This space is thoughtfully designed to awaken your senses. Where there is refinement and luxury, you will also find SOSS.

Hong Kong

Model 218H Hercules Hinge shown in satin chrome finish

ONE TAIKOO PLACE

This WELL Certified commercial property was designed with health and wellness in mind. SOSS Invisible Hinges were incorporated to help this property achieve its overall design and building goals.

THE SILVERI HONG KONG-MGALLERY

Located in Hong Kong, this luxurious hotel is your next vacation destination. The location and design for this property were carefully chosen. Every detail was thought of, therefore it is no surprise that SOSS Invisible Hinges were selected for the elegant entrances in this building.

Model 218H Hercules Hinge shown in satin chrome finish

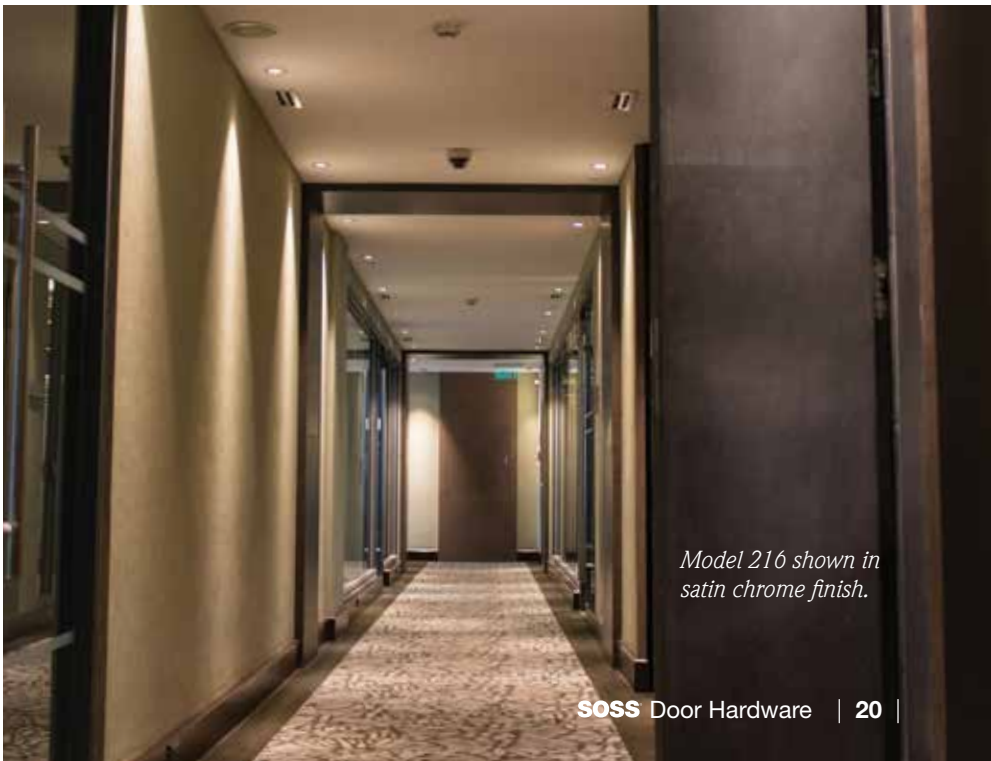
Makati City, Philippines

FAIRMONT HOTEL

The prestigious Fairmont Hotel has thirty floors that include 280 elegant guest rooms. An award-winning, family friendly hotel, it is centrally located in the business district of Makati City. This outstanding hotel chose SOSS Invisible Hinges to incorporate charm and luxuriousness to their hotel atmosphere and design.

MAKATI DIAMOND RESIDENCES

More than 400 guest rooms at Makati Diamond Residences are conveniently located in Makati City to accommodate any business needs. However, business here feels like leisure. This is why guests will find SOSS Invisible Hinges used throughout the building. SOSS offers a seamless design that cannot go unnoticed.



Model 216 shown in satin chrome finish.

Secret Doors and Hidden Rooms

Where will you find a secret door? Behind a bookcase, as you see in the movies? Behind the dressing room mirror perhaps? Maybe you will find one behind the beautiful artwork in the office? Secret doors can be anywhere and chances are you will also find a few SOSS Invisible Hinges too!

SOSS Invisible Hinges have been consistently used when the need for security is high. You will find SOSS Invisible Hinges with no external pinch point and non-removable hinge pins in courtrooms, schools, medical treatment facilities, public office buildings, vaults, and safe rooms. SOSS is unparalleled when it comes to securing your most precious people and belongings.

Model #420 shown in satin chrome.

This mental health facility in Ohio chose to have the SOSS Invisible Hinge model #420 installed in the plumbing and electrical access panels.

The hinges are a picture perfect fit, allowing the doors to be designed so that patients remain safe and the plumbing and electrical remain secure.

Model #204 shown in black finish.

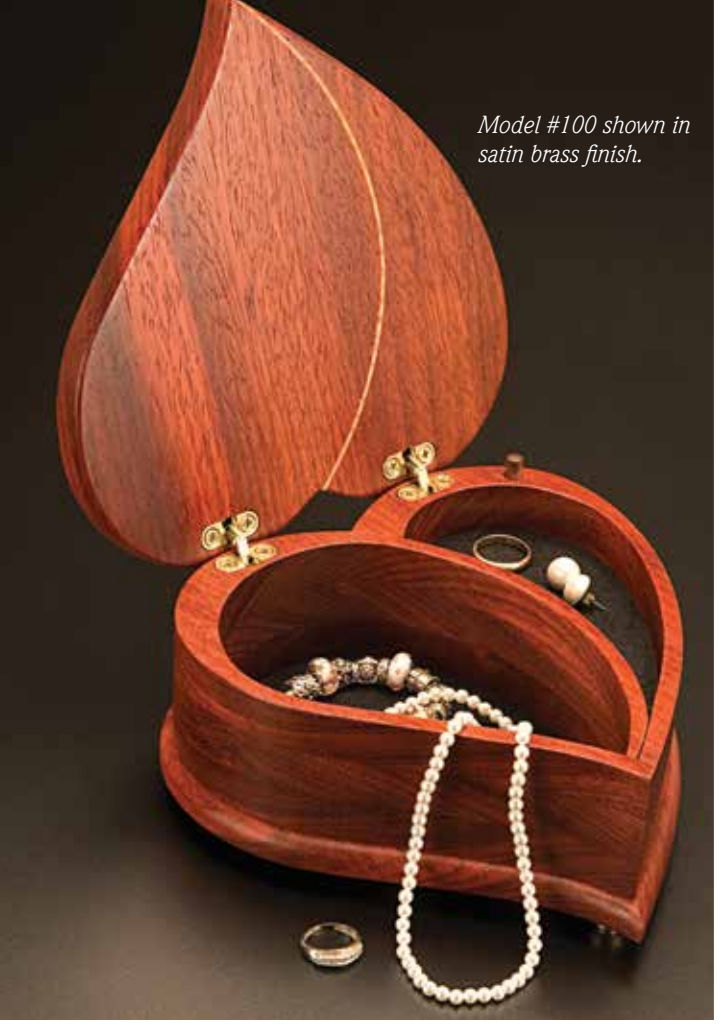
SOSS Invisible Hinges are ideal for floor access panels because there is no protruding hardware to trip over.

Strong, Beautiful. and Invisible.

Historically, SOSS Invisible Hinges have been used in unique products. The 1933 Rolls Royce Phantom II, the Kissell Gold bug, and the model 820 Stanley Mountain Wagon all used SOSS Invisible Hinges. Today Newell Motor Coaches rely on SOSS Invisible Hinges to give their custom interiors a smooth, seamless, and modern look. From custom cabinetry in corporate jets and space-saving folding trays in passenger trains, to hidden rooms and moving walls in residential and commercial environments, SOSS concealed hinges are selected for use in an endless array of specialty applications where compact size, smart operation and superior appearance are required.

That's why discerning eyes will find SOSS hardware in computers, cash registers, copy machines, medical equipment, cases, scales, office equipment, communication room safety doors, pharmaceutical storage areas, courtrooms and churches… just to name a few places.

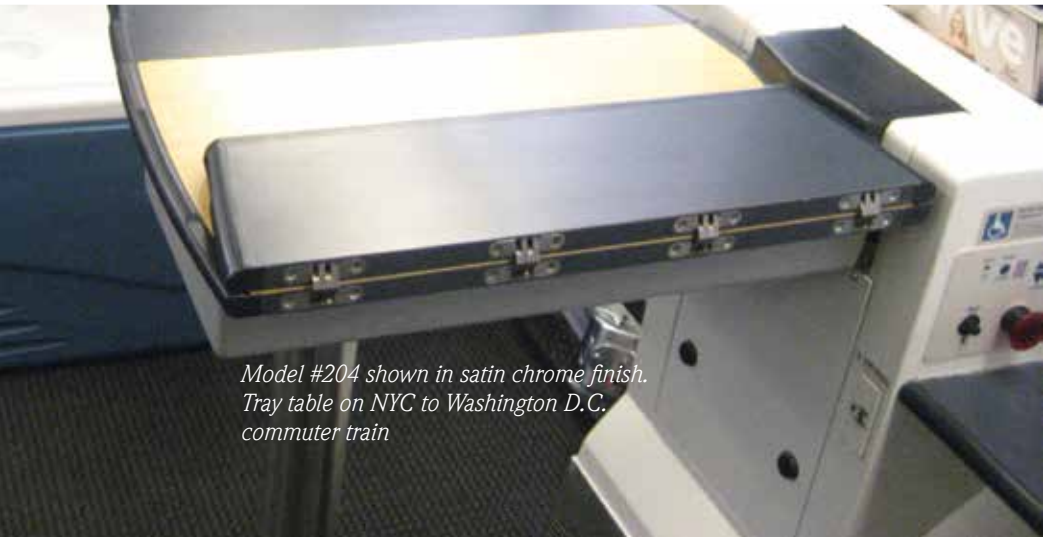
Watch Video



Model #100 shown in satin brass finish.

Model #101 in satin chrome hinges are used in the Airbox Peak Series air purifiers.

Model #303 shown in satin brass finish.



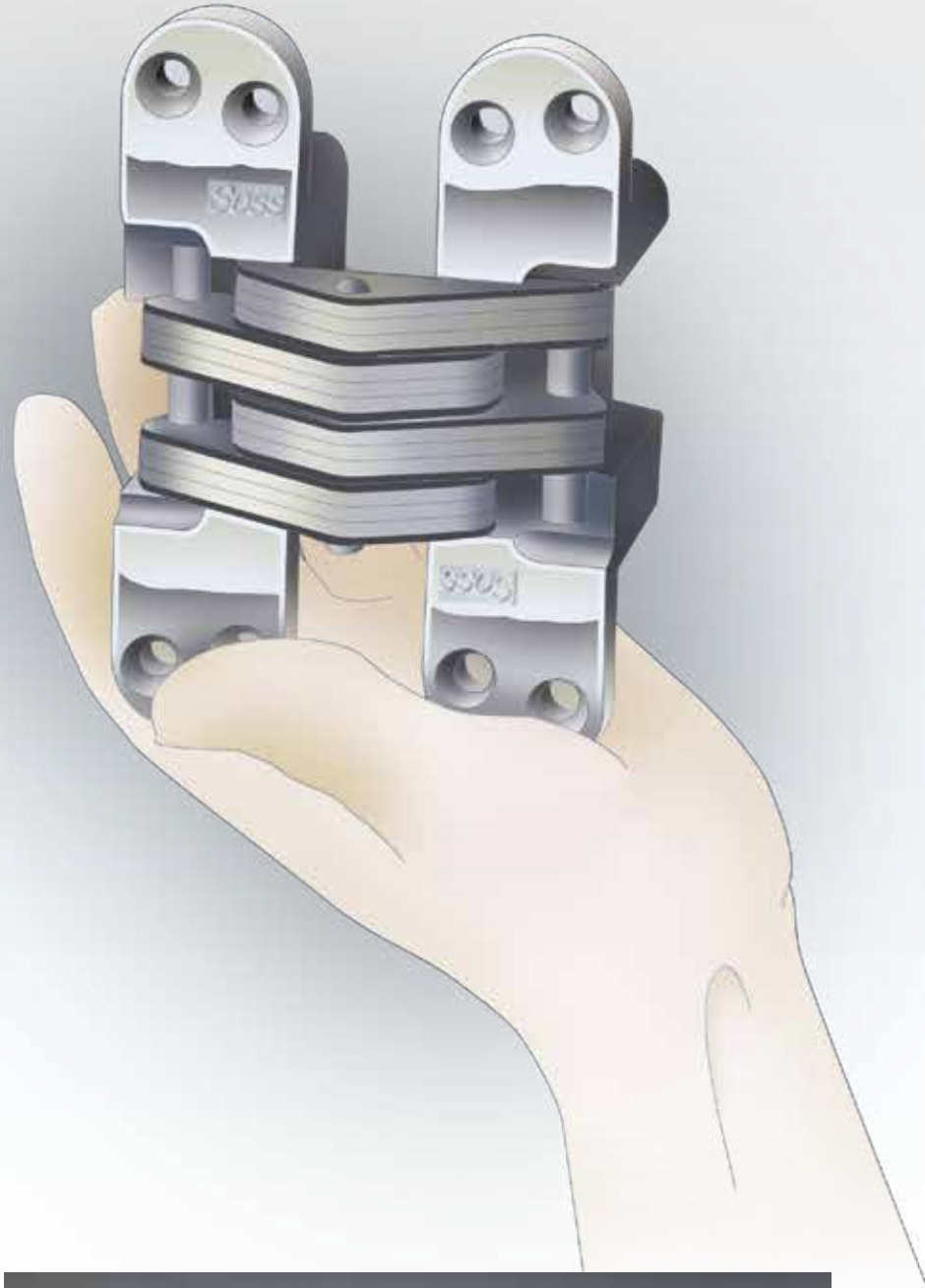
Model #204 shown in satin chrome finish. Tray table on NYC to Washington D.C. commuter train

- *medical equipment*
- *office equipment*
- *computer and communications*
- *transportation and aviation*
- *custom furniture and cabinetry*
- *entry and security doors*
- *pharmaceutical storage*
- *courtrooms*
- *churches*

SOSS Invisible Hinges

Hinge model #216 shown in black E-coat finish.

"An Engineering Marvel"

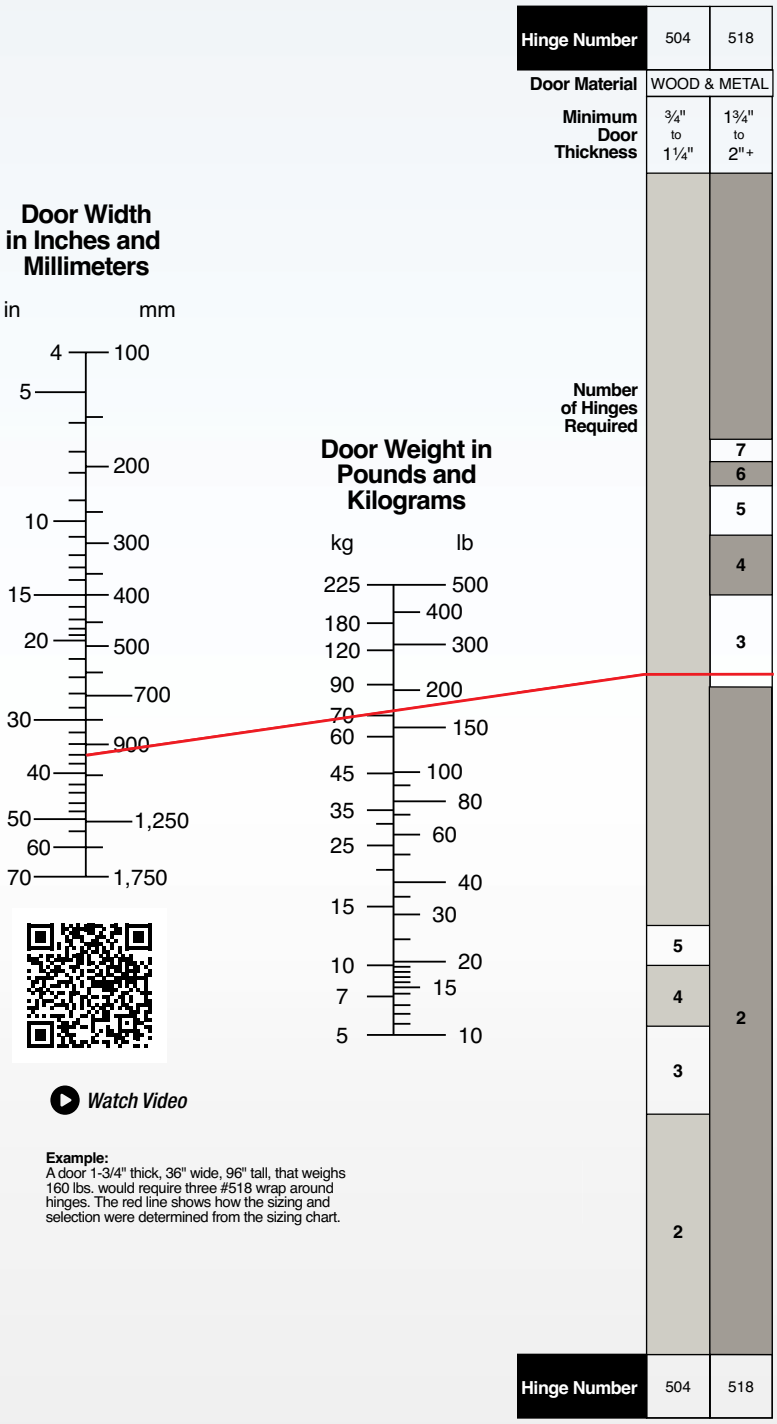


For more than 120 years, SOSS Invisible Hinges have been known as the strongest and most beautiful, completely invisible hinges available. Today they are used worldwide in commercial buildings, private homes, furniture and other products. From the largest entrance doors to the smallest jewelry boxes, SOSS Door Hardware has the perfect size hinge for you.

SOSS Invisible Hinges are engineered with you in mind. They will never need adjusted. The moving pivot point remains inside the hinge during travel, eliminating an external pinch point on the back side of the door. When closed, the SOSS Invisible Hinge cannot be seen or tampered with. When open, the riveted hinge pin is non-removable. These features make our hinges ideal for a wide variety of uses.

Watch Video

New SOSS Invisible Wrap Around Hinge



Watch Video

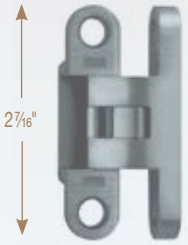
Example:
A door 1-3/4" thick, 36" wide, 96" tall, that weighs 160 lbs. would require three #518 wrap around hinges. The red line shows how the sizing and selection were determined from the sizing chart.

Shhh...

It's a secret!

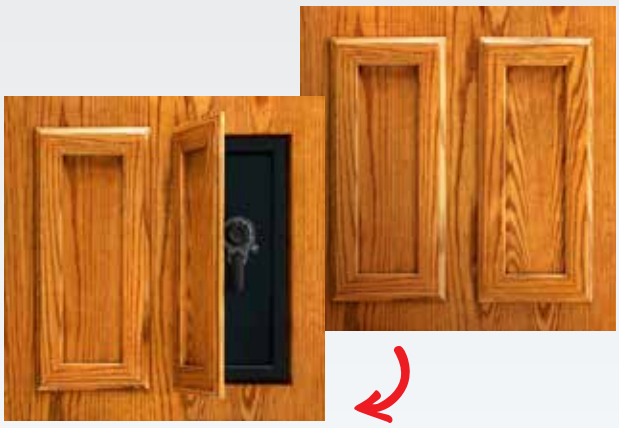
SOSS has made hiding your secret room easier with our 500 series hinges. These hinges have been designed to help hide the opening reveal line. This is the gap between the door and frame that reveals the opening. These hinges are a game-changer when it comes to designing your secret spaces. Add trim, molding or decorative applied materials to accentuate your space and hide your door. The SOSS Wrap-Around Hinges will only be revealed when the door is opened. These hinges are also the only SOSS Hinges designed to open to only 92 degrees.

SOSS Wrap Around Hinge allows your door to be completely concealed from both sides!



504

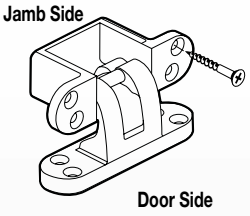
518

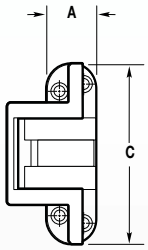


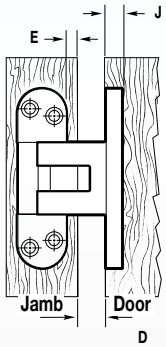
Dimension	504	518
A	9/16" (14.29 mm)	1¼" (31.75 mm)
B	15/64" (5.95 mm)	23/64" (9.13 mm)
C	2 7/16" (61.91 mm)	4 5/8" (116.8 mm)
D	9/32" (7.14 mm)	51/64" (20.24 mm)
E	5/64" (1.98 mm)	¼" (6.35 mm)
F	1 11/32" (34.13 mm)	2 39/64" (66.28 mm)
G	1/16" (1.59 mm)	5/64" (1.98 mm)
H	13/16" (20.64 mm)	1 29/32" (48.42 mm)
I	¼" (6.35 mm)	21/64" (8.33 mm)
J	¼" (6.35 mm)	13/32" (10.32 mm)
Minimum Material Thickness	¾" (19.05 mm)	1¾" (44.45 mm)
Wood Screw Sizes*	#6x1" and #8x1"	#10x1½" and #14x1-½"
Soft Wood Pilot Hole	No. 52 and No. 48	No. 43 and No. 38
Hard Wood Pilot Hole	No. 44 and No. 35	No. 31 and No. 25
Machine Screw Size*	#6-40x½" and #8-32x⅝"	#10-24x1" and # ¼-20x1"
Hinge Weight	.50 lbs	1.95 lbs.

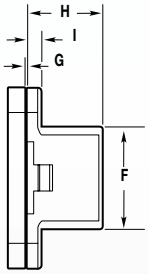
For more information on installation of Wrap Around Hinges see full video here

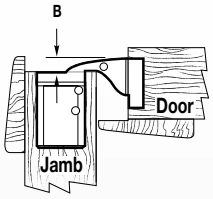
KEY TO DIMENSIONS SHOWN IN CHARTS

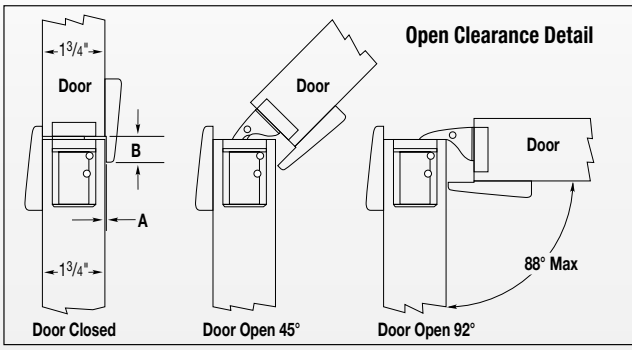










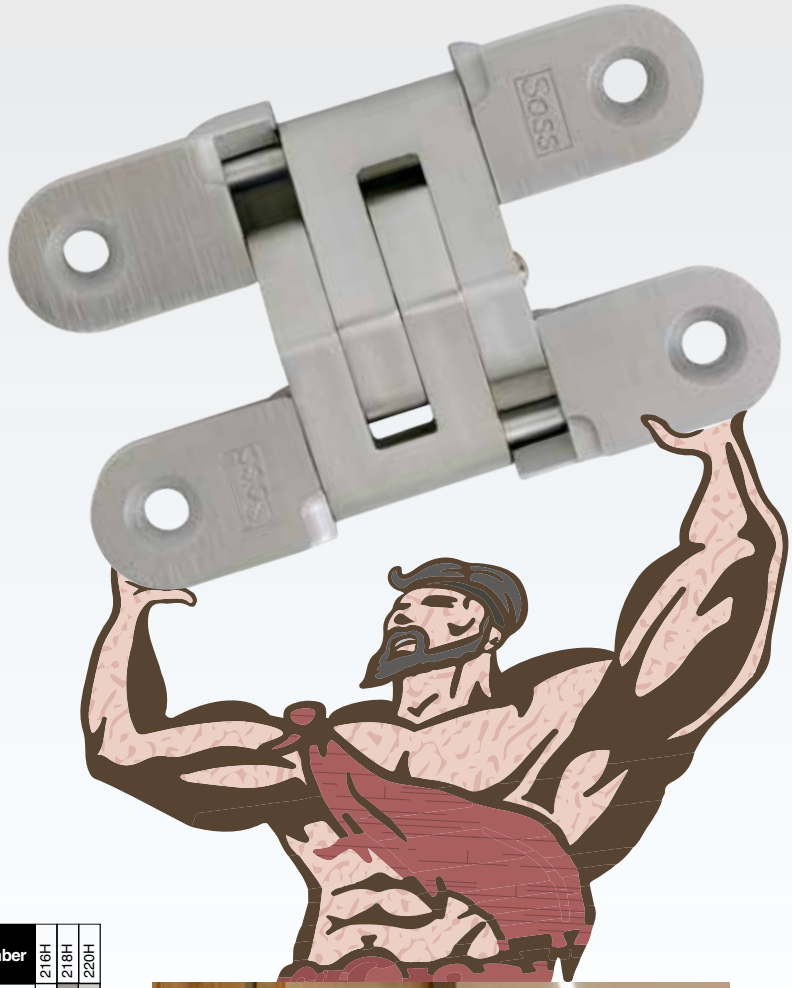


Offset Table

518		504	
A	B (Max)	A	B (Max)
1/64"	19/32"	None	5/32"
1/32"	41/64"	1/64"	7/32"
3/64"	11/16"	1/32"	1/4"
1/16"	23/32"		
5/64"	49/64"		
3/32"	25/32"		

**All 500 series hinges are supplied with the proper size wood and machine screws. It is necessary to install the hinge into the door while the hinge is in the closed position. This is accomplished by first using smaller screws that pass clear through the larger holes in the "jamb" half of the hinge to secure into the thinner "door" half of the hinge. Install the screws completely. Then open the hinge to install it into the jamb. Seat the hinges into the deep mortises made in the jamb and use the larger screws to secure them. For complete installation instructions we recommend watching our installation video at https://www.soss.com*

SOSS Hercules Hinge®

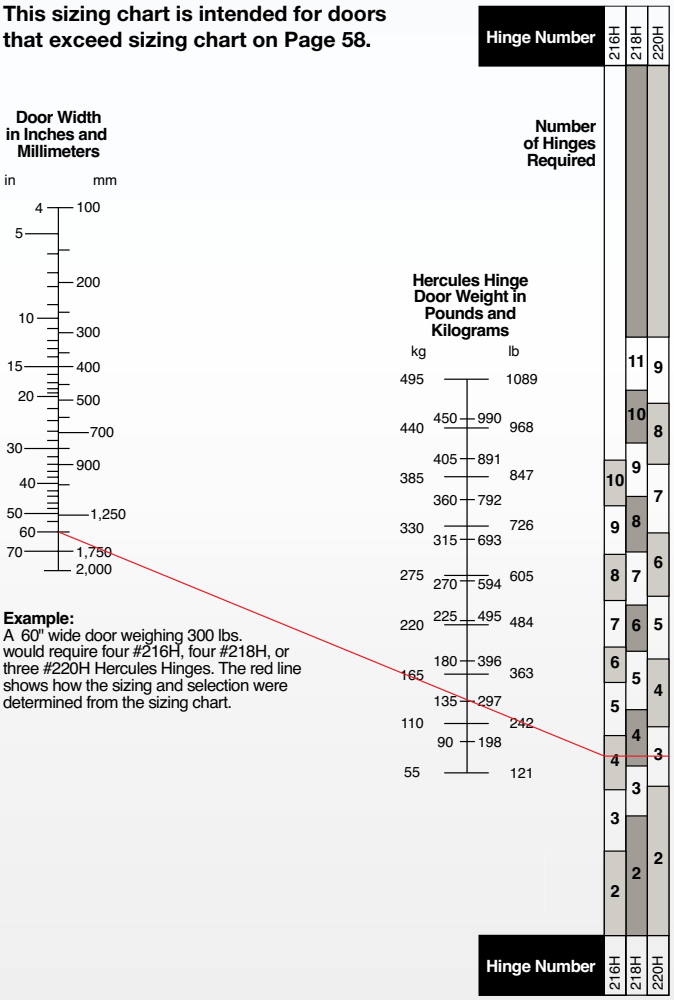


The SOSS Hercules Hinges® are ideal for doors of extreme weight or size. They can be used in place of standard SOSS invisible hinge models #216, #218, or #220 when fewer hinges are needed. All SOSS Hercules Hinges are made with solid alloy steel links and bodies and can be used in wood or metal doors. They are also fire rated up to 2 hours in accordance with the BS EN 1634-1 standards.

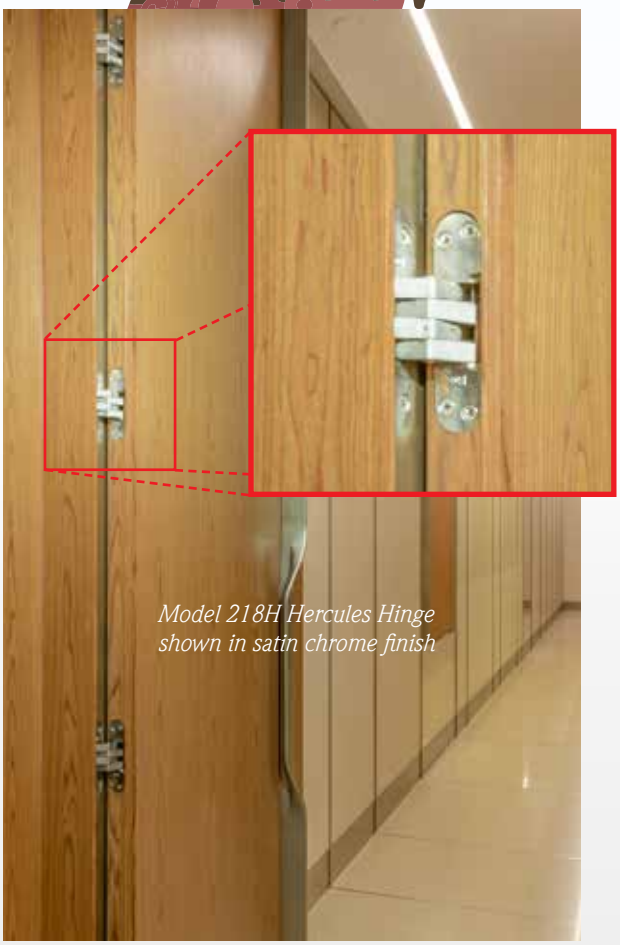
For example, a standard 80" tall, 36" wide, 1-3/4" door that weighs 150 lbs. normally needs four model #218 SOSS Invisible Hinges. With the SOSS Hercules Hinge® model #218H on this size door, only two hinges are required.

SOSS Hercules Hinges are available in four popular finishes: satin chrome (US26D), satin brass (US4), satin nickel (US15), and black E-coat (US19).

This sizing chart is intended for doors that exceed sizing chart on Page 58.



Example:
A 60" wide door weighing 300 lbs. would require four #216H, four #218H, or three #220H Hercules Hinges. The red line shows how the sizing and selection were determined from the sizing chart.



Model 218H Hercules Hinge shown in satin chrome finish

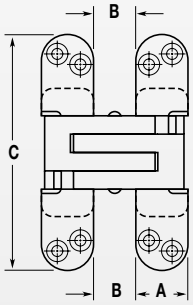
216H

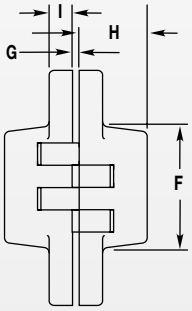
218H

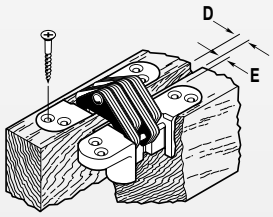
220H

Dimension	216H	218H	220H
A	1" (25.40 mm)	1⅛" (28.58 mm)	1⅜" (34.93 mm)
B	47⁄64" (18.65 mm)	55⁄64" (21.83 mm)	1 1⁄16" (26.99 mm)
C	4⅝" (117.48 mm)	4 39⁄64" (117.08 mm)	5½" (139.70 mm)
D	15⁄64" (5.95 mm)	23⁄64" (9.13 mm)	½" (12.70 mm)
E	¼" (6.35 mm)	¼" (6.35 mm)	9⁄32" (7.14 mm)
F	2 19⁄32" (65.88 mm)	2 7⁄16" (61.91 mm)	2 31⁄32" (75.41 mm)
G	1⁄16" (1.59 mm)	1⁄16" (1.59 mm)	3⁄32" (2.38 mm)
H	1 15⁄32" (37.31 mm)	1 41⁄64" (41.67 mm)	1 63⁄64" (50.40 mm)
I	15⁄32" (11.91 mm)	13⁄32" (10.32 mm)	15⁄32" (11.91 mm)
Minimum Material Thickness	1⅜" (34.93 mm)	1¾" (44.45 mm)	2" (50.80 mm)
Wood Screw Sizes	#14x1½" (6.3x38 mm)	#10x2½"	#12x2½"
Soft Wood Pilot Hole	No. 32	No. 43	No. 38
Hard Wood Pilot Hole	No. 10	No. 31	No. 25
Machine Screw Size	¼-20x1"	#10-24x¾"	#12-24x1"
Hinge Weight	1.8 lbs	2.15 lbs	3.80 lbs.

KEY TO DIMENSIONS SHOWN IN CHARTS







All SOSS Hercules Hinges are shipped with the proper size wood and machine screws unless ordered without. **Do not exceed "E" dimension.**

Invisible Closer Hinge

The SOSS Invisible Closer gives you a closer that is totally invisible from either side when the door is closed. When the door is open, you see only the hinge face and links.

The closure rate is completely adjustable with an Allen wrench after installation. Installation can be either inside the door itself or inside the door jamb. The SOSS Invisible Closer is ideally suited for all types of doors 1-1/8" thick or more. Recommended spacing is one half of the distance from the center of the door to the center of the top hinge.

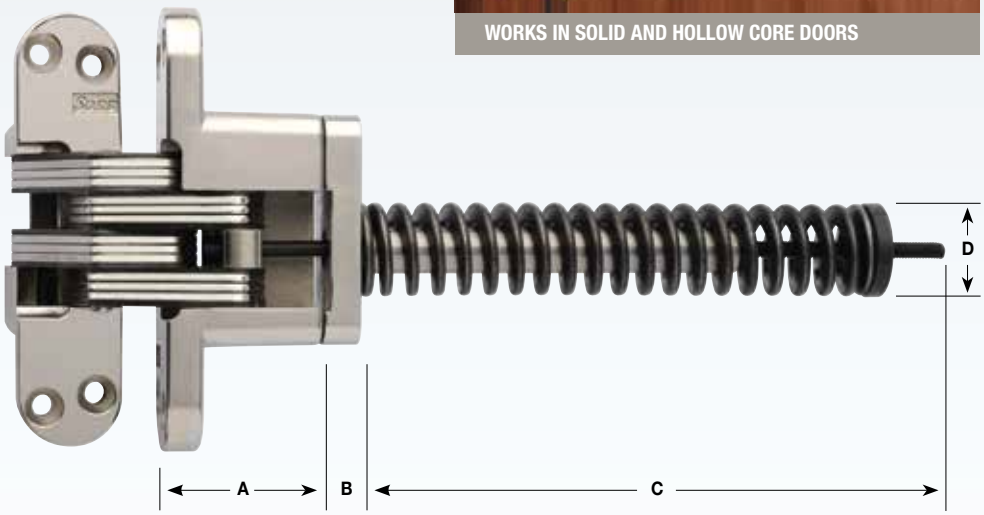
The Underwriters Laboratories labeled 416IC, 416SSIC, 418IC, 418SSIC, 220ASIC, and 220SSIC SOSS Invisible Closer hinges can be used on hollow metal, sheet metal, tin clad, and steel composite swinging type fire doors and frames rated up to and including three hours. They can also be used on wood core doors and frames rated up to 20 minutes.

Additionally, they can be used on wood/plastic composite doors constructed with Georgia Pacific FSI or FSII banding for a rating up to and including 90 minutes.

The Underwriters Laboratories labeled 420IC and 420SSIC SOSS Invisible Closer Hinges can be used on hollow metal, sheet metal, tin clad, and steel composite swinging type fire doors and frames rated up to and including three hours. Additionally, they can be used on wood core doors and frames rated up to 20 minutes.

The Underwriters Laboratories labeled 216IC, 218IC, and 220IC SOSS Invisible Closer hinges can be used on hollow metal, sheet metal, tin clad, steel composite or wood core swinging type fire doors and frames with 20 minute ratings.

WORKS IN SOLID AND HOLLOW CORE DOORS



Door Thickness	Closer Model #	Description	A	B	C	D
1⅛"	212IC	Non-fire rated closer for wood or metal	1 31/64"	⅜"	5 11/32"	½"
1⅜"	216IC	20 minute fire-rated closer for wood or metal	1 15/32"	⅜"	6 5/16"	¾"
1⅜"	416IC/416SSIC	3 hour fire-rated closer for metal, 90 minute for wood/plastic composite, 20 minute for wood	1 15/32"	⅜"	6 5/16"	¾"
1¾"	218IC	20 minute fire-rated closer for wood or metal	1 41/64"	⅜"	7"	1"
1¾"	418IC/418SSIC	3 hour fire-rated closer for metal, 90 minute for wood/plastic composite, 20 minute for wood	1 41/64"	⅜"	7"	1"
2"	220IC	20 minute fire-rated closer for wood or metal	1 63/64"	⅜"	6⅞"	1"
2"	220ASIC/220SSIC	3 hour fire-rated closer for metal, 90 minute for wood/plastic composite, 20 minute for wood	1 63/64"	⅜"	6⅞"	1"
2"	420IC/420SSIC	3 hour fire-rated closer for metal	1 31/32"	⅜"	6 57/64"	1"

Use at least one fire-rated hinge for every 20" of door height or portion thereof. Fire-rated closer hinges can take the place of a standard fire-rated hinge. At least one fire-rated closer hinge must be used for every 55 lbs. of door weight. One 212IC is needed for every 28 lbs. of door weight or portion thereof.

Power Transfer Hinge

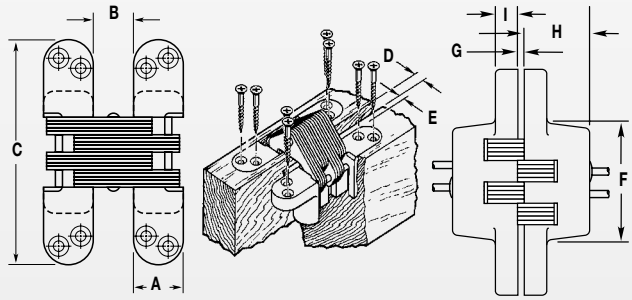
The SOSS Power Transfer Hinge gives you the ability to send power through our hinges. They are perfect for providing a route to run electrical wires from the frame into the door. This allows the transfer of electrical current to power electronic door devices, such as locks, strikes or door viewers. Four models are available The 218PT and 418PT/418SSPT are for 1-3/4" thick doors. The 220PT and 220ASPT/220SSPT are for 2" thick or thicker doors. All models come with 4' of wire on one side and 1' on the other. The wires for all models are 24 and 26 AWG. These wires are not to be connected to wires larger than 18 AWG wires.

The SOSS Power Transfer Hinges are for use with **four or six** wire applications. **Maximum wire rating is 2.5 ampere at 24 volts of direct current**. For devices requiring **more than 2.5 AMP, do not use** SOSS Power Transfer Hinge. The maximum total current for a four wire hinge is two times the maximum current shown in the electrical ratings chart: two wires in, two wires out of door.

See page 49 for detailed fire rated information.

Dimension	218PT	418PT/418SSPT	220PT	220ASPT/220SSPT
A	1⅛" (28.58 mm)	1⅛" (28.58 mm)	1⅜" (34.93 mm)	1⅜" (34.93 mm)
B	⅞" (22.23 mm)	55/64"	1 1/16" (26.99 mm)	1 1/16" (26.99 mm)
C	4⅝" (117.48 mm)	4 39/64"	5½" (139.70 mm)	5½" (139.70 mm)
D	⅜" (9.53 mm)	23/64"	½" (12.70 mm)	½" (12.70 mm)
E	¼" (6.35 mm)	¼" (6.35 mm)	9/32" (7.14 mm)	9/32" (7.14 mm)
F	2 15/32" (62.71 mm)	2 7/16"	2 15/16" (74.61 mm)	2 31/32" (75.41 mm)
G	1/16" (1.59 mm)	1/16" (1.59 mm)	1/16" (1.59 mm)	3/32" (2.38 mm)
H	1 41/64" (41.67 mm)	1 41/64" (41.67 mm)	1 63/64" (50.40 mm)	1 63/64" (50.40 mm)
I	13/32" (10.32 mm)	13/32" (10.32 mm)	15/32" (11.91 mm)	15/32" (11.91 mm)
Min. Mat. Thickness	1¾" (44.45 mm)	1¾" (44.45 mm)	2" (50.80 mm)	2" (50.80 mm)
Fire Rating	20 Minute	90/180 Minute	20 Minute	90/180 Minute
Wood Screw Sizes	#10x1½" (4.8 x 38 mm)	#10x2½" (4.8 x 63.5 mm)	#12x1½" (5.5 x 38 mm)	#12x2½" (5.5 x 63.5 mm)
Soft Wood Pilot Hole	No. 43	No. 43	No. 38	No. 38
Hard Wood Pilot Hole	No. 31	No. 31	No. 25	No. 25
Machine Screw Sizes	#10-24x1"	#10-24x1"	#12-12x1"	#12-24x1"
Hinge Weight	1.95 lbs.	2.40 lbs.	3.24 lbs.	4 lbs.

KEY TO DIMENSIONS SHOWN IN CHARTS



All power transfer hinges are shipped with the proper size wood and machine screws unless ordered without. **Do not exceed "E" dimension.**

SECURITY UL LISTED

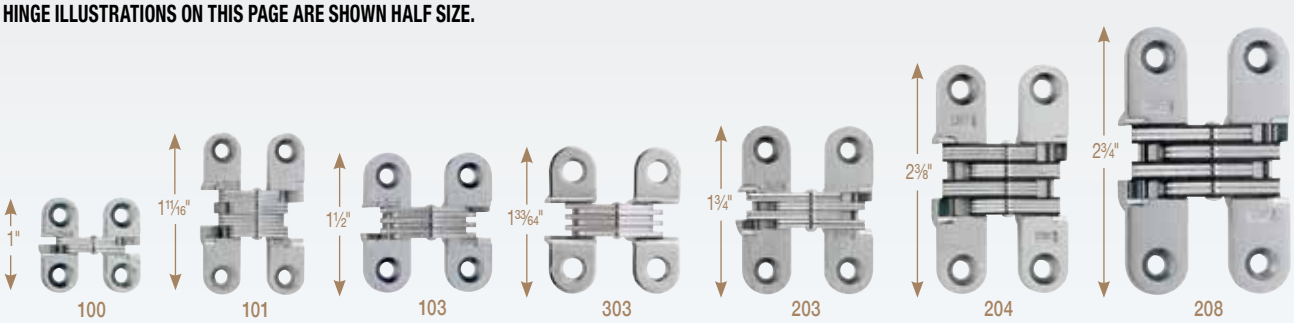
EQUIPMENT
218PT/220PT
9596U Installation Instructions
POWER TRANSFER HINGE
S2 5098

Watch Video

Specifications

FOR WOOD OR METAL APPLICATIONS

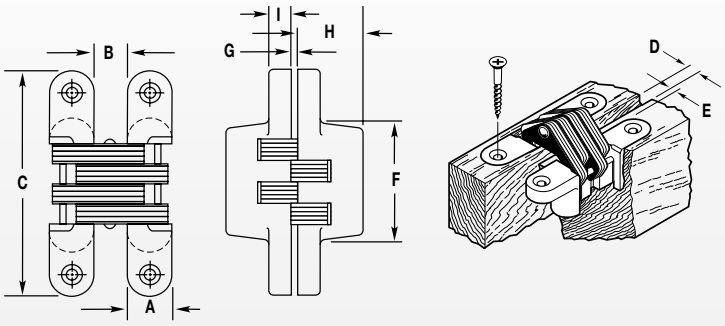
HINGE ILLUSTRATIONS ON THIS PAGE ARE SHOWN HALF SIZE.



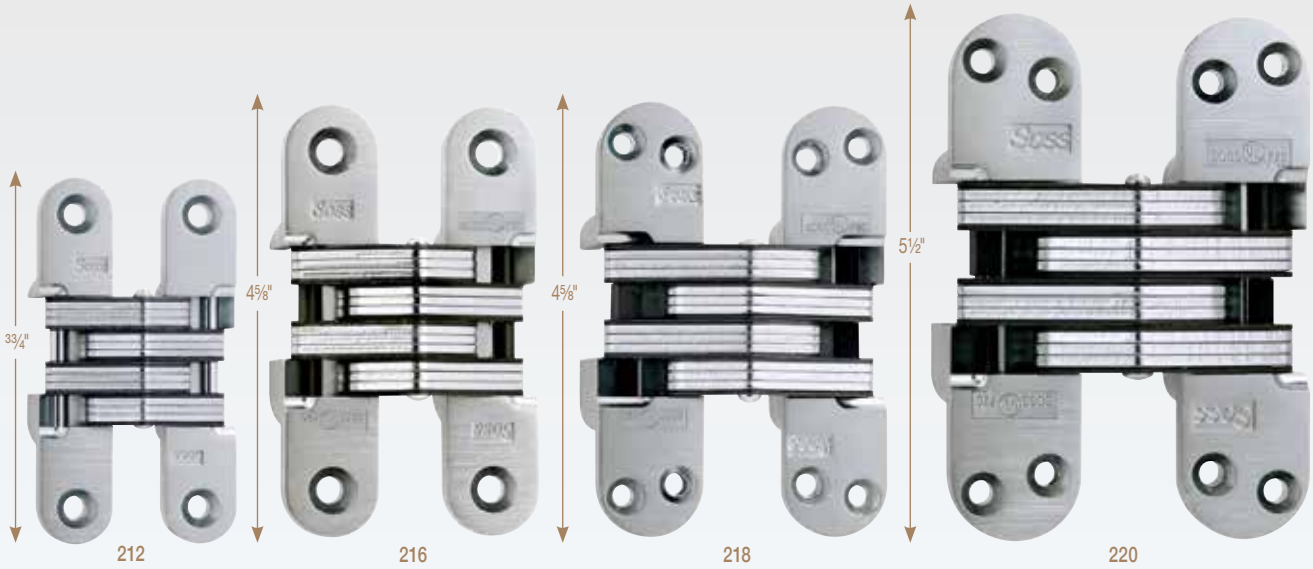
	Light Duty					*Medium Duty*	
Dimension	**100**	**101**	**103**	**303**	**203**	**204**	**208**
A	3/8"(9.53mm)	3/8"(9.53mm)	1/2"(12.70mm)	1/2"(12.70mm)	1/2"(12.70mm)	1/2"(12.70mm)	5/8"(15.8mm)
B	9/32"(7.14mm)	19/64"(7.54mm)	3/8"(9.53mm)	3/8"(9.53mm)	23/64"(9.13mm)	23/64"(9.13mm)	29/64"(11.51mm)
C	1"(25.40mm)	1 11/16"(42.86mm)	1 1/2"(38.10mm)	1 33/64"(38.50mm)	1 3/4"(44.45mm)	2 3/8"(60.33mm)	2 3/4"(69.85mm)
D	3/32"(2.38mm)	7/64"(2.78mm)	1/8"(3.18mm)	1/8"(3.18mm)	7/64"(2.78mm)	7/64"(2.78mm)	9/64"(3.57mm)
E	3/32"(2.38mm)	3/32"(2.38mm)	1/8"(3.18mm)	1/8"(3.18mm)	1/8"(3.18mm)	1/8"(3.18mm)	5/32"(3.97mm)
F	3/8"(9.53mm)	7/8"(22.23mm)	11/16"(17.46mm)	19/32"(15.08mm)	3/4"(19.05mm)	1 1/4"(31.75mm)	1 11/32"(34.13mm)
G	1/32"(.79mm)	1/32"(.79mm)	1/32"(.79mm)	1/32"(.79mm)	1/32"(.79mm)	1/32"(0.79mm)	3/64"(1.19mm)
H	15/32"(11.91mm)	29/64"(11.51mm)	19/32"(15.08mm)	41/64"(16.27mm)	23/32"(18.26mm)	23/32"(18.26mm)	29/32"(23.02mm)
I	15/64"(5.96mm)	7/32"(5.56mm)	7/32"(5.56mm)	.054"(1.37mm)	3/16"(4.76mm)	1/4"(6.35mm)	9/32"(7.14mm)
Minimum Material Thickness	1/2"(12.70mm)	1/2"(12.70mm)	3/4"(19.05mm)	11/16"(17.46mm)	3/4"(19.05mm)	3/4"(19.05mm)	1"(25.40mm)
Wood Screw Sizes	#5x3/4"(3.5x19mm)	#5x3/4"(3.5x19mm)	#6x1"(3.5x25mm)	#5x3/4"(3.5x19mm)	#6x1"(3.5x25mm)	#7x1 1/4"(3.9x32mm)	#8x1 1/4"(4.2x32mm)
Soft Wood Pilot Hole	No. 53	No. 53	No. 52	No. 53	No. 52	No. 51	No. 48
Hard Wood Pilot Hole	No. 47	No. 47	No. 44	No. 47	No. 44	No. 39	No. 35
Machine Screw Sizes	#4-40x1/2"	#4-40x1/2"	#6-40x1/2"	#5-40x1/2"	#6-40x1/2"	#8-32x5/8"	#8-32x5/8"
Hinge Weight	.04 lb.	.07 lb.	.09 lb.	.05 lb.	.11 lb.	.20 lb.	.34 lb.

NOTE: Refer to page 58 for assistance with choosing the right hinge for the job.

KEY TO DIMENSIONS SHOWN IN CHARTS



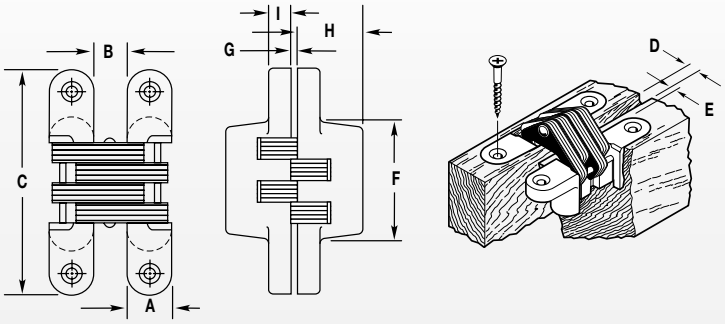
All hinges are shipped with the proper size wood screws unless ordered without. Machine screws available upon request for an additional charge. **Do not exceed "E" dimension.**



	Medium Duty	Heavy Duty		
Dimension	**212**	**216**	**218**	**220**
A	¾"(19. 05mm)	1"(25.40mm)	1⅛"(28.58mm)	1⅜"(34.93mm)
B	35/64"(13.89mm)	47/64"(18.65mm)	⅞"(22.23mm)	1 1/16"(26.99mm)
C	3¾"(95.25mm)	4⅝"(117.48mm)	4⅝"(117.48mm)	5½"(139.70mm)
D	11/64"(4.37mm)	15/64"(5.95mm)	⅜"(9.53mm)	½"(12.70mm)
E	3/16"(4.76mm)	¼"(6.35mm)	¼"(6.35mm)	9/32"(7.14mm)
F	2 1/16"(52.39mm)	2 19/32"(65.88mm)	2 15/32"(62.71mm)	2 15/16"(74.61mm)
G	3/64"(1.19mm)	1/16"(1.59mm)	1/16"(1.59mm)	1/16"(1.59mm)
H	15/64"(27.38mm)	1 15/32"(37.31mm)	1 41/64"(41.67mm)	1 63/64"(50.40mm)
I	⅜"(9.53mm)	15/32"(11.91mm)	13/32"(10.32mm)	15/32"(11.91mm)
Minimum Material Thickness	1⅛"(28.58mm)	1⅜"(34.93mm)	1¾"(44.45mm)	2"(50.80mm)
Wood Screw Sizes	#10x1¼"(4.8x32mm)	#14x1½"(6.3x38mm)	#10x1½"(4.8x38mm)	#12x1½"(5.5x38mm)
Soft Wood Pilot Hole	No. 43	No. 32	No. 43	No. 38
Hard Wood Pilot Hole	No. 31	No. 10	No. 31	No. 25
Machine Screw Sizes	#10-24x¾"	#¼-20x1"	#10-24x1"	#12-24x1"
Hinge Weight	.75 lb.	1.65 lb.	1.86 lb.	3.15 lb.

NOTE: Refer to page 58 for assistance with choosing the right hinge for the job.
Refer to page 49 for fire-rated information.

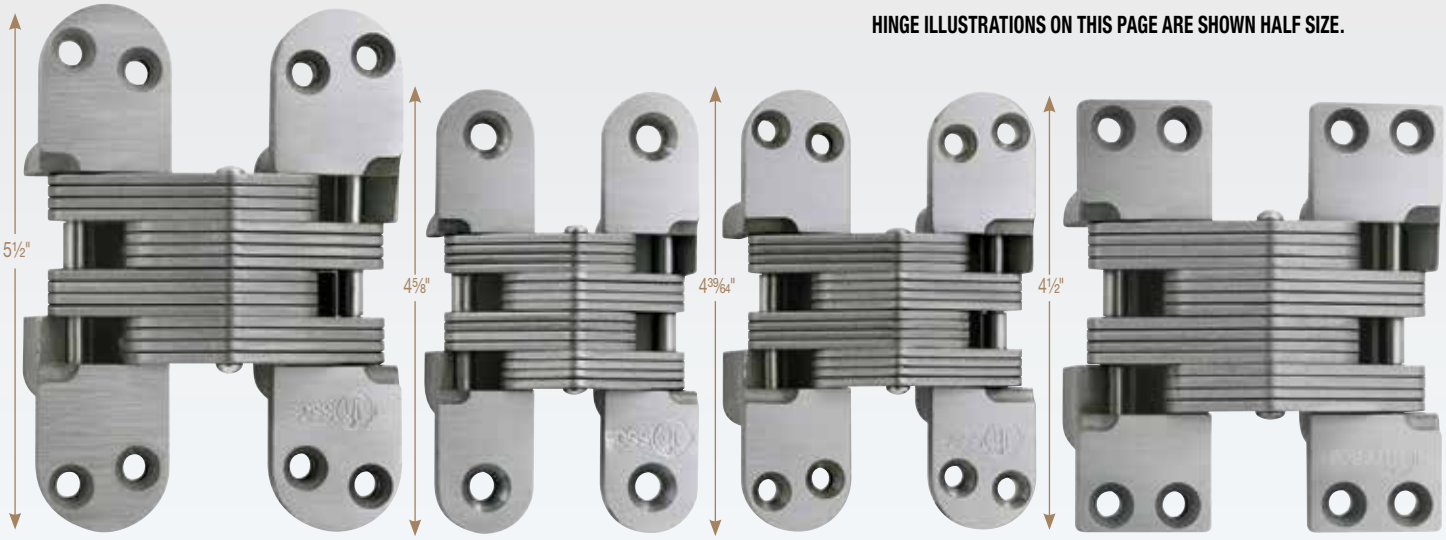
KEY TO DIMENSIONS SHOWN IN CHARTS



Watch Installation Video

All hinges are shipped with the proper size wood screws unless ordered without. Machine screws available upon request for an additional charge. Models 216, 218, and 220 are shipped with the proper size wood and machine screws unless ordered without.
Do not exceed "E" dimension.

HINGE ILLUSTRATIONS ON THIS PAGE ARE SHOWN HALF SIZE.



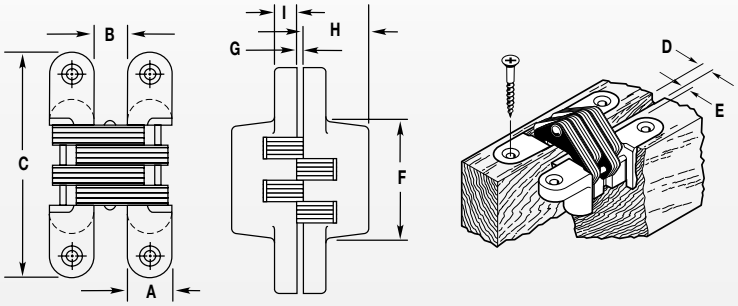
220AS/220SS 416/416SS 418/418SS 420/420SS

Fire-Rated Applications for Metal or Wood

Dimension	220AS/220SS	416/416SS	418/418SS	420/420SS
A	1⅜" (34.93mm)	1" (25.40mm)	1⅛" (28.58mm)	1⅜" (34.93mm)
B	1¹⁄₁₆" (26.99mm)	⁴⁷⁄₆₄" (18.65mm)	⁵⁵⁄₆₄" (21.83mm)	1³⁄₆₄" (26.59mm)
C	5½" (139.70mm)	4⅝" (117.48mm)	4³⁹⁄₆₄" (117.08mm)	4½" (114.30mm)
D	½" (12.70mm)	¹⁵⁄₆₄" (5.95mm)	²³⁄₆₄" (9.13mm)	³¹⁄₆₄" (12.30mm)
E	⁹⁄₃₂" (7.14mm)	¼" (6.35mm)	¼" (6.35mm)	⁹⁄₃₂" (7.15mm)
F	2³¹⁄₃₂" (75.41mm)	2³⁹⁄₆₄" (66.28mm)	2⁷⁄₁₆" (61.91mm)	2¹⁵⁄₁₆" (74.62mm)
G	³⁄₃₂" (2.38mm)	¹⁄₁₆" (1.59mm)	¹⁄₁₆" (1.59mm)	³⁄₃₂" (2.38mm)
H	1⁶³⁄₆₄" (50.40mm)	1¹⁵⁄₃₂" (37.31mm)	1⁴¹⁄₆₄" (41.67mm)	1³¹⁄₃₂" (50.01mm)
I	¹⁵⁄₃₂" (11.91mm)	¹⁵⁄₃₂" (11.91mm)	1³⁄₃₂" (10.32mm)	¹⁵⁄₃₂" (11.91mm)
Min. Mat. Thickness	2" (50.80mm)	1⅜" (34.93mm)	1¾" (44.45mm)	2" (50.80mm)
Wood Screw Sizes	#12x2½"	#14x2½"	#10x2½"	N/A
Soft Wood Pilot Hole	No. 38	No. 32	No. 43	N/A
Hard Wood Pilot Hole	No. 25	No. 10	No. 31	N/A
Machine Screw Sizes	#12-24x1"	#¼-20x1"	#10-24x1"	#12-24x1"
Hinge Weight	3.80 lbs.	1.92 lbs.	2.15 lbs.	3.44 lbs.

NOTE: Refer to page 49 for selecting the right hinge for fire-rated applications.

KEY TO DIMENSIONS SHOWN IN CHARTS



All fire rated hinges are shipped with the proper size wood and machine screws unless ordered without. **Do not exceed "E" dimension.**

Fire-rated

SOSS offers a complete line of fire-rated invisible hinges. Whether your doorway is made of wood or metal, rated 20 minutes or three hours, there is a SOSS fire-rated hinge that will comply and still give you the "uniquely invisible" hinge that you expect from SOSS.

SOSS Invisible Hinge models #418, #418SS, #220AS, #220SS, #420 and #420SS are classified in accordance with Underwriters Laboratories test standards UL10C and UBC7-2(1997).

The chart below lists the SOSS Invisible Hinges that are currently available for fire-rating.

420, 420SS
The SOSS Invisible #420 Hinges are specifically designed with square edges for metal doors.

The Underwriters Laboratories labeled #420 SOSS Invisible Hinges can be used on hollow metal, sheet metal, tin clad and steel composite swinging-type fire doors and frames rated up to and including **three hours**. Additionally, they can be used on wood core doors and frames rated up to **20 minutes**.

Use at least one fire-rated hinge for every **20"** of door height or portion thereof, or one hinge for every **60 lbs.** or fraction thereof, whichever calculation demands more hinges.

416, 416SS, 418, 418SS, 418PT, 418SSPT, 220AS, 220SS, 220ASPT, 220SSPT
The Underwriters Laboratories labeled 416, 416SS, 418, 418SS, 418PT, 418SSPT, 220AS, 220SS, 220ASPT, 220SSPT. SOSS Invisible Hinges can be used on hollow metal, sheet metal, tin clad and steel composite swinging-type fire doors and frames rated up to and including **three hours**. They also can be used on wood core doors and frames rated up to **20 minutes**.

Additionally, they can be used on wood/plastic composite doors constructed with Georgia Pacific FS I or FS II banding for a rating up to and including **90 minutes**.

Use at least one fire-rated hinge for every **20"** of door height or portion thereof, or one hinge for every **60 lbs.** or fraction thereof, whichever calculation demands more hinges.

216, 218, 220, 218PT, and 220PT
The Underwriters Laboratories labeled 216, 218, 220, 218PT, and 220PT. SOSS Invisible Hinges can be used on hollow metal, sheet metal, tin clad, steel composite or wood core swinging-type fire doors and frames with **20 minute** ratings.

Use at least one fire-rated hinge for every **20"** of door height or portion thereof, or one hinge for each **60 lbs.** or fraction thereof, whichever calculation demands more hinges.

Special door and jamb preparation may be required for all fire-rated hinges.

NOTE: SOSS Invisible Hinge product specifications available on request.

Maximum size door tested was 4' x 8' tall. Consult door manufacturer for additional fire-rated door sizes available for use with SOSS Invisible Hinges.

Min. Door Thickness	Description	Rating	Door Material
1⅜"	216	20 Minutes	Wood or Metal
1¾"	218, 218PT	20 Minutes	Wood or Metal
2"	220, 220PT	20 Minutes	Wood or Metal
1⅜"	416, 416SS	90/180 Minutes*	Wood or Metal
1¾"	418, 418SS, 418PT, 418SSPT	90/180 Minutes*	Wood or Metal
2"	220AS, 220SS, 220ASPT, 220SSPT	90/180 Minutes*	Wood or Metal
2"	420, 420SS	180 Min.	Metal

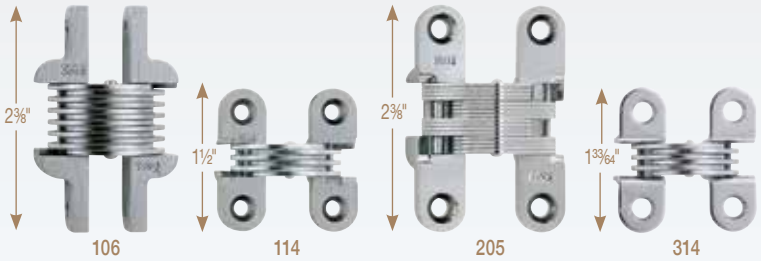
* All fire rated hinges are shipped with the proper size wood and machine screws unless ordered without.
Do not exceed "E" dimension.

NOTE: The hinge side door style for 90 minute wood faced doors must be a minimum of 2¼" wide.

Metal Cabinet Applications

HINGES ARE SHOWN HALF SIZE.

An assortment of specially modified SOSS Invisible Hinges is available for use in cabinets, computers, copiers and other electronic equipment. If you have a unique hinge installation application for our invisible hinge, modifications can be made to any of our standard models.



Dimension	106	114	205	314
A	¹⁹⁄₃₂"(15.08mm)	½"(12.70mm)	½"(12.70mm)	½"(12.70mm)
B	⁷⁄₁₆"(11.11mm)	²⁹⁄₆₄"(11.51mm)	³⁷⁄₆₄"(14.68mm)	²⁹⁄₆₄"(11.51mm)
C	2⅜"(60.33mm)	1½"(38.10mm)	2⅜"(60.33mm)	1³³⁄₆₄"(38.50mm)
D	1³⁄₆₄"(5.16mm)	¹³⁄₆₄"(5.16mm)	²¹⁄₆₄"(8.33mm)	¹³⁄₆₄"(5.16mm)
E	N/A	⅛"(3.18mm)	⅛"(3.18mm)	⅛"(3.18mm)
F	N/A	¹¹⁄₁₆"(17.46mm)	1¼"(31.75mm)	¹⁹⁄₃₂"(15.08mm)
G	¹⁹⁄₃₂"(15.08mm)	³⁄₃₂"(2.38mm)	¹⁵⁄₆₄"(5.95mm)	³⁄₃₂"(2.38mm)
H	N/A	¹⁹⁄₃₂"(15.08mm)	²³⁄₃₂"(18.26mm)	⁴¹⁄₆₄"(16.27mm)
I	N/A	⁷⁄₃₂"(5.56mm)	¼"(6.35mm)	¹⁄₁₆"(1.59mm)
Max. Matl. Thickness	⁵⁄₆₄" (1.984mm)	³⁄₆₄" (1.190mm)	³⁄₃₂" (2.381mm)	N/A
Machine Screw Sizes	Various	#6-40x½"	#8-32x⅝"	#5-40x½"
Hinge Weight	.18 lb.	.10 lb.	.22 lb.	.06 lb.

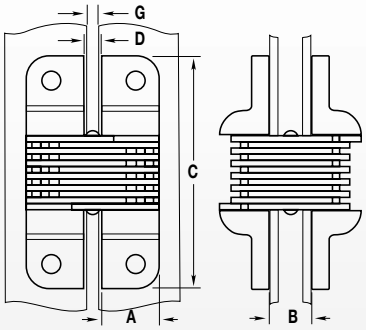
INSTALLATION OF METAL CABINET HINGES

Hinges 114, 205 and 314 are designed for easy installation in metal cabinets. A typical installation is shown in adjacent drawings. Hinge is shown in the open and closed position.

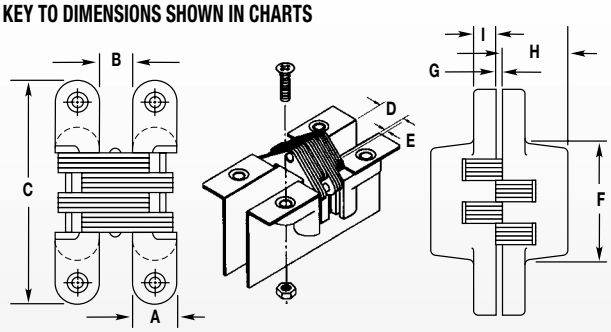
When installing hinges, sheet metal flange should be slotted for link bunch and drilled for fastener.

Model 106:
Mounts on BACK of door and frame and requires no mortise. Hinge is visible from the back, maximum door thickness is 5/64". Largest size screw that can be used is #8 without modifying the mounting holes.

KEY TO DIMENSIONS FOR 106 HINGE ONLY



KEY TO DIMENSIONS SHOWN IN CHARTS



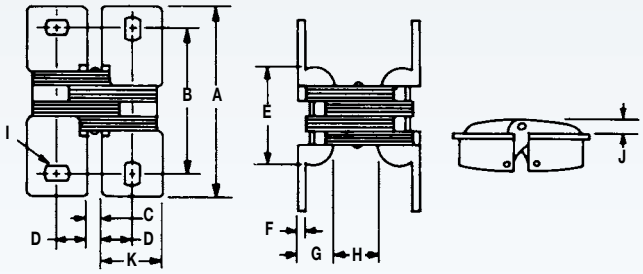
All metal cabinet hinges are shipped without screws unless otherwise specified.
Do not exceed "E" dimension.

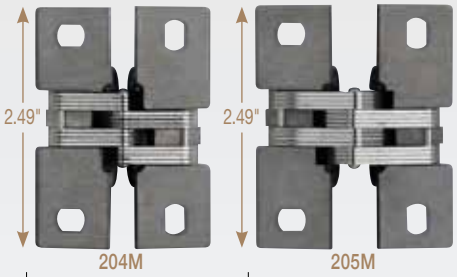
Metal Cabinet Applications

Special Applications

HINGES ARE SHOWN HALF SIZE.

KEY TO DIMENSIONS SHOWN IN CHARTS





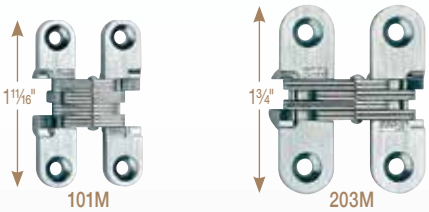
Dimension	204M	205M
A	2.49"(63.25mm)	2.49"(63.25mm)
B	1.89"(48mm)	1.89"(48mm)
C	.05"(1.27mm)	.23"(5.84mm)
D	.41"(10.41mm)	.41"(10.41mm)
E	1.25"(31.75mm)	1.25"(31.75mm)
F	.11"(2.79mm)	.11"(2.79mm)
G	.50"(12.70mm)	.50"(12.70mm)
H	.36"(9.14mm)	.58"(14.73mm)
I	.31"x.22"(7.87x5.59mm)	.31"x.22"(7.87x5.59mm)
J	–	.18"(4.57mm)
K	.80"(20.32mm)	.80"(20.32mm)
Hinge Weight	.20 lb.	.22 lb.

Modifications Are Available!

HINGES AT RIGHT ARE SHOWN HALF SIZE.

For special applications, unusual sizes and weights, engineering and design assistance is available free of charge. Please consult the SOSS Home Office.

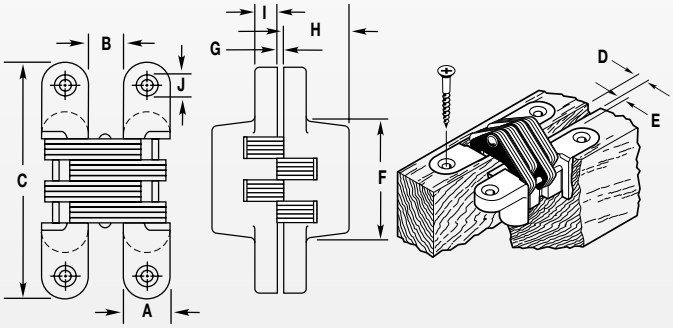
We have modified the screw hole sizes for special uses.



Dimension	101M	203M
A	3/8"(9.53mm)	1/2"(12.70mm)
B	19/64"(7.54mm)	23/64"(9.13mm)
C	1 11/16"(42.86mm)	1 3/4"(44.45mm)
D	7/64"(2.78mm)	7/64"(2.78mm)
E	3/32"(2.38mm)	1/8"(3.18mm)
F	7/8"(22.23mm)	3/4"(19.05mm)
G	1/32"(.79mm)	1/32"(.79mm)
H	29/64"(11.51mm)	23/32"(18.26mm)
I	7/32"(5.56mm)	3/16"(4.76mm)
J	.150"(w/.281" Countersink)	.230"(w/3/8" dia. x .09" Deep C'Bore)
Min. Mat. Thickness	1/2"(12.70mm)	3/4"(19.05mm)

Counterboring available by special request.

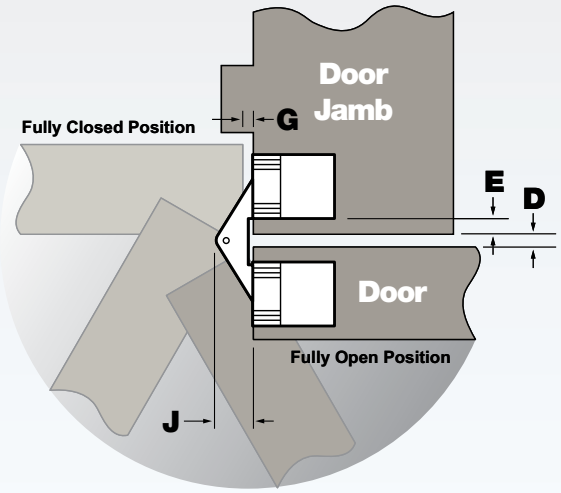
KEY TO DIMENSIONS SHOWN IN CHARTS



Modified hinges are not supplied with screws.
Do not exceed "E" dimension.

Path & Clearance for Doors

The diagram below left shows the typical path of a SOSS hinged door. The table shows the door clearance when fully opened for each SOSS hinge.



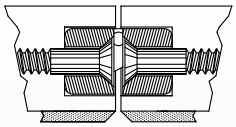
Dimensions

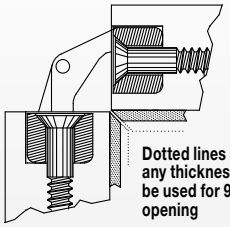
	E		D		G		J	
Hinge No.	**Inch**	**mm**	**Inch**	**mm**	**Inch**	**mm**	**Inch**	**mm**
101	3/32	2.4	7/64	2.78	1/32	0.8	11/64	4.37
103	1/8	3.2	1/8	3.18	1/32	0.8	7/32	5.56
303	1/8	3.2	1/8	3.18	1/32	0.8	15/64	5.95
314	1/8	3.18	13/64	5.16	3/32	2.4	1/4	6.35
203	1/8	3.2	7/64	2.78	1/32	0.8	15/64	5.95
204	1/8	3.2	7/64	2.78	1/32	0.79	15/64	5.95
208	5/32	4.0	9/64	3.57	3/64	1.2	5/16	7.94
212	3/16	4.8	11/64	4.37	3/64	1.2	3/8	9.53
216	1/4	6.4	15/64	5.95	1/16	1.6	33/64	13.10
218	1/4	6.4	3/8	9.53	1/16	1.2	1/2	12.70
220	9/32	7.1	1/2	12.7	1/16	1.6	39/64	15.48

Open Clearance for Special Doors with Added Material

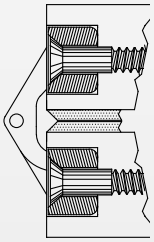
Many doors often have applied material to the pull or push side of a door. This could be an applied mirror, paneling, trim or baseboard. When using SOSS Invisible hinges and applying material to the push side of your door and/or frame, there is no concern with the hinges working as designed. However, as material is applied to the pull side face of the door and/or frame, modifications to how the hinges are installed are often times required. Following are diagrams and information about typical modifications to the installation of SOSS Invisible Hinges when applying material to the pull side face of the door and/or frame.

180° Opening – Standard backset with material applied to door and frame



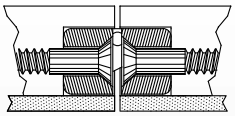


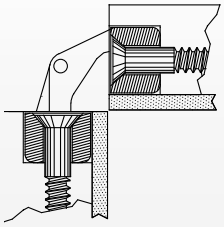
Dotted lines show any thickness can be used for 90° opening



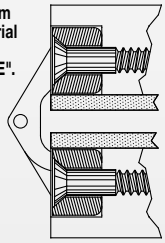
A 45° bevel on applied material with a thickness less than half the max. door clearance will provide 180° door opening. See hinge template drawing for door clearance at 180° opening.

180° Opening with no backset and material applied to door and frame

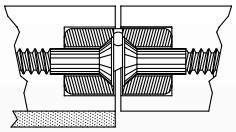


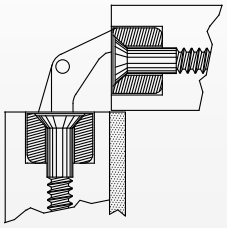


The maximum added material thickness = dimension "E".

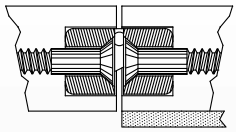


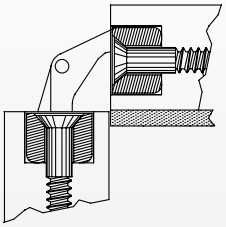
90° Opening – Standard backset with material applied to door only

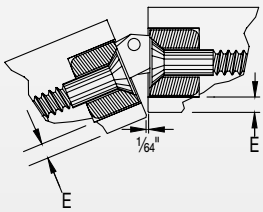




90° Opening – Standard backset with material applied to frame only







Clearance reduces to approximately 1/64" as door approaches the frame upon opening. Beyond that point, the clearance increases to the maximum clearance when the door reaches its fully open position at 180°. See the hinge template drawing for that dimension. If the template "E" dimension is exceeded, the door will hit the jamb and bind. See specifications for SOSS Invisible Hinges on previous pages for dimension "E".

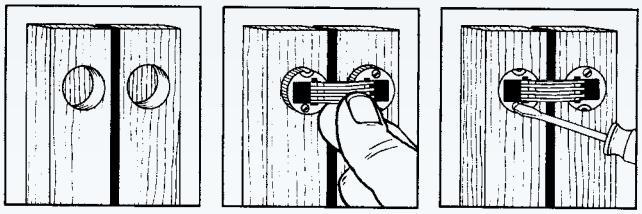
Barrel Hinge

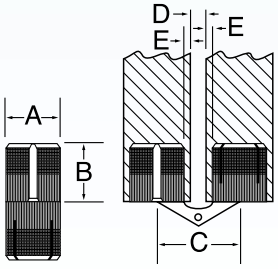
SOSS Invisible Barrel Hinges are made of solid brass with brass links. They are easily installed. Just drill to the proper size and insert the hinge. SOSS Invisible Barrel Hinges are totally invisible from either side when the door is closed.

EASILY INSTALLED

Secure mounting in wooden door or panel is assured by tightening the tensioning screw on all models except BH085. It is held in place with #2 screws supplied with each hinge. On all other models to accommodate more demanding weight applications, the cylinders can be additionally secured by installing a chipboard or wood screw in the groove on the exposed end. Forstner drill bits are recommended for best results.

Hinge BH104 used in solid wood flybox.





Part #	Min. Door Thickness	Drill Bit (mm)	Drill Bit (in.)	Dimensions (mm) A	B	C	D min.	E max.	Wood Screw
BH085	7⁄16"	8 mm	Letter "O"	8.18	9.9	11.6	1.9	0.8	#2x3⁄8"
BH104	1⁄2"	10 mm	25⁄64"	10	11.5	15.7	2	1.8	#3x3⁄8"
BH124	5⁄8"	12 mm	15⁄32"	12	13.3	19	2.7	2.1	#4x1⁄2"
BH144	3⁄4"	14 mm	35⁄64"	14	15.5	23	3	3	#6x1⁄2"
BH164	7⁄8"	16 mm	5⁄8"	16	16.5	23.5	3	2.3	#6x5⁄8"
BH184	1 1⁄8"	18 mm	45⁄64"	18	18	27	3	3	#6x3⁄4"
BH244	1 1⁄4"	24 mm	15⁄16"	24	24.9	35.1	4.1	3.5	#10x1 1⁄4"

If desired, a customer-supplied secondary screw may be installed in the groove that is 180 degrees from the tensioning screw; this is optional and not supplied with the hinges.

NOTE: For exact applications it is recommended the hinge be measured before installation as the above dimensions may vary slightly.

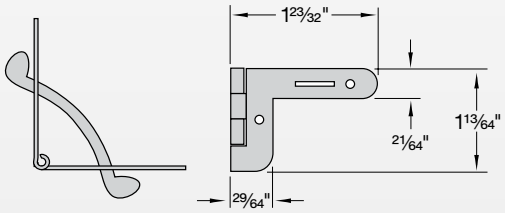
Quadrant Hinge

Constructed of stainless steel, the SOSS Quadrant Hinge is now available for woodworkers or manufacturers of high-quality wood products. The hinge support is mortised into the case or frame, so when the case is closed it is virtually invisible.

Available in Bright Brass finish, the SOSS Quadrant Hinge adds a custom touch to that special wood project.

Part #	Description
QH7	Quadrant Hinge, Bright Brass on Stainless Steel

Packaged two per bag, #2x3⁄8" flat head Phillips wood screws included.



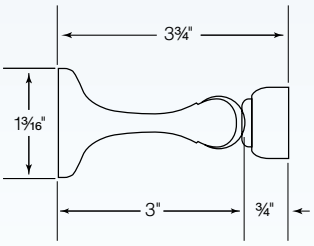
Magnetic Door Holder & Stop

Sturdy, practical and easy to install, SOSS Magnetic Door Holder and Stop holds doors open even in a heavy wind.

Mount either vertically to the floor or horizontally to baseboard or wall.

EIGHT FINISHES AVAILABLE:
Oil Rubbed Bronze, Antique Bronze, Satin Nickel, Black Powdercoat, Satin Chrome, Bright Chrome, Bright Gold and White Powdercoat.

Part #	Finish Description
MDHBUS10B-HS	Oil Rubbed Bronze
MDHBUS10-HS	Antique Bronze
MDHBUS15-HS	Satin Nickel
MDHBUS19-HS	Black Powdercoat
MDHBUS26D-HS	Satin Chrome
MDHBUS26-HS	Bright Chrome
MDHBUS3-HS	Bright Gold
MDHBWH-HS	White Powdercoat

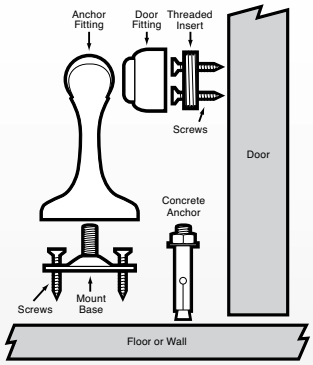


DIMENSIONS

Overall Length	3¾"
Main Stem Length	3"
Base Length	¾"
Base Diameter	1³⁄₁₆"

MATERIAL

Zamac & Steel



HOLDING POWER

SOSS Magnetic Door Holders have a magnetic holding power of 9 lbs. when installed properly.

MULTIPLE POSITION MOUNTING

SOSS Magnetic Door Holders mount either vertically to the floor or horizontally to the baseboard or wall.

HARDWARE

Three plastic anchors, five #7-1" screws and one ¼x20x1³⁄₁₆" concrete anchor are included.

Router Guide Templates & Template System

ROUTER GUIDE TEMPLATES

SOSS Invisible Hinges now can be installed easier and faster than ever before. Router guide templates are available for hinges as shown on the chart.

A perfect routed outline is foolproof (the only critical dimension is the depth of the shallow mortise), so you can expect a perfect installation every time.

Each router guide template is individually handcrafted for exactness. The template is held on the door and jamb with nails; guide pins locate the deep mortise. The edges of the template assure a perfect outline when used with SOSS RGB100 Template Guide and Lock Nut, or the Porter-Cable Template Guide #42024 (Lock Face Routing) and #42237 (Lock Nut).

CAUTION:
Do not use resharpened bits.

NOTE:
Please visit our website, www.soss.com, for a video on how to use the SOSS Installation Templates and Template Systems to install SOSS Invisible Hinges.

Hinge Model	Router Bit Size	Router Guide Template #	Router Guide Template Compatible with Router Guide System
#101	¼"	101IT	No
#103	⅜"	103IT	No
#203	⅜"	203IT	No
#204	⅜"	204IT	No
#208	⅜"	208IT	No
#212	⅜"	212IT	Yes
#216	½"	216IT	Yes
#218	½"	218IT	Yes
#220	½"	220IT	Yes
#504	⅜"	504IT	No
#518	½"	518IT	No

ROUTER GUIDE SYSTEM EASILY APPLIED TO DOOR AND FRAME

The SOSS Router Guide System saves you time and measurements. The router guide templates can be positioned exactly to the hinge locations desired, and then locked into place. The system, with two, three or four router guides locked into place, can be moved from door to door jamb, thereby eliminating time consuming measurements.

Router Guide Systems (RGS) can be used with two, three, or four of the 212IT, 216IT, 218IT, and 220IT wooden router guides. Router guide systems are not for use on doors taller than 10' tall.

For complete instructions for installation with a router guide system, please visit our website or contact the SOSS office. Complete instructions are supplied with each Router Guide System.

Watch Installation Video

Router Bits

SOSS Door Hardware now has available Amana Tool Router Bits to be used with each of our router guides. These router bits are manufactured with the highest quality materials, so you can expect the same great quality from Amana Tool that SOSS Door Hardware has been providing for more than 120 years.

Recommended Amana Tool® Router Bits

SOSS Router Guide #	Router Bit Part Number	Router Bit Size
101IT	43828	¼" x 2⅞"
103IT	51304	⅜" x 3⅛"
203IT	51304	⅜" x 3⅛"
204IT	51304	⅜" x 3⅛"
208IT	51304	⅜" x 3⅛"
212IT	51304	⅜" x 3⅛"
216IT	51310	½" x 4½"
218IT	51310	½" x 4½"
220IT	51310	½" x 4½"
504IT	51304	⅜" x 3⅛"
518IT	51310	½" x 4½"

Router Guide Bushing & Lock Nut

RGB100 ROUTER GUIDE BUSHING & LOCKNUT

Guide bushing and locknut for use with SOSS Invisible Hinge Router Guide. Guide bushing I.D. 21⁄32"; O.D. ¾"; distance past base 9⁄16"; locknut fits bushing.

Fits most routers.

Steel Door Reinforcements

Save time and expense by using these all-steel reinforcements that are ready to weld into place. Reinforcements are available for the SOSS hinges #216, #218, #416 and #418.

Hinge reinforcement drawings are available. Contact the SOSS office for further information.

U.I.P. #	Description	Hinge
216SDB	Steel, Two Pieces Per Side	216, 416
218SDB	Steel, One Piece Insert, One Piece Per Side	218, 418

As seen from the inside of the door looking out.

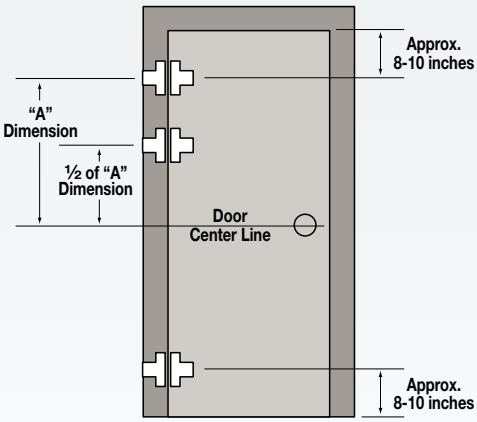
SOSS OFFERS READY-MADE REINFORCEMENTS FOR EASY PREP OF STEEL DOORS.

Installation Information

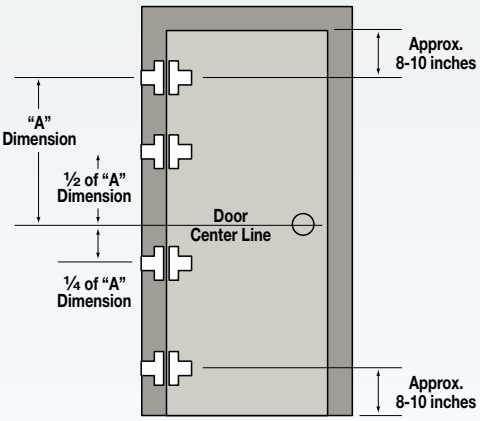
Recommended Spacing

Notice in the illustration showing three hinges, that the “center” hinge is not shown in the usual location near the center of the door. The “center” hinge should be located one-half the distance from the horizontal center line of the door to the center line of the top hinge.

On installations requiring four SOSS Invisible Hinges, the second hinge from the top should be located one-half the distance from the door’s horizontal center line to the center line of the top hinge. The third hinge from the top should be located one-quarter of the “A” dimension below the horizontal centerline of the door.



For small cabinet doors using the light or medium duty hinges the spacing for the top and bottom hinges need only be 2- 4 inches from the top or bottom of the door to the center line of the top or bottom hinge respectively.

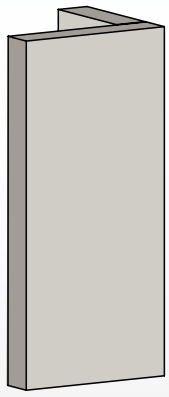


NOTE: For spacing information beyond what is shown, visit our website at www.soss.com.

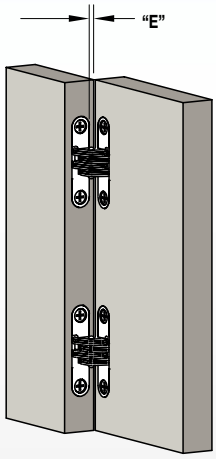
Overlay Applications

SOSS Invisible Hinges are not just for use in flush inset doors applications. They also can be used in some overlay door applications. The illustrations show how our hinges operate in this type of application. Please contact our customer service department for further assistance.

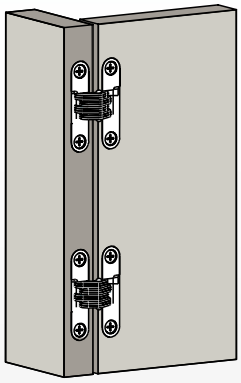
Hinge #	"M"	"J"	"E"
100	0.020"	11/64"	3/32"
101	0.032"	11/64"	3/32"
103	0.016"	7/32"	1/8"
203	0.016"	15/64"	1/8"
204	0.020"	15/64"	1/8"
208	0.021"	5/16"	5/32"
212	0.025"	3/8"	3/16"
216	0.045"	33/64"	1/4"
218	0.084"	1/2"	1/4"
220	0.128"	39/64"	9/32"



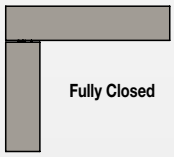
Fully Closed



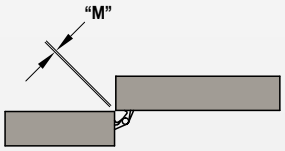
Opened 90°



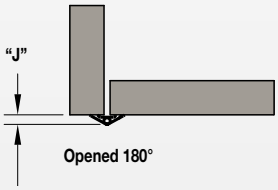
Opened 180°



Fully Closed



Opened 90°



Opened 180°

Choosing the Right Hinge and the Right Number of Hinges

View SOSS Hinge Calculator

For your convenience, an interactive, easy to use hinge sizing calculator is available on our website, www.soss.com.

If the information you need is not on the online calculator or this chart, consult the factory.

To obtain the best performance from SOSS Invisible Hinges, it is recommended that the largest hinge model be used for the material thickness of the door.

Every door should be provided with at least one hinge for every 30 inches in height or portion thereof; however, more hinges may be required per chart below.

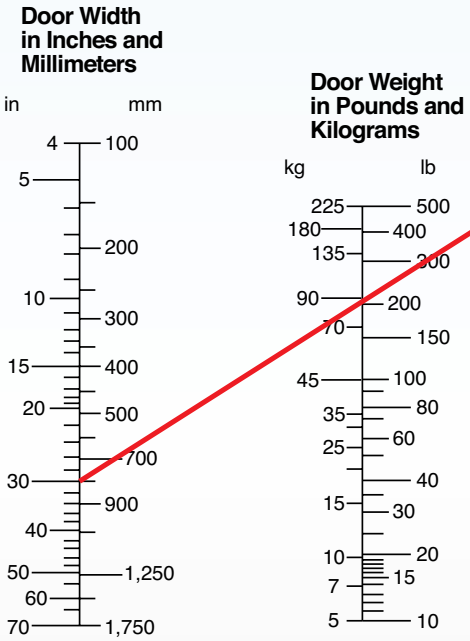
For example, a 90" door needs three hinges and a 91" door needs four.

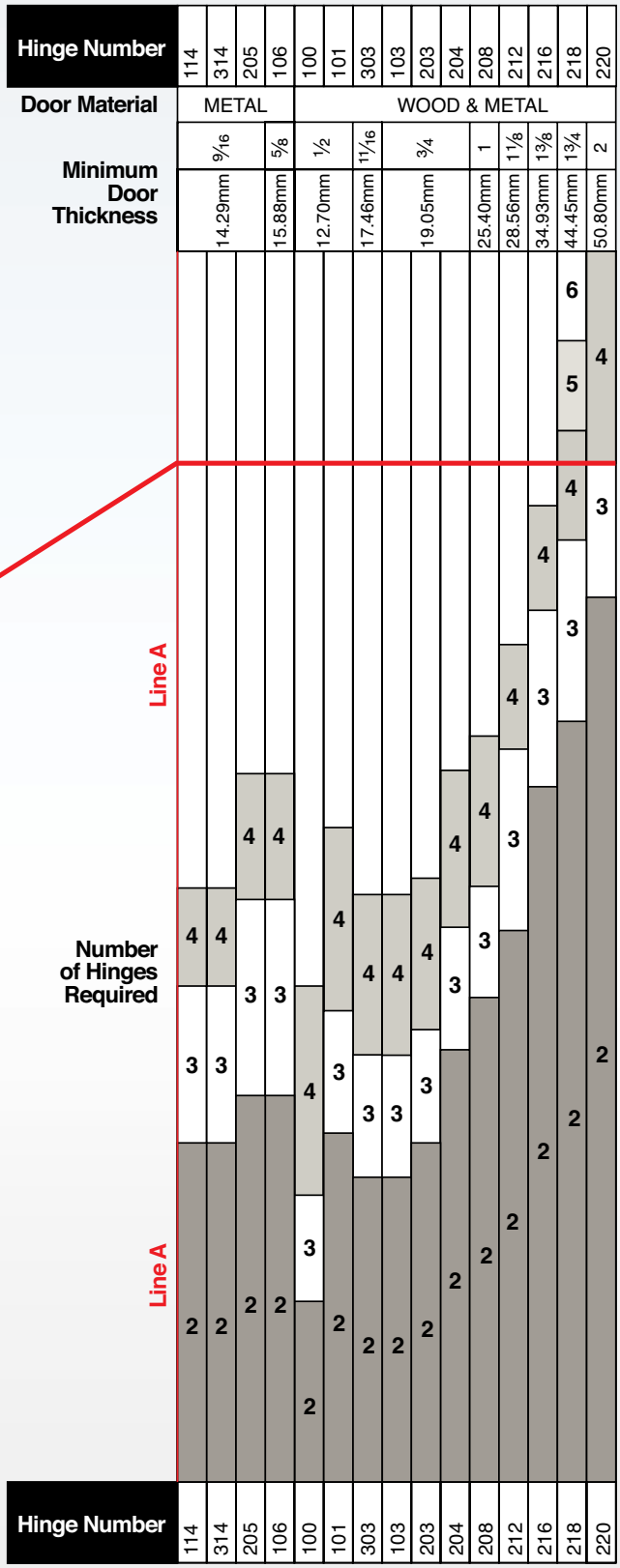
DIRECTIONS

After determining the weight and width of the door, draw a straight line through the door width and weight to line "A", as indicated in the example.

Continue with a horizontal line sideways from the point of intersection with line "A" until the door thickness is reached. Use the number of hinges and the model number indicated on this line.

To use this chart as a working guide, we suggest that you photocopy this page.





NOTE: For Fire-Rated Hinges, use formulas described on page 49.

EXAMPLE

A wood door 30" wide, 200 lbs., with a thickness of 1¾" will require four #218 SOSS Invisible Hinges. The red line shows how the sizing and selection were determined from the hinge sizing chart.

The hinge sizing chart above has been developed to assist you in determining the correct size and number of hinges for your installation.

NOTE: For doors that exceed size/weight on this chart, consider using our new Hercules hinges shown on page 42.

SOSS *around the world*

The White House ..... *Washington DC*
Buckingham Palace..... *London, England*
The Mira Hotel ..... *Hong Kong*
Marina Bay Sands Hotel..... *Singapore*
The MGM Grand Hotel ..... *Las Vegas, NV*
Petzel Art Studios..... *New York, NY*
Falling Water ..... *Mill Run, PA*
The Rosewood Georgia Hotel ..... *Vancouver, BC*
The Aria Hotel..... *Las Vegas, NV*
Pelican Hills Resort ..... *Newport Beach, CA*
The Presidential Palace ..... *Mexico City, Mexico*
Weston Riverfront Resort ..... *Avon, CO*
The Hilton Grand Vacation Club..... *Kokulani, Oahu*
The Hilton Waikolola Village Island... *Big Island of Hawaii*
The Kresge Foundation ..... *Detroit, MI*
Paradox Hotel..... *Vancouver, BC*
Fairmont Hotel..... *Makati City, Philippines*
Makati Diamond Residences ..... *Makati City, Philippines*
Mansions at Acqualina ..... *Sunny Isles Beach, Florida*
Private Homes & Businesses ..... *Worldwide*

SOSS Asia Pte. Ltd. in Singapore

SOSS®
Door Hardware

Allegion - Mechanical Accessories

7221 W 350N
Greenfield, IN 46140

Phone: 877-671-7011
Option 1 for Customer Service → Option 7 for Accessories → Option 2 for SOSS
Option 2 for Product/Technical Support → Option 7 for Accessories → Option 2 for SOSS

Email Customer Service: support@allegion.com
Email Product/Technical Support: accessories_techprodsupport@allegion.com

SOSS Asia Pte. Ltd.

#6 Third Chin Bee Road
Jurong, Singapore 618682

Phone: 656 261 3276

FAX: 656 261 5047

Email: sossasia@singnet.com.sg

© Allegion plc, 2024