



D&D HARDWARE INDUSTRIAL CO.,LTD



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D&D Hardware

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D&D HARDWARE INDUSTRIAL CO.,LTD



www.dndhardware.com



Architectural Hardware



EN 1906



EN 1303



EN 12209



EN 1125



EN 1935



EN 1154

www.dndhardware.com



ANSI Certificate of Grade 1 Door Hinge



ANSI Certificate of Grade 2 Door Hinge



ANSI Certificate of Grade 2 Door Hinge-5 Inch



UL Hinge-R38013 Certificate



CE Hinge Certificate



BHMA Hinge Certificate

Expected Frequency of Door Operation

Door	Expected Daily Cycles	Annual Cycles	
Commercial			
Commercial Store Entrance	5,000	1,500,000	High
Office Building Entrance	4,000	1,200,000	
Theatre Entrance	1,000	450,000	
School Entrance	1,250	225,000	
School Restroom Door	1,250	225,000	
Store or Bank Entrance	500	155,000	
Office Building Restroom Door	400	118,000	
			Medium
School Corridor Door	80	15,000	
Office Building Corridor Door	75	22,000	
Store Restroom Door	60	18,000	Low
Residential			
Entrance	40	15,000	
Restroom Door	25	9,000	
Corridor Door	10	3,600	
Closet Door	6	2,200	

NOTE: The bearing hinges can be used on all above categories other than residential. One Cycle = one complete opening and closing.

Selecting a Hinge

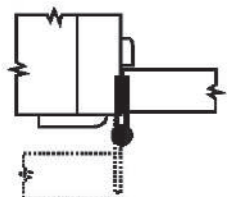
Determine Type of Hinge

- The door and frame material or conditions will dictate the type of hinge need for a particular opening.
- There are four basic types of hinges to choose from: **Full Mortise**, **Half Mortise**, **Full Surface**, **Half Surface**

Always think of the door condition when referring to half mortise or half surface hinges.

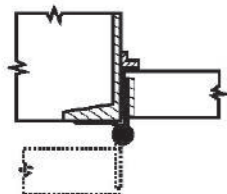
Round corners are available in 1/4" (6mm) (standard) or 5/8" (16mm) radius.

Full Mortise



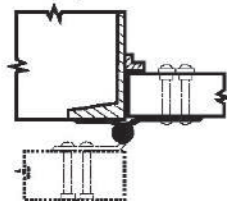
Both leaves are mortised, one leaf into the door and one leaf into the frame (wood door or hollow metal door with wood frame or hollow metal frame). Can be used on aluminum, hollow metal and wood doors and frames.

Half Mortise



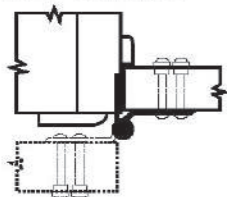
One leaf is mortise in the door and the other is surface applied to the frame. (commonly used with channel iron frame).

Full Surface



Both leaves are applied to the surface, one to the door and the other to the frame. (Most frequently used with kalamein wood doors or doors of tubular steel mounted to channel iron frame.)

Half Surface



One leaf is mortised into the frame and the other is surface applied to the face of the door (wood door with wood frame or metal core door with hollow metal frame).

Selecting the Hinge Weight and Type of bearing

Because of the large variety of door sizes and weights, hinges are placed into three groups.

Standard Weight - Ball Bearing-2BB

Openings with door closers and automatic operators should always have hinges with anti-friction bearings. Because they permit the door to move more freely.

Standard Weight - Plain Bearing

Plain bearing hinges are intended for low frequency use.

Heavy Weight - Ball Bearing-4BB

If the door is high-frequency used or is oversized in width.

Five Knuckle, standard weight anti-friction bearing hinges have two sets of bearings, while the heavy weight modes have four sets of bearings.

The weight of the door is based strictly on how much the material of the door weights. It also is advisable to include the approximate weight of additional hardware that will be installed on the door. (See the table below for approximate weights.)

Approximate Door Weights

Door Thickness	1 3/8"	1 3/4"	2"	2 1/4"	2 1/2"
Door Material	Pounds per Sq. Ft.				
Ash	4 1/2	5 1/4	6	6 3/4	7 1/2
Birch	3 3/4	4 1/2	5	5 3/4	6 1/4
Fir	3	4 1/2	4	4 1/2	5
Mahogany	4 1/2	5 1/4	6	6 3/4	7 1/2
Oak	6	7	8	9	10
White Pine	3	3 1/2	4	4 1/2	5
Hollow Core	2	2 1/2	-	-	-
Solid Core	3 1/2	4 1/2	5	5 1/2	-
Hollow Metal	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2

The above table represents relative weights of most common doors and is intended to be a guide or approximation. The next factor is the **frequency of use**. How often is the door opened and closed in a given time frame? This usually is figured on a daily basis. Some general guidelines for high, medium and low frequency are listed in next list.

Number of Times a Door Opens and Closes	Building Expected		Number of Times a Door Opens and Closes	Building Expected	
	Daily	Annually		Daily	Annually
High Frequency Openings			Medium Frequency Openings		
Large Department	5,000	1,825,000	School Corridor	100	36,500
Large Office Building Entrance	4,000	1,460,000	Office Building	80	29,200
School Entrance	1,250	225,000	Storage Room	50	18,250
School Toilet Room	1,250	225,000	Low Frequency Openings		
Office Stairwell	500	182,500	Residential Entrance	30	10,950
Office Toilet Room	400	118,000	Residential Interior	20	7,300

Hinge Height

Hinge height is determined by measuring the length of the hinge barrel excluding the tips. In describing a full mortise hinge, the height is always the first dimension listed. For example, 5"x4-1/2" indicates the hinge to have a height of 5".

The height is the only dimension used when describing half mortise, full surface and half surface hinges.

Each increase in height (e.g., 4", 4-1/2", 5") results in an increase in the thickness of the hinge.

Hinges should suit door widths and weight, below table lists the hinge sizes recommended for various size doors.

Recommended Hinge Size

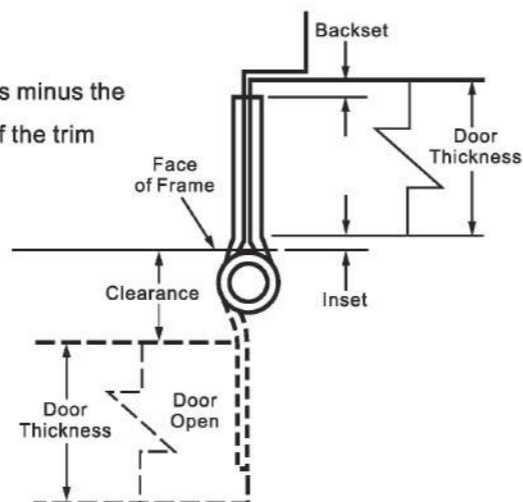
Thickness of Door	Width of Door	Height of Hinge	Hinge Thickness
1-3/8" (35mm) Door	To 32" (813mm)	3-1/2" (89mm)	-123"
1-3/8" (35mm) Door	32" to 36" (813 to 914mm)	4" (102mm)	-130"
1-3/4" (45mm) Door	To 36" (914mm)	4-1/2" (114mm)	-134"
1-3/4" (45mm) Door	36" to 48" (914 to 1219mm)	5" (127mm)	-134"
1-3/4" (45mm) Door	Over 48" (1219mm)	6" (152mm)	-160"
2", 2-1/4", 2-1/2" Door (51,57&84mm)	To 42" (1067mm)	5" (127mm) Heavy Weight	-190"
2", 2-1/4", 2-1/2" Door (51,57&84mm)	Over 42" (1067mm)	6" (152mm) Heavy Weight	-190"

Hinge Width

There are three dimensions to know in order to determine the minimum width of the hinge: door thickness, back-set, and clearance required.

Minimum Hinge Width = (door thickness- hinge back-set dimension) x 2 +trim thickness+ dimension.

The formula for determining minimum hinge width is the door thickness minus the dimension of the hinge back-set multiplied by two plus the thickness of the trim plus the inset dimension (if applicable).



Note: Hinge back-set for 1-3/8", 1-3/4" and 2-1/4" thick doors is 1/4". For doors more than 2-1/4" thick, the hinge back-set is 3/8". Confirm hinge back-set dimension with door manufacturer.

Door Thickness	Standard Backset	Max. Clearance Provided	Width of Hinge
1-3/8" (35mm)	1/4" (6.4mm)	1-1/4" (32mm) 1-3/4" (45mm)	3-1/2" (89mm) 4" (102mm)
1-3/4" (45mm)	1/4" (6.4mm)	1" (25mm) 1-1/2" (38mm) 2" (51mm) 3" (76mm)	4" (102mm) 4-1/2" (114mm) 5" (127mm) 6" (152mm)
2" (51mm)	1/4" (6.4mm)	1" (25mm) 1-1/2" (38mm) 2-1/2" (64mm)	4-1/2" (114mm) 5" (127mm) 6" (152mm)
2-1/4" (57mm)	1/4" (6.4mm)	1" (25mm) 2" (51mm)	5" (127mm) 6" (152mm)
2-1/2" (64mm)	3/8" (9.5mm)	3/4" (19mm) 1-3/4" (45mm)	5" (127mm) 6" (152mm)

Hinge Quality

In our industry, there is a rule used to determine the number of hinge needed per door: one hinge for every 30" of door height. Publication: #80 -standard for Fire Doors and Windows 6.4.3.1.

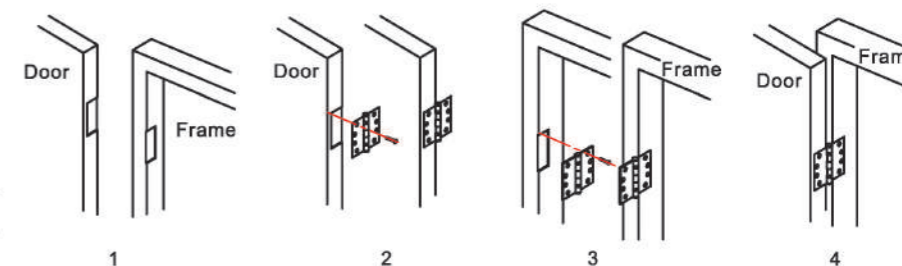
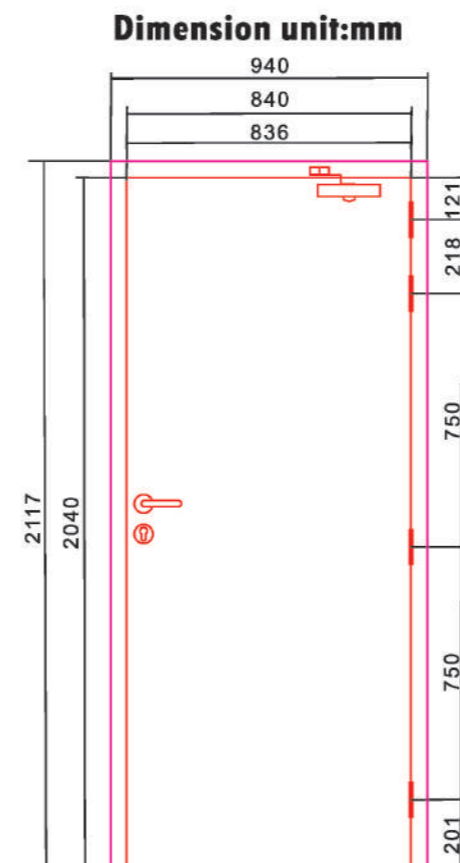
Doors up to 60" in height: 2 hinges.

Doors over to 60" and not over 90" in height: 3 hinges.

Doors 90" and not over 120" in height: 4 hinges.

You can also find this in the National Fire Protection Association (NFPA80)

Installation Instructions



- The size and weight of door leaf determines the number of hinges to be installed for each door. Original size: 2117*940mm
Expanded minimum size: 1588*470mm
(The door width is reduced to 50% at most, and the door height is reduced to 75% at most)
Expanded maximum size: (door width and height can be increased by up to 15%, but the overall area can only be increased to 20% at most)
Under the circumstance of maximum height:2435*981mm
Under the circumstance of maximum width:2209*1081mm
- Draw lines and marks on the corresponding positions of door leaf and door frame.
- Make preparation on door leaf and door frame. according to the thickness of hinge and the distance between each 2 hinges. Generally, the depth of preparation is thickness of hinge.
- Fix a hinge with two screws on the door frame.
- Match the door leaf to the door frame, each hinge on door leaf is fixed with two screws. Swing the door to check whether the clearance is appropriate. Tighten all screws after proper adjustment to finish installation.
- Suitable for steel fire door.

Maintenance Instructions



1. Use soft cloth to keep the hinge dry and clean in daily use.



2. Do not apply any corrosive or acid chemical liquid or pain to the hinge.



3. Apply machine lubricant into the hinge when any noise.



4. Do not hang any thing on the hinge.



5. Check the tightening of screws every 3 months.

Hinge Requirement in NFPA 80

6.4.3* Builders Hardware

6.4.3.1. Hinges and Pivots. Hinges, spring hinges, continuous hinges, and pivots shall be as specified in individual door and hardware manufacturer's publishing or table 6.4.3.1 .

Table 6.4.3.1 Builders Hardware: Hinges, Spring Hinges, and Pivots

Maximum Door Rating(hr)	Maximum Door Size		Minimum Door Size		Hinge Type				
	Width	Height	Height	Thickness					
	ft	m	in.	mm	in.	mm			
For 1 1/4 in. (44.5 mm) or Thicker Doors									
3 or less	4	1.22	10	3.05	4 1/2	114.3	0.180	4.57	Steel, mortise or surface
3 or less	4	1.22	8	2.44	4 1/2	114.3	0.134	3.40	Steel, mortise or surface
1 1/2 or less	3 1/2	0.96	8	2.44	6	152.4	0.225	5.72	Steel, olive knuckle or paumelle
3 or less	4	1.22	10	3.05	4	101.6	0.225	5.72	Steel pivots (including top, bottom, and intermediate)
1 1/2 or less	3	0.91	5	1.52	4	101.6	0.130	3.30	Steel, mortise or surface
1 1/2 or less	2	0.61	3	0.91	3	76.2	0.092	2.34	Steel, mortise or surface
3 or less	3	0.91	7	2.13	4 1/2	114.3	0.134	3.40	Steel, mortise or surface (labeled, self-closing, spring type)
3 or less	3	0.91	7	2.13	4	101.6	0.105	2.67	Steel, mortise or surface (labeled, self-closing, spring type)
For 1 3/8 in. (34.93 mm) Doors									
3 or less	3	0.91	7	2.13	3 1/2	88.9	0.123	3.12	Steel, mortise or surface
3 or less	2 3/4	0.81	7	2.13	3 1/2	88.9	0.105	2.67	Steel, mortise or surface (labeled, self-closing, spring type)

Note: Table 6.4.3.1 lists the most common applications of hinges, spring hinges, and pivots. Consult the door and hardware manufacturer's specific listings for applications not addressed in this table

- 6.4.3.1.1.1 Doors up to 60 in. (1.52 m) in height shall be provided with at least two hinges.
- 6.4.3.1.1.2 Doors in excess of 60 in. (1.52 m) shall have an additional hinge for each additional 30 in. (0.76 m) of door height or fraction thereof, or in accordance with the manufacturer's published listing.
- 6.4.3.1.1.3 The distance between hinges shall be permitted to exceed 30 in. (0.76 m).
- 6.4.3.1.1.4 Where spring hinges are used, at least two shall be provided.
- 6.4.3.1.2 All hinges or pivots, except spring hinges, shall be of the ball bearing type.
- 6.4.3.1.2.1 Hinges or pivots employing the antifriction bearing surfaces shall be permitted if they meet the requirements of ANSI/BHMAA 156.1 standard for Butts and Hinges.
- 6.4.3.1.3 Hinges 4 1/2 in. (114mm) high and 0.180 in. (4.57mm) thick shall be permitted for use on wide and heavy doors or doors that are subject to heavy use or unusual stress.
- 6.4.3.1.4 Fire doors with hinges of lighter weight that are not of the ball bearing type shall be permitted under the following conditions:
 - (1) They are part of a listed assembly.
 - (2) They meet the text requirement of ANSI/ BHMAA 156.1 standard for butts and hinges.
 - (3) They have been tested to a minimum of 350,000 cycle.



Hinge Technical Considerations

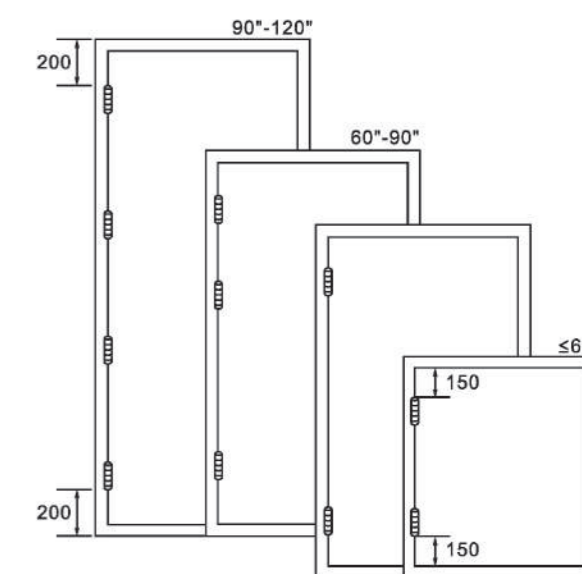
- Door weight
- Door size
- Location
- Intended use

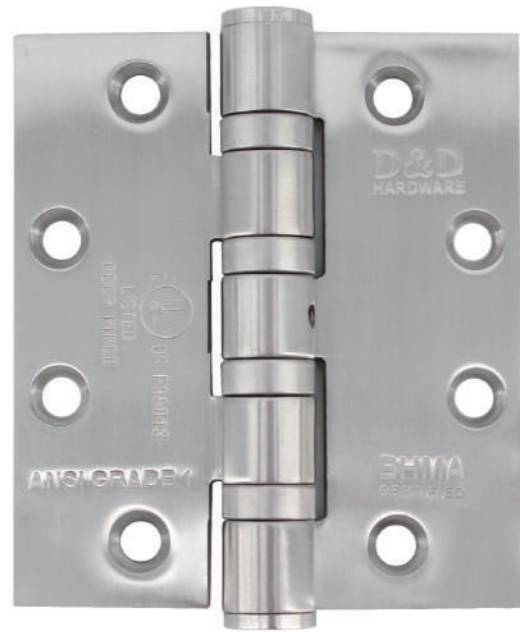
The appropriate specification and correct selection of hinges is crucial to their performance and depends on the following factors:

1. Is it a fire, smoke or emergency escape door?
2. How heavy is the door and what are the door dimension (height, width and thickness)?
3. What is the door's construction and are there any unusual features that could affect the hinges?
4. Where is the door situated e.g internal or external; is it near the coast or in a swimming pool?
5. What level of use/abuse will the door be subject to e.g office, hospital or school corridor?
6. What other items of hardware are to be fitted, that may be affect the hinge performance, typically door closer or door stops? E.g fit with door closer, will increase loading weight.
7. Any other unusual features involved e.g. door has radius top or the door is a bifold.

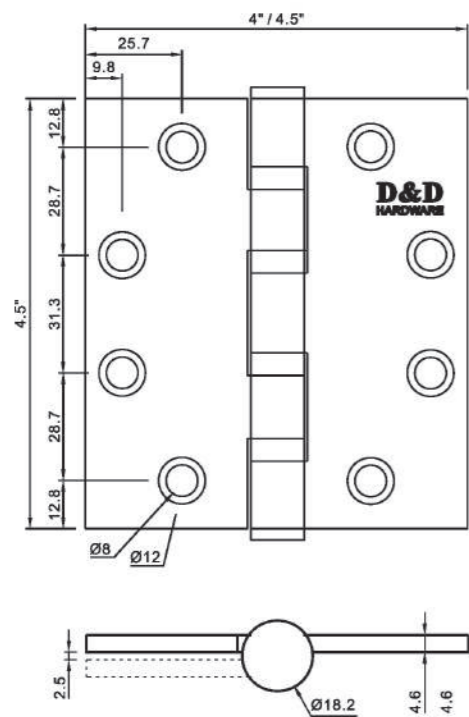
Recommendation: 3 Pieces Per Door.

1.2mm thickness Hinges: 10-15 kgs Per Door
1.5mm thickness Hinges: 15-25 kgs Per Door
2.0mm thickness Hinges: 25-40 kgs Per Door
2.5mm thickness Hinges: 40-60 kgs Per Door
3.0mm thickness Hinges: 60-80 kgs Per Door
3.4mm thickness Hinges: 80-120 kgs Per Door
4.0mm thickness Hinges: 120-150 kgs Per Door
4.6mm thickness Hinges: 150-200 kgs Per Door





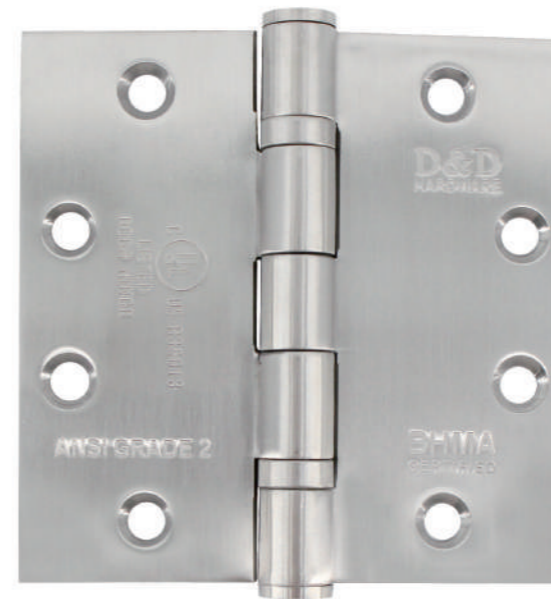
Heavy Duty Hinge (ANSI)
Four Ball Bearing
ANSI-4.5x4x4.6mm-4BB
ANSI-4.5x4.5x4.6mm-4BB



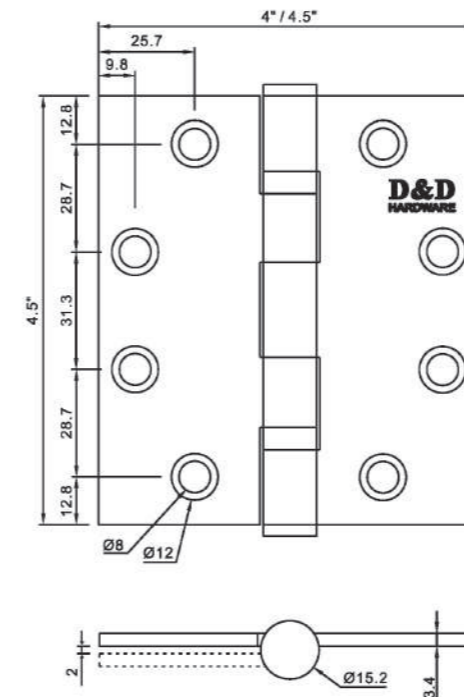
Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle four ball bearing with non-rising pins with button tip and plug.
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Hole in bottom tip for easy pin removal.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Heavy duty weight template hinge.
- Supplied with SS screws

Data and Features	DDSS001-ANSI-1	
Size in inch (Height x Width)	4.5 x 4	4.5 x 4.5
Thickness in mm	4.6	4.6
Heavy Duty Doors	•	•
Fire and smoke resistant doors	•	•
Non - handed	•	•
5 Knuckles	•	•
Ball Bearing (4BB)	•	•
ANSI & UL mark	•	•
Optional Pin Type		
Non-removable Pin (NRP)	•	•
Removable Pin (RP)	•	•
Security Stud (SS)	•	•



Standard Weight Hinge (ANSI)
Two Ball Bearing
ANSI-4.5x4x3.4mm-2BB
ANSI-4.5x4.5x3.4mm-2BB



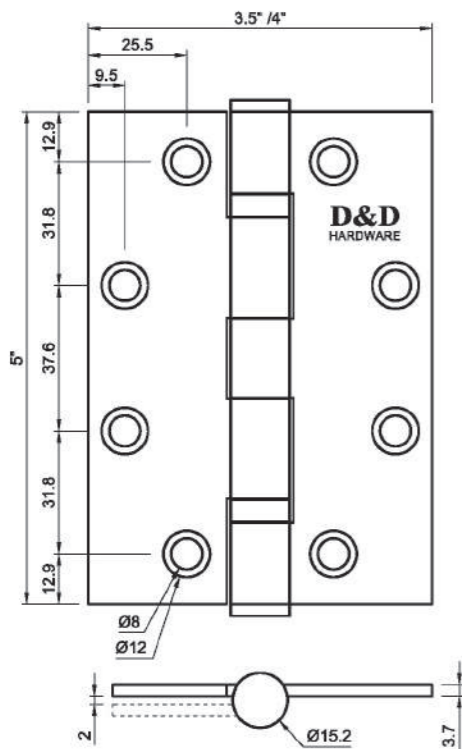
Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle two ball bearing with non-rising pins with button tip and plug.
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Hole in bottom tip for easy pin removal.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight template hinge.
- Supplied with SS screws

Data and Features	DDSS001-ANSI-2	
Size in inch (Height x Width)	4.5 x 4	4.5 x 4.5
Thickness in mm	3.4	3.4
Standard Doors	•	•
Fire and smoke resistant doors	•	•
Non - handed	•	•
5 Knuckles	•	•
Ball Bearing (2BB)	•	•
ANSI & UL mark	•	•
Optional Pin Type		
Non-removable Pin (NRP)	•	•
Removable Pin (RP)	•	•
Security Stud (SS)	•	•



**Full Mortise Hinge (ANSI)
Two Ball Bearing
5x3.5x3.7mm
5x4x3.7mm**



Test Verification of Conformity

Verification Number: 210602121-GZU-VOC001

On the basis of the tests undertaken, the compliance of the below product has been found to comply with the requirements of the referenced specification/standard at the time the tests were carried out. This verification is part of the test report and should be read in conjunction with it where applicable.

Applicant Name & Address: D&D HARDWARE INDUSTRIAL CO., LTD.
160 X 8th St, West Garden Rd, High Tech Zone, Jiangsu City, Guangdong, China

Product Description: Door Hinge

Rating & Principle Characteristics: Grade 2

Model/Type Reference: DD-16-543-3.7mm, DD-16-544-3.7mm, DD-16-543-3.7mm, DD-16-544-3.7mm

Brand Name(s): D&D HARDWARE

Specification/Standard: ANSI/BHMA A156.1: 2011 AMERICAN NATIONAL STANDARD FOR BUTTS AND HINGES

Verification Issuing Office Name & Address: Intertek Testing Services Shenzhen Ltd, Guangzhou Branch, Room 4101 & 4102, No. 45, Puzhuo Road, Huangpu District, Guangzhou, China

Date of Test: 2021-07-20/21 & 23

Test Report Number(s): J190602121GZU001

Nelson Zhu

Name: Nelson Zhu
Position: Technical Supervisor
Date: August 10, 2021



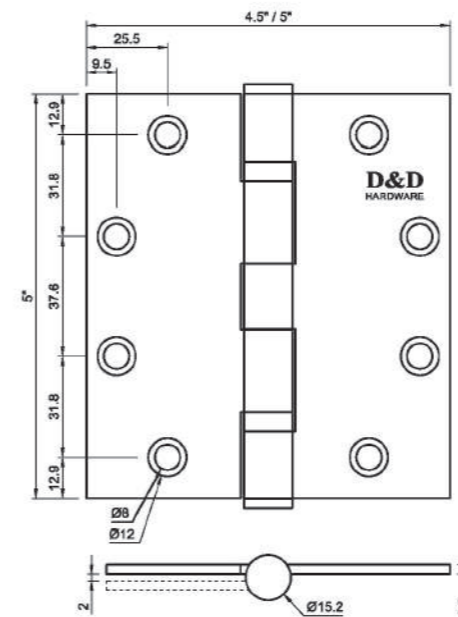
Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle two ball bearing with non-rising pins with button tip and plug.
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Hole in bottom tip for easy pin removal.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight template hinge.
- Supplied with SS screws

Data and Features	DDSS001-ANSI-2	
Size in inch (Height x Width)	5 x 3.5	5 x 4
Thickness in mm	3.7	3.7
Standard Doors	•	•
Fire and smoke resistant doors	•	•
Non - handed	•	•
5 Knuckles	•	•
Ball Bearing (2BB)	•	•
ANSI & UL mark	•	•
Optional Pin Type		
Non-removable Pin (NRP)	•	•
Removable Pin (RP)	•	•
Security Stud (SS)	•	•



**Full Mortise Hinge (ANSI)
Two Ball Bearing
5x4.5x3.7mm
5x5x3.7mm**



Test Verification of Conformity

Verification Number: 210602121-GZU-VOC001

On the basis of the tests undertaken, the compliance of the below product has been found to comply with the requirements of the referenced specification/standard at the time the tests were carried out. This verification is part of the test report and should be read in conjunction with it where applicable.

Applicant Name & Address: D&D HARDWARE INDUSTRIAL CO., LTD.
160 X 8th St, West Garden Rd, High Tech Zone, Jiangsu City, Guangdong, China

Product Description: Door Hinge

Rating & Principle Characteristics: Grade 2

Model/Type Reference: DD-16-543-3.7mm, DD-16-544-3.7mm, DD-16-543-3.7mm, DD-16-544-3.7mm

Brand Name(s): D&D HARDWARE

Specification/Standard: ANSI/BHMA A156.1: 2011 AMERICAN NATIONAL STANDARD FOR BUTTS AND HINGES

Verification Issuing Office Name & Address: Intertek Testing Services Shenzhen Ltd, Guangzhou Branch, Room 4101 & 4102, No. 45, Puzhuo Road, Huangpu District, Guangzhou, China

Date of Test: 2021-07-20/21 & 23

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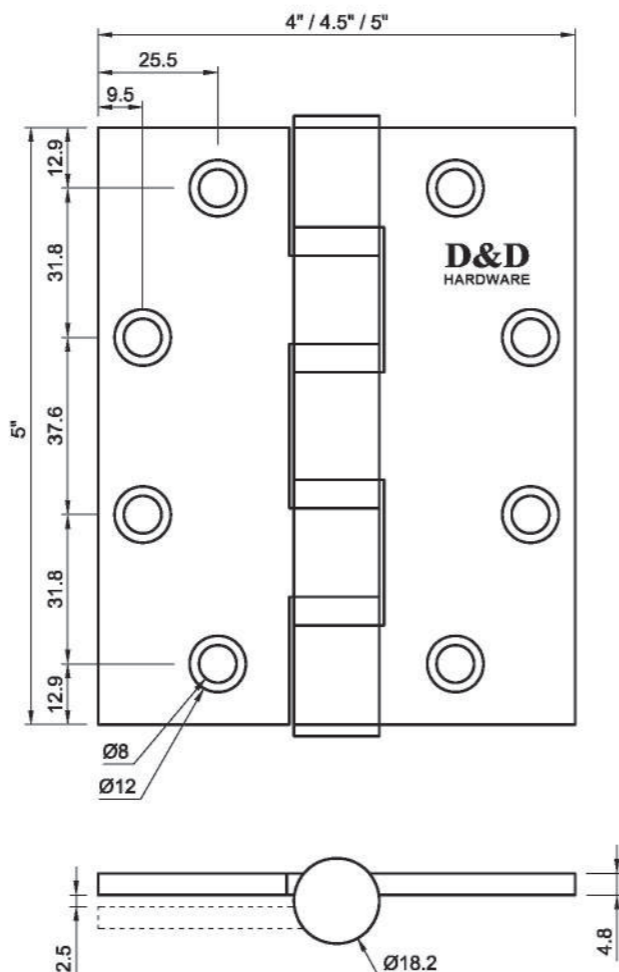
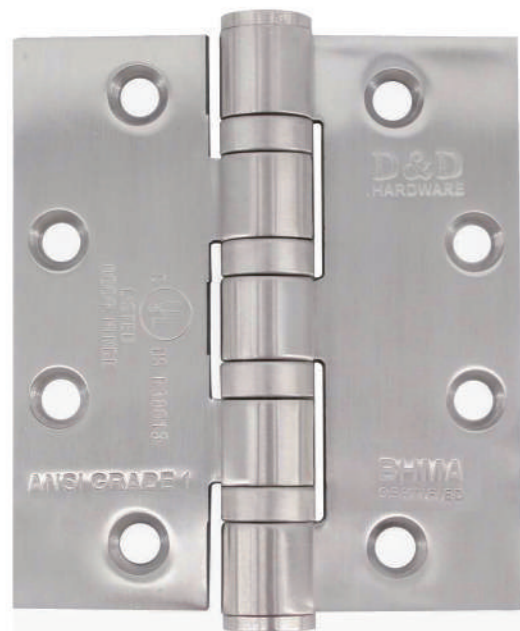
Name: Nelson Zhu
Position: Technical Supervisor
Date: August 10, 2021



Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle two ball bearing with non-rising pins with button tip and plug.
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Hole in bottom tip for easy pin removal.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight template hinge.
- Supplied with SS screws

Data and Features	DDSS001-ANSI-2	
Size in inch (Height x Width)	5 x 4.5	5 x 5
Thickness in mm	3.7	3.7
Standard Doors	•	•
Fire and smoke resistant doors	•	•
Non - handed	•	•
5 Knuckles	•	•
Ball Bearing (2BB)	•	•
ANSI & UL mark	•	•
Optional Pin Type		
Non-removable Pin (NRP)	•	•
Removable Pin (RP)	•	•
Security Stud (SS)	•	•



Full Mortise Hinge (ANSI)
Four Ball Bearing
 5x4x4.8mm
 5x5x4.8mm
 5x4.5x4.8mm

Data and Features	DDSS001-ANSI-1		
Size in inch (Height x Width)	5 x 4	5 x 4.5	5 x 5
Thickness in mm	4.8	4.8	4.8
Standard Doors	•	•	•
Fire and smoke resistant doors	•	•	•
Non - handed	•	•	•
5 Knuckles	•	•	•
Ball Bearing (4BB)	•	•	•
ANSI & UL mark	•	•	•
Optional Pin Type			
Non-removable Pin (NRP)	•	•	•
Removable Pin (RP)	•	•	•
Security Stud (SS)	•	•	•

Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle two ball bearing with non-rising pins with button tip and plug.
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Hole in bottom tip for easy pin removal.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight template hinge.
- Supplied with SS screws

ANSI/BHMA A156.1-2021

American National Standard for Butts and Hinges

ANSI/BHMA A156.1-2021 This Standard establishes requirements for butts and hinges. Cycle tests, lateral and vertical wear tests, friction tests, strength tests, finish tests, and material and dimensional requirements are included. For further information, consult the full standard, ANSI/BHMA A156.1 for Butts and Hinges.

BHMA has created this series of Hardware Highlights to provide useful, accessible information about builders hardware for anyone with an interest in devices that hang, control, secure, and trim the doors. BHMA is the trade association which represents almost all of the North American manufacturers of builders hardware. One of its main activities since 1983 has been the development and maintenance of ANSI-approved standards for 35 separate product categories.

Product Performance: Purchasers of hinges certified to A156.1 (<http://buildershardware.com/cpd>) can be assured products will perform to their expectations.

MATERIAL : The standard includes a table that lists the required steel gage and number of fasteners for each of the standardized heights. For example, a heavy duty five inch hinge shall be made from steel gage 0.190 + .005 in. and have four screw holes per mortised leaf.

DURABILITY: Building products are expected to last a long time, and builders hardware is no exception. Grade 1 hinges, for example, must pass a rigorous test through 2.5 million cycles of opening and closing on a door of a specified weight.

SAFETY & SECURITY: An additional duty of builders hardware is to be aesthetically attractive and stay that way. Resistance to corrosion is evaluated through a salt spray test to ASTM B117 providing confidence in the ongoing appearance of the architectural metals and coatings.

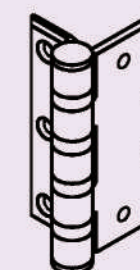
Building Codes: Builders hardware provides several attributes that are essential to building safety and performance, including egress and fire protection. BHMA hinges are designed to comply with all applicable requirements. For example, hinges which are acceptable for fire doors are described in NFPA 80.

Detention Hinges: A section of the Standard is dedicated to describing the requirements for Detention Hinges, including the test methods of ASTM F1758.

Sustainability: Locksets contribute to building sustainability through their verified durability, as well as material characteristics such as recycled content and recyclability. The reliable closing and sealing of openings can also contribute to energy conservation. BHMA has developed Product Category Rules, which will further define sustainability requirements and guide life cycle assessments and environmental performance declarations.

Type Numbers: Another significant contribution of standards for product specification is a numbering system for hinge types. Please consult A156.1 for the full list; an example is provided here: A2211 A5211 A8211

Half Mortise Hinge - Heavy Weight - Anti-friction Bearing Equipped with bearing unit(s), button tips, non-rising removable pins. Hinge shall be reversible. Highly polished and plated or phosphatized and primed. Corresponding sizes and gauges as listed in Note A, paragraph 3.8. Design option, see Note C, paragraph 3.8.





ANSI/BHMA A156.1 Butts and Hinges



American National Standard Institute (ANSI) ANSI 156.1

This Standard establishes requirements for butts and hinges. Cycle tests, lateral and vertical wear tests, friction tests, strength tests, finish tests, and material and dimensional requirements are included.

ANSI/BHMA A 156.1 Requirements		
Cycle-test	Grade 1: 2,500,000	Heavy Duty 4 Ball Bearings
	Grade 2: 1,500,000	Standard Duty 2 Ball Bearings
	Grade 3: 350,000	Plain Bearing
Fire Test	Pass UL 10 C 3 hours fire test	

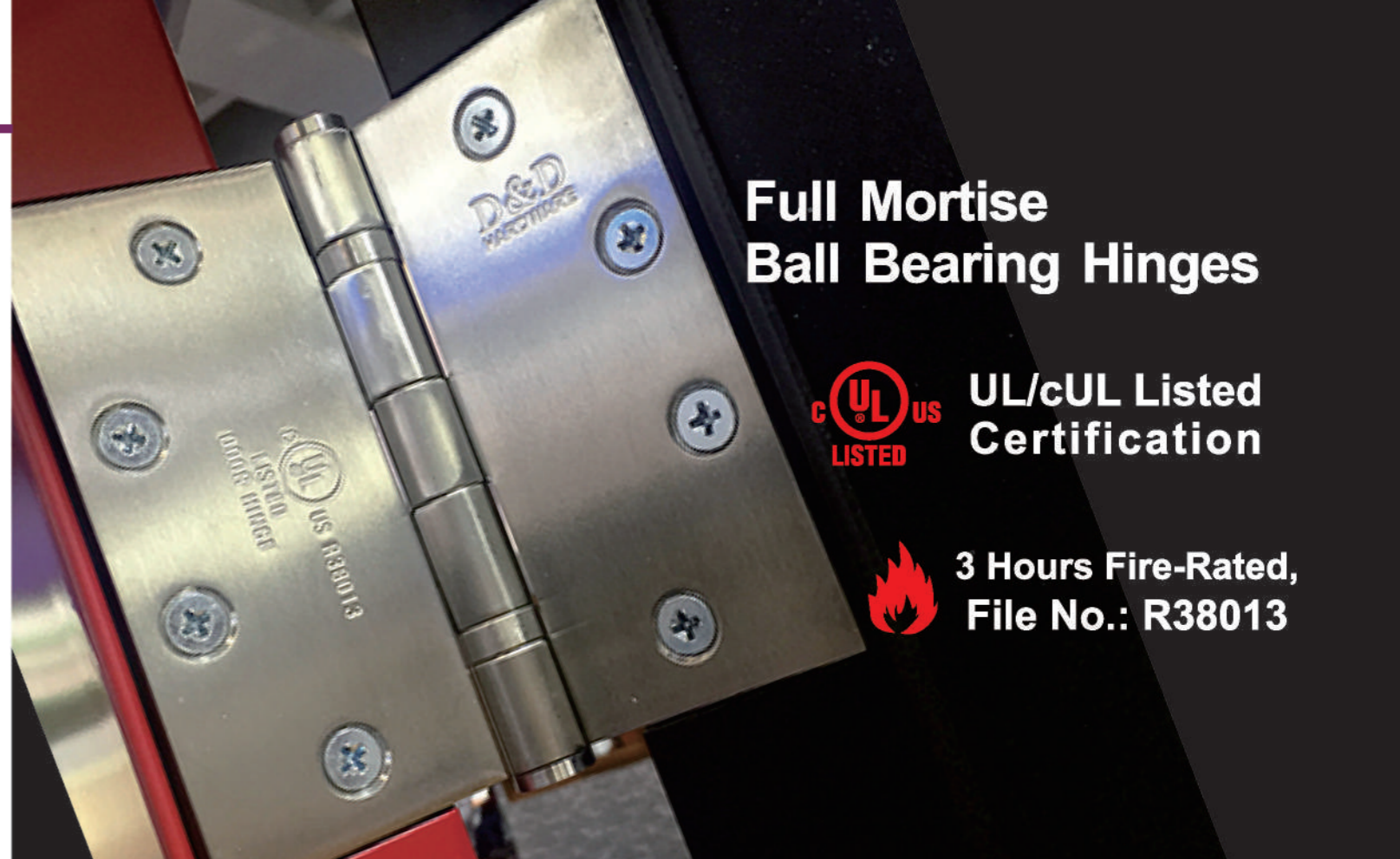
Tests described in this Standard are performed under laboratory conditions. In actual usage, results vary because of installation, maintenance and environmental conditions.

Detection The Size Of Hinge

Height Of Hinge (+0/-0.015in.(+0/-0.4mm))	Thickness Of Hinge (±.005in(±0.83mm))	Number Of Screws Per Hinge
"A" Heavy Duty		
4 1/2"(114mm)	0.180"(4.6mm)	8
5" (127mm)	0.190"(4.8mm)	8
6" (152mm)	0.203"(5.2mm)	10
8" (203mm)	0.203"(5.2mm)	14min.
"B" Stand Duty		
3 1/2"(89mm)	0.123"(3.1mm)	6
4" (102mm)	0.130"(3.3mm)	8
4 1/2"(114mm)	0.134"(3.4mm)	8
5" (127mm)	0.146"(3.7mm)	8
6" (152mm)	0.160"(4.1mm)	10

Detection The Weight Of The Door

Height Of Hinge	Grade 1 And Grade 2 Weight Of The Door	Grade 3 And Grade 4 Weight Of The Door
3" (76mm)	--	40lbs(18kg)
3 1/2"(89mm)	100lbs(45kg)	45lbs(20kg)
4" (102mm)	125lbs(57kg)	60lbs(27kg)
4 1/2"(114mm)	150lbs(68kg)	75lbs(34kg)
5" (127mm)	175lbs(79kg)	100lbs(45kg)
6" (152mm)	230lbs(104kg)	125lbs(57kg)
8" (203mm)	300lbs(135kg)	--



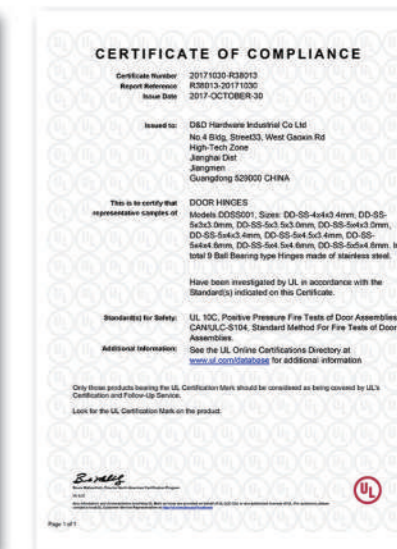
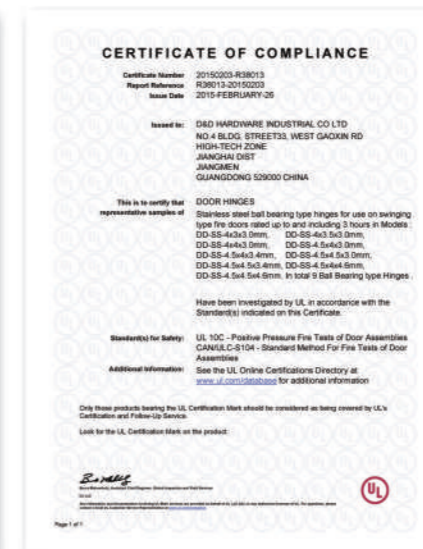
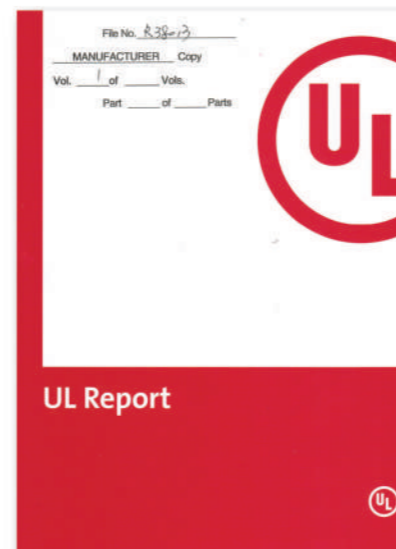
Full Mortise Ball Bearing Hinges



UL/cUL Listed Certification



3 Hours Fire-Rated, File No.: R38013



UL Certificate, In Total 21 Sizes As Following:

- | | | |
|-----------------|-----------------|-----------------|
| 4.0"x3.0"x3.0mm | 4.0"x3.5"x3.0mm | 4.0"x4.0"x3.0mm |
| 4.5"x4.0"x3.0mm | 4.0"x4.0"x3.4mm | 4.5"x4.0"x4.6mm |
| 4.5"x4.5"x3.0mm | 4.5"x4.0"x3.4mm | 4.5"x4.5"x4.6mm |
| 5.0"x3.0"x3.0mm | 4.5"x4.5"x3.4mm | 5.0"x4.0"x4.6mm |
| 5.0"x3.5"x3.0mm | 5.0"x4.0"x3.4mm | 5.0"x4.5"x4.6mm |
| 5.0"x4.0"x3.0mm | 5.0"x4.5"x3.4mm | 5.0"x5.0"x4.6mm |
| 5.0"x4.0"x4.8mm | 5.0"x4.5"x4.8mm | 5.0"x5.0"x4.8mm |

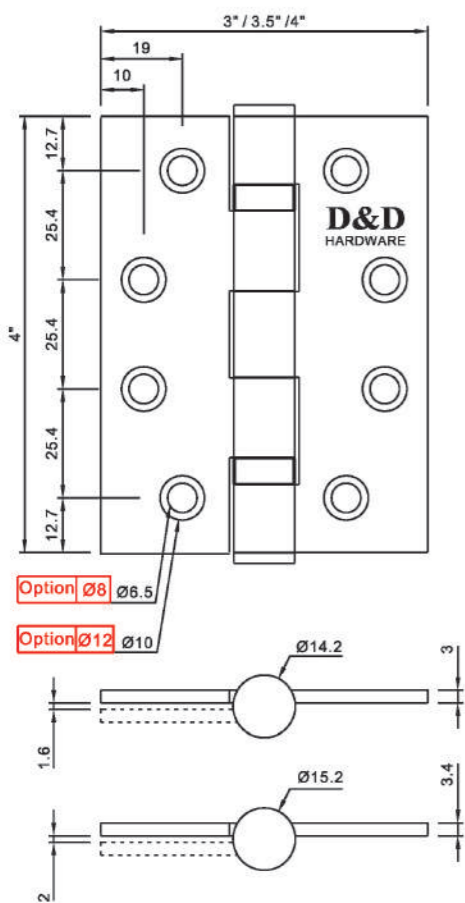
UL/cUL Listed Certification
 LISTED 3 Hours Fire-Rated, File No.: R38013

Full Mortise Hinge (Fire Rated)
 Two Ball Bearing

DDSS001-FR

Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle two ball bearing
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight template hinge.
- Supplied with SS screws



Art. No.	Height (inch)	Width (inch)	Thickness (mm)
DD-SS-4x3x3.0mm-2BB	4"	3"	3.0
DD-SS-4x3.5x3.0mm-2BB	4"	3.5"	3.0
DD-SS-4x4x3.0mm-2BB	4"	4"	3.0
DD-SS-4x4x3.4mm-2BB	4"	4"	3.4

Data and Features	DDSS001-FR			
	4 x 3	4 x 3.5	4 x 4	4 x 4
Size in inch (Height x Width)	4 x 3	4 x 3.5	4 x 4	4 x 4
Thickness in mm	3.0	3.0	3.0	3.4
Standard Doors	•	•	•	•
Fire and smoke resistant doors	•	•	•	•
Non - handed	•	•	•	•
5 Knuckles	•	•	•	•
Ball Bearing (2BB or 4BB)	•	•	•	•
UL mark for building products	•	•	•	•
Optional Pin Type				
Non-removable Pin (NRP)	•	•	•	•
Removable Pin (RP)	•	•	•	•
Security Stud (SS)	•	•	•	•



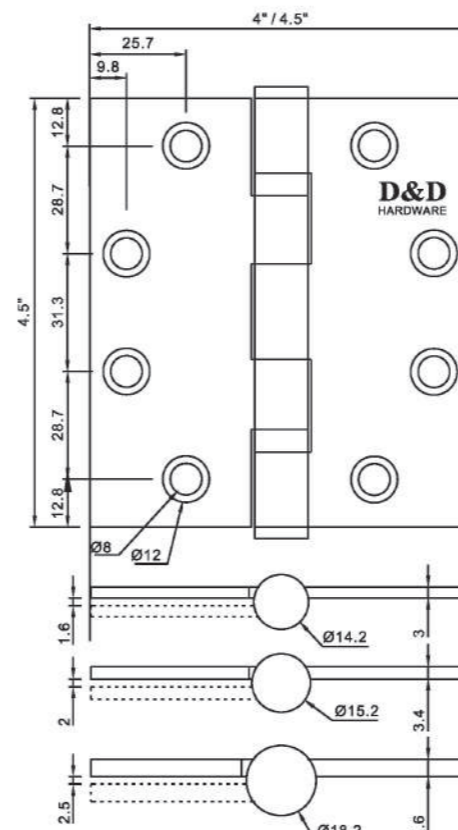
UL/cUL Listed Certification
 LISTED 3 Hours Fire-Rated, File No.: R38013

Full Mortise Hinge (Fire Rated)
 Two Ball Bearing

DDSS002-FR

Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle two ball bearing
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight template hinge.
- Supplied with SS screws



Art. No.	Height (inch)	Width (inch)	Thickness (mm)
DD-SS-4.5x4x3.0mm-2BB	4.5"	4"	3.0
DD-SS-4.5x4.5x3.0mm-2BB	4.5"	4.5"	3.0
DD-SS-4.5x4x3.4mm-2BB	4.5"	4"	3.4
DD-SS-4.5x4.5x3.4mm-2BB	4.5"	4.5"	3.4
DD-SS-4.5x4.6mm-2BB	4.5"	4"	4.6
DD-SS-4.5x4.5x4.6mm-2BB	4.5"	4.5"	4.6

Data and Features	DDSS002-FR					
	4.5 x 4	4.5 x 4.5	4.5 x 4	4.5 x 4.5	4.5 x 4	4.5 x 4.5
Size in inch (Height x Width)	4.5 x 4	4.5 x 4.5	4.5 x 4	4.5 x 4.5	4.5 x 4	4.5 x 4.5
Thickness in mm	3.0	3.0	3.4	3.4	4.6	4.6
Standard Doors	•	•	•	•	•	•
Fire and smoke resistant doors	•	•	•	•	•	•
Non - handed	•	•	•	•	•	•
5 Knuckles	•	•	•	•	•	•
Ball Bearing (2BB or 4BB)	•	•	•	•	•	•
UL mark for building products	•	•	•	•	•	•
Optional Pin Type						
Non-removable Pin (NRP)	•	•	•	•	•	•
Removable Pin (RP)	•	•	•	•	•	•
Security Stud (SS)	•	•	•	•	•	•



UL/cUL Listed Certification
 3 Hours Fire-Rated, File No.: R38013

Full Mortise Hinge (Fire Rated)
Four Ball Bearing

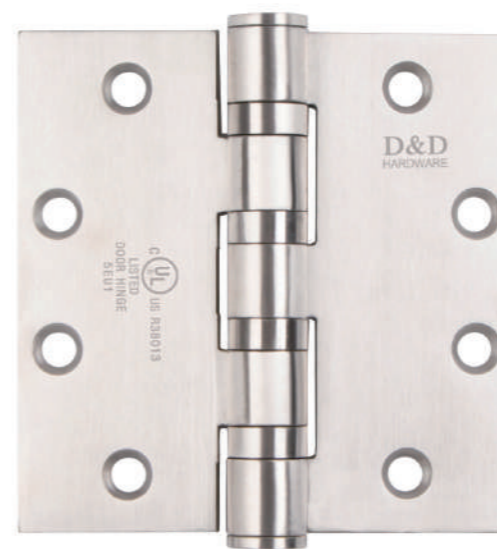
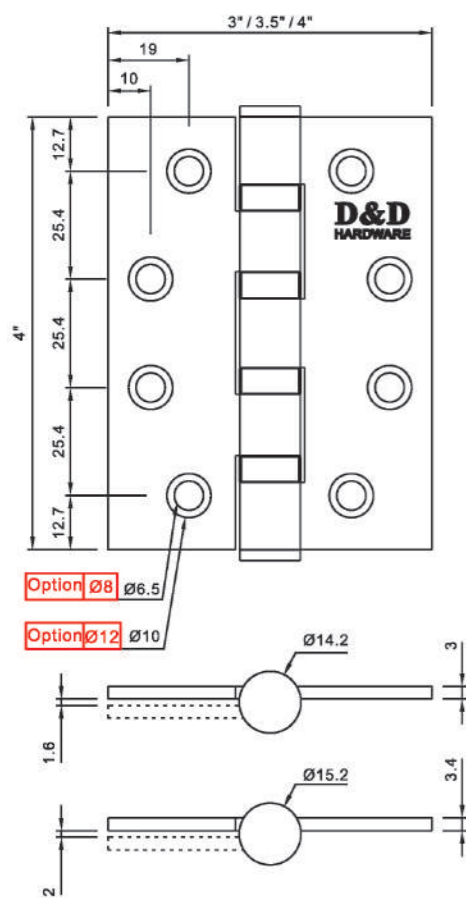
DDSS003-FR

Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle four ball bearing
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight template hinge.
- Supplied with SS screws

Art. No.	Height (inch)	Width (inch)	Thickness (mm)
DD-SS-4x3x3.0mm-4BB	4"	3"	3.0
DD-SS-4x3.5x3.0mm-4BB	4"	3.5"	3.0
DD-SS-4x4x3.0mm-4BB	4"	4"	3.0
DD-SS-4x4x3.4mm-4BB	4"	4"	3.4

Data and Features	DDSS003-FR			
Size in inch (Height x Width)	4 x 3	4 x 3.5	4 x 4	4 x 4
Thickness in mm	3.0	3.0	3.0	3.4
Standard Doors	•	•	•	•
Fire and smoke resistant doors	•	•	•	•
Non - handed	•	•	•	•
5 Knuckles	•	•	•	•
Ball Bearing (2BB or 4BB)	•	•	•	•
UL mark for building products	•	•	•	•
Optional Pin Type				
Non-removable Pin (NRP)	•	•	•	•
Removable Pin (RP)	•	•	•	•
Security Stud (SS)	•	•	•	•



UL/cUL Listed Certification
 3 Hours Fire-Rated, File No.: R38013

Full Mortise Hinge (Fire Rated)
Four Ball Bearing

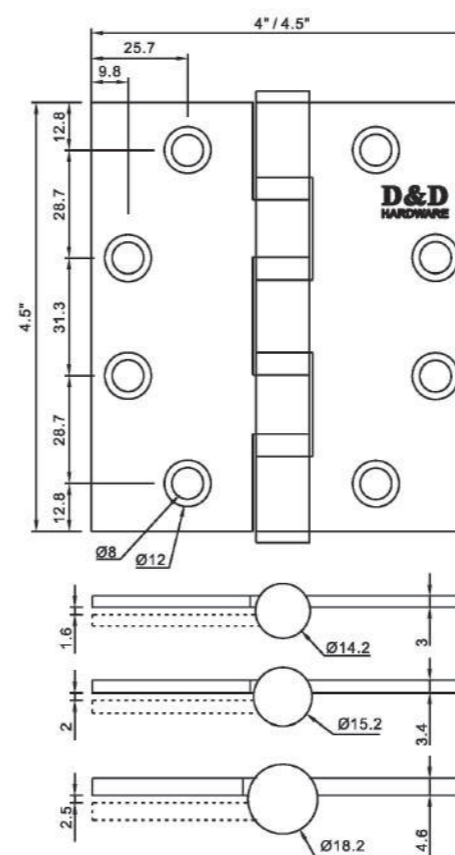
DDSS004-FR

Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle four ball bearing
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight template hinge.
- Supplied with SS screws

Art. No.	Height (inch)	Width (inch)	Thickness (mm)
DD-SS-4.5x4x3.0mm-4BB	4.5"	4"	3.0
DD-SS-4.5x4.5x3.0mm-4BB	4.5"	4.5"	3.0
DD-SS-4.5x4x3.4mm-4BB	4.5"	4"	3.4
DD-SS-4.5x4.5x3.4mm-4BB	4.5"	4.5"	3.4
DD-SS-4.5x4x4.6mm-4BB	4.5"	4"	4.6
DD-SS-4.5x4.5x4.6mm-4BB	4.5"	4.5"	4.6

Data and Features	DDSS004-FR					
Size in inch (Height x Width)	4.5 x 4	4.5 x 4.5	4.5 x 4	4.5 x 4.5	4.5 x 4	4.5 x 4.5
Thickness in mm	3.0	3.0	3.4	3.4	4.6	4.6
Standard Doors	•	•	•	•	•	•
Fire and smoke resistant doors	•	•	•	•	•	•
Non - handed	•	•	•	•	•	•
5 Knuckles	•	•	•	•	•	•
Ball Bearing (2BB or 4BB)	•	•	•	•	•	•
UL mark for building products	•	•	•	•	•	•
Optional Pin Type						
Non-removable Pin (NRP)	•	•	•	•	•	•
Removable Pin (RP)	•	•	•	•	•	•
Security Stud (SS)	•	•	•	•	•	•





UL/cUL Listed Certification
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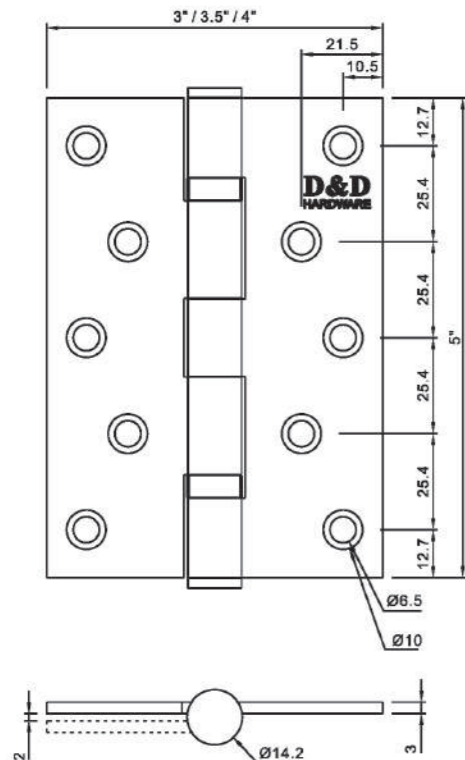
Full Mortise Hinge (Fire Rated)
Two Ball Bearing
DDSS005-FR

Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle two ball bearing
- All hinges have Zig-Zag symmetrical screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight hinge.
- Supplied with SS screws

Art. No.	Height (inch)	Width (inch)	Thickness (mm)
DD-SS-5x3x3.0mm-2BB	5"	3"	3.0
DD-SS-5x3.5x3.0mm-2BB	5"	3.5"	3.0
DD-SS-5x4x3.0mm-2BB	5"	4"	3.0

Data and Features	DDSS005-FR		
Size in inch (Height x Width)	5 x 3	5 x 3.5	5 x 4
Thickness in mm	3.0	3.0	3.0
Standard Doors	•	•	•
Fire and smoke resistant doors	•	•	•
Non - handed	•	•	•
5 Knuckles	•	•	•
Ball Bearing (2BB or 4BB)	•	•	•
UL mark for building products	•	•	•
Optional Pin Type			
Non-removable Pin (NRP)	•	•	•
Removable Pin (RP)			
Security Stud (SS)			



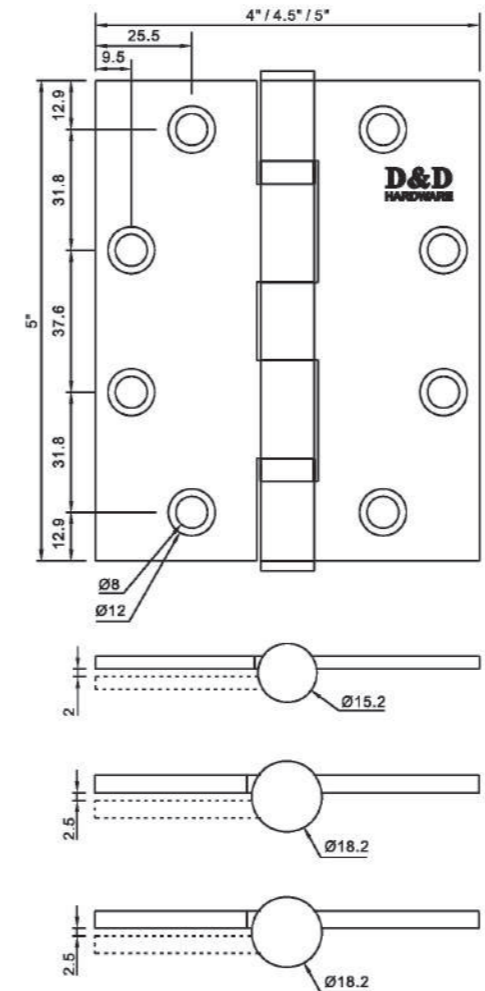
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 LISTED 3 Hours Fire-Rated, File No.: R38013

Heavy Duty Hinge (Fire Rated)
Two Ball Bearing
DDSS006-FR

Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle two ball bearing
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Heavy Duty template hinge.
- Supplied with SS screws

Art. No.	Height (inch)	Width (inch)	Thickness (mm)
DD-SS-5x4x3.4mm-2BB	5"	4"	3.4
DD-SS-5x4.5x3.4mm-2BB	5"	4.5"	3.4
DD-SS-5x4x4.6mm-2BB	5"	4"	4.6
DD-SS-5x4.5x4.6mm-2BB	5"	4.5"	4.6
DD-SS-5x5x4.6mm-2BB	5"	5"	4.6
DD-SS-5x4x4.8mm-2BB	5"	4"	4.8
DD-SS-5x4.5x4.8mm-2BB	5"	4.5"	4.8
DD-SS-5x5x4.8mm-2BB	5"	5"	4.8



Data and Features	DDSS008-FR							
Size in inch (Height x Width)	5 x 4	5 x 4.5	5 x 4.5	5 x 4.5	5 x 5	5 x 4	5 x 4.5	5 x 5
Thickness in mm	3.4	3.4	4.6	4.6	4.6	4.8	4.8	4.8
Standard Doors	•	•	•	•	•	•	•	•
Fire and smoke resistant doors	•	•	•	•	•	•	•	•
Non - handed	•	•	•	•	•	•	•	•
5 Knuckles	•	•	•	•	•	•	•	•
Ball Bearing (2BB or 4BB)	•	•	•	•	•	•	•	•
UL mark for building products	•	•	•	•	•	•	•	•
Optional Pin Type								
Non-removable Pin (NRP)	•	•	•	•	•	•	•	•
Removable Pin (RP)								
Security Stud (SS)								



UL/cUL Listed Certification
 LISTED 3 Hours Fire-Rated, File No.: R38013

**Full Mortise Hinge (Fire Rated)
 Four Ball Bearing**

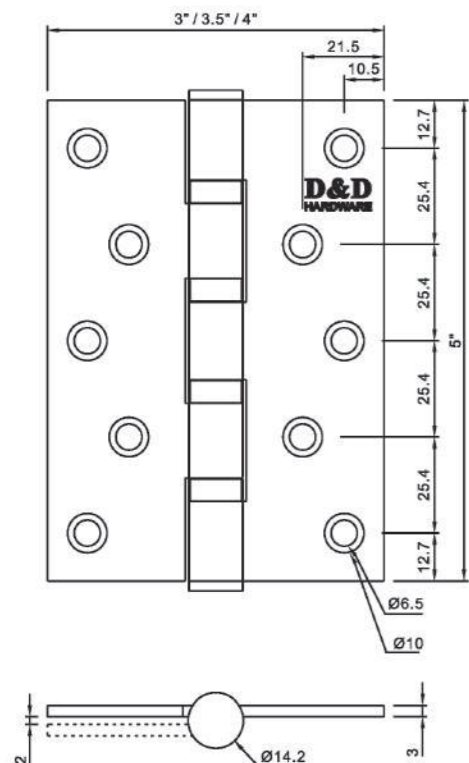
DDSS007-FR

Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle four ball bearing
- All hinges have Zig-Zag symmetrical screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Standard weight hinge.
- Supplied with SS screws

Art. No.	Height (inch)	Width (inch)	Thickness (mm)
DD-SS-5x3x3mm-4BB	5"	3"	3.0
DD-SS-5x3.5x3.0mm-4BB	5"	3.5"	3.0
DD-SS-5x4x3.0mm-4BB	5"	4"	3.0

Data and Features	DDSS007-FR		
Size in inch (Height x Width)	5 x 3	5 x 3.5	5 x 4
Thickness in mm	3.0	3.0	3.0
Standard Doors	•	•	•
Fire and smoke resistant doors	•	•	•
Non - handed	•	•	•
5 Knuckles	•	•	•
Ball Bearing (2BB or 4BB)	•	•	•
UL mark for building products	•	•	•
Optional Pin Type			
Non-removable Pin (NRP)	•	•	•
Removable Pin (RP)			
Security Stud (SS)			



UL/cUL Listed Certification
 LISTED 3 Hours Fire-Rated, File No.: R38013

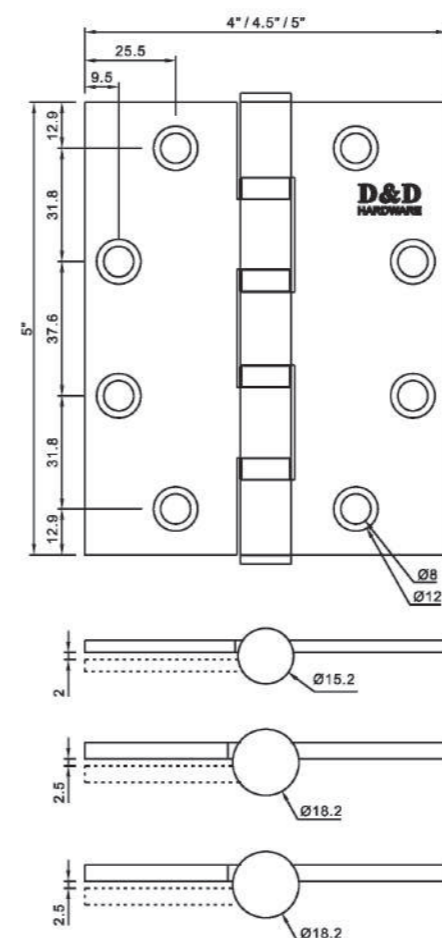
**Heavy Duty Hinge (Fire Rated)
 Four Ball Bearing**

DDSS008-FR

Specification Advice

- Hinges manufactured accordance with ANSI / BHMA A 156.1
- All hinges with five knuckle four ball bearing
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames.
- Pins in non-ferrous hinges are stainless steel.
- Dimension & tolerances confirm to ANSI-A 156.7
- Full Mortise, Square Corner, Heavy Duty template hinge.
- Supplied with SS screws

Art. No.	Height (inch)	Width (inch)	Thickness (mm)
DD-SS-5x4x3.4mm-4BB	5"	4"	3.4
DD-SS-5x4.5x3.4mm-4BB	5"	4.5"	3.4
DD-SS-5x4x4.6mm-4BB	5"	4"	4.6
DD-SS-5x4.5x4.6mm-4BB	5"	4.5"	4.6
DD-SS-5x5x4.6mm-4BB	5"	5"	4.6
DD-SS-5x4x4.8mm-4BB	5"	4"	4.8
DD-SS-5x4.5x4.8mm-4BB	5"	4.5"	4.8
DD-SS-5x5x4.8mm-4BB	5"	5"	4.8



Data and Features	DDSS008-FR							
Size in inch (Height x Width)	5 x 4	5 x 4.5	5 x 4	5 x 4.5	5 x 5	5 x 4	5 x 4.5	5 x 5
Thickness in mm	3.4	3.4	4.6	4.6	4.6	4.8	4.8	4.8
Standard Doors	•	•	•	•	•	•	•	•
Fire and smoke resistant doors	•	•	•	•	•	•	•	•
Non - handed	•	•	•	•	•	•	•	•
5 Knuckles	•	•	•	•	•	•	•	•
Ball Bearing (2BB or 4BB)	•	•	•	•	•	•	•	•
UL mark for building products	•	•	•	•	•	•	•	•
Optional Pin Type								
Non-removable Pin (NRP)	•	•	•	•	•	•	•	•
Removable Pin (RP)								
Security Stud (SS)								



EN1935(BS EN1935 Single Axis Hinges)

BS EN 1935 classifies door furniture by using an 8 digit coding system. A similar classification applies to all building hardware product standards so that complementary items of hardware can be specified to, for instance, a common level of corrosion resistance, category of use, etc. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

1. Category of Use

- Four grades are identified:
- Grade 1 : Light duty
- Grade 2 : Medium duty
- Grade 3 : Heavy duty
- Grade 4 : Severe duty

4

2. Durability

- Three grades of durability are identified for single-axsi hinges manufactured to this European standard:
- Grade 3 : 10 000 test cycles, for light duty hinges on windows only
- Grade 4 : 25 000 test cycles, for light duty hinges on windows and doors
- Grade 7 : 200 000 test cycles, for medium. heavy and severe duty hinges on door only

7

3. Test Door Mass

Eight door mass grades related to single-axis hinges are identified in this European standard as shown in below.

Test Door Mass Grade	Door Mass
0	10kg
1	20kg
2	40kg
3	60kg
4	80kg
5	100kg
6	120kg
7	160kg

6

4. Fire Resistance

- Two grades of fires resistance are identified:
- Grade 0 : Not approved for fire /smoke resistant door assemblies
- Grade 1 : Suitable for fire/smoke resistant door assemblies subject to satisfactory assessment of the contribution of the single-axis hinge to the fire resistance of the specified fire/smoke door assemblies. such assessment is beyond the scope of this European standard(see EN 1634-1).

1

5. Safety

Single-axis hinges are required to satisfy the essential requirement of safety in use. Therefore, only grades 1 is identified.

1

6. Corrosion Resistance

- Five grades of corrosion resistance are identified in accordance are identified in accordance with EN 1670:
- Grade 0: No defined corrosion resistance.
- Grade 1: Mild resistance
- Grade 2: Moderate Resistance
- Grade 3: High resistance
- Grade 4: Very High resistance

4

7. Security

- Two grades of security are identified for single-axis hinges:
- Grade 0:Not suitable for use on burglar-resistant door assemblies
- Grade 1:Suitable for applications requiring a degree of security. Annex C of this European standard details the hinge grade to use for the level of security required.

0

8. Hinge Grade

Fourteen grades are identified in this European standard and are detailed in table 2 below. The full classification is shown in the standard.

13

Hinge Grade	Usage	Test Cycles	Door Mass
1	Window	10 000	10kg
2	Window	10 000	20kg
3	Window/Door	25 000	20kg
4	Door	200 000	20kg
5	Window	10 000	40kg
6	Window/Door	25 000	40kg
7	Door	200 000	40kg
8	Window	10 000	60kg
9	Window/Door	25 000	60kg
10	Door	200 000	60kg
11	Door	200 000	80kg
12	Door	200 000	100kg
13	Door	200 000	120kg
14	Door	200 000	160kg

BS EN 1634 Part 1: 2000

Is the European Fire safety Standard for determining the fire resistance of door and shutter assemblies including hardware designed for installation within openings incorporated in vertical separating elements(door sets). Locks can be assessed to be suitable on:

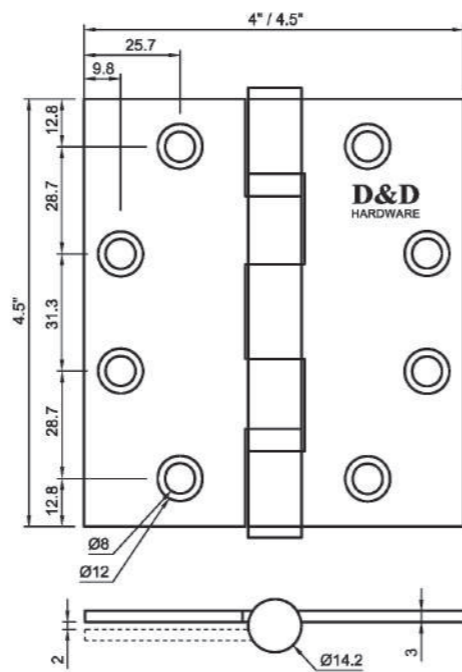
- FD30 (30 minute) Fire Doors
- FD60 (60 minute) Fire Doors

CE Marking

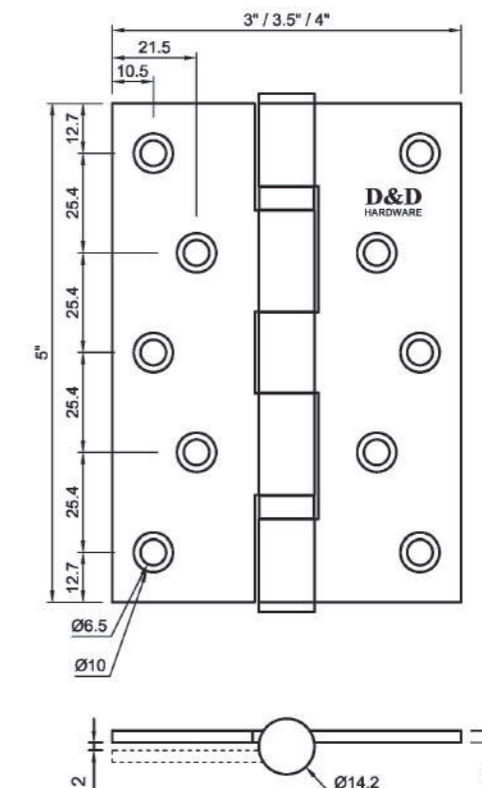
CE Marking is the easiest and safest route to providing compliance with the latest UK construction Product Directive for hardware used on fire, smoke and escape doors.

D&D CE mark Grade 13 Hinges Successfully tested for conformity to all the requirements of BS EN1935, 8 Classification: 476114013

CE Mortise Hinge Grade 13 DDSS001-CE



CE Mortise Hinge Grade 13 DDSS001-CE



Class: **4 7 6 1 1 4 0 1 3**

Art. No.	Height (inch)	Width (inch)	Thickness (mm)
CE-4.5x4x3.0mm-2BB	4.5"	4"	3.0
CE-4.5x4.5x3.0mm-2BB	4.5"	4.5"	3.0

Features

- Double ball bearing, five knuckle hinge
- Successfully type tested for conformity to all the requirements of BS EN1935/ EN 1634
- Supplied with SS Screws
- Load bearing capacity up to 120kg
- Available in square or radius corner
- Tested to over 200,000 cycles
- Suitable for fire/smoke resistant doors
- Finished with softened edges
- Pre-cut intumescent hinge pads available

Data and Features	DDSS001-CE	
Size in inch (Height x Width)	4.5 x 4	4.5 x 4.5
Thickness in mm	3.0	3.0
Standard Doors	•	•
Fire and smoke resistant doors	•	•
Non - handed	•	•
5 Knuckles	•	•
Ball Bearing (2BB)	•	•
CE mark for building products	•	•
Optional Pin Type		
Non-removable Pin (NRP)	•	•
Removable Pin (RP)	•	•
Security Stud (SS)	•	•



Class: **4 7 6 1 1 4 0 1 3**

Art. No.	Height (inch)	Width (inch)	Thickness (mm)
CE-5x3x3.0mm-2BB	5"	3"	3.0
CE-5x3.5x3.0mm-2BB	5"	3.5"	3.0
CE-5x4x3.0mm-2BB	5"	4"	3.0

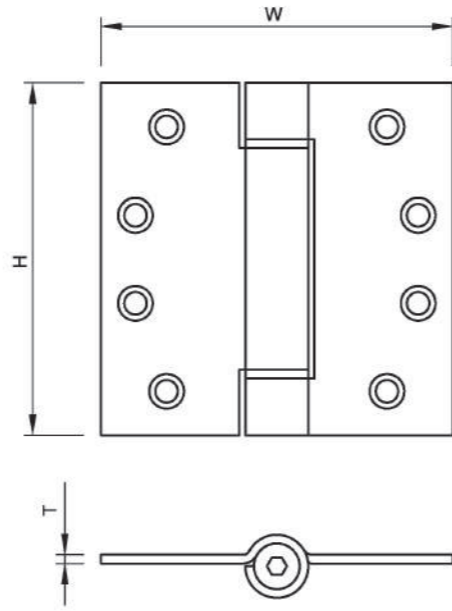
Features

- Double ball bearing, five knuckle hinge
- Successfully type tested for conformity to all the requirements of BS EN1935/ EN 1634
- Supplied with SS Screws
- Load bearing capacity up to 120kg
- Available in square or radius corner
- Tested to over 200,000 cycles
- Suitable for fire/smoke resistant doors
- Finished with softened edges
- Pre-cut intumescent hinge pads available

Data and Features	DDSS001-CE		
Size in inch (Height x Width)	5 x 3	5 x 3.5	5 x 4
Thickness in mm	3.0	3.0	3.0
Standard Doors	•	•	•
Fire and smoke resistant doors	•	•	•
Non - handed	•	•	•
5 Knuckles	•	•	•
Ball Bearing (2BB)	•	•	•
CE mark for building products	•	•	•
Optional Pin Type			
Non-removable Pin (NRP)	•	•	•
Removable Pin (RP)	•	•	•
Security Stud (SS)	•	•	•

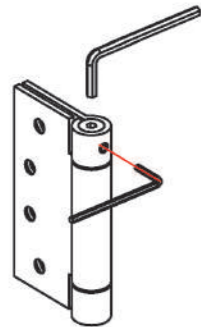


DDSS033



Stainless Steel Single Action Spring Hinge

- Open to 180° as long as the frame detail doesn't obstruct it.
- Single Acting, Square Corner Template
- Adjustable Spring Tension
- Self-closing
- Size: 3"/3.5"/4"/4.5"
- Mainly used in occasions that automatically close doors and protect privacy: toilets, commercial doors, etc.
- Hinge leaf with two knuckles is fixed to the frame.



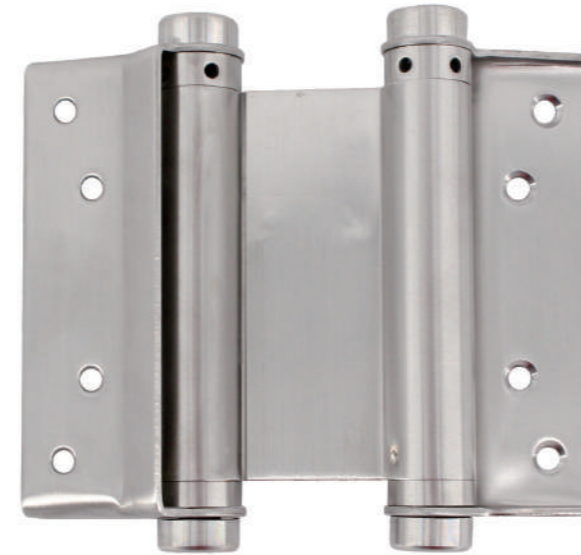
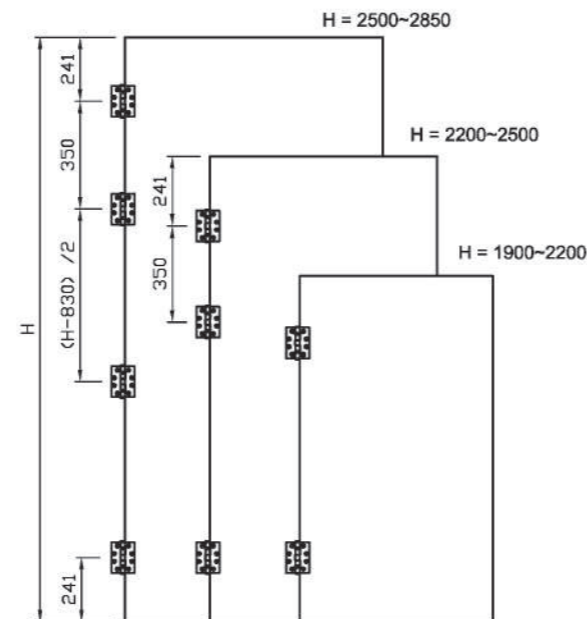
Fixing of adjusted spring force

Loosen:
Slacken safety lock screw on the side of the knuckle. Press down firmly and simultaneously turn the hexagon socket screw in the knuckle anti-clockwise. Repeat this action until the hinge is completely loosened. Then install the hinges.

Tighten:
Turn the hexagon socket screw in the knuckle clockwise and set spring force of all hinges equally as required. Re-tighten safety lock screw.

Recommendation: 3 Pieces per door

Dimension(Hx Wx T)	Door Weight/ 3 Pcs
3.0"x3.0"x3.0mm	≤ 28kg
3.5"x3.5"x3.0mm	≤ 35kg
4.0"x3.0"x3.0mm	≤ 40kg
4.0"x4.0"x3.0mm	≤ 40kg
4.5"x4.0"x3.0mm	≤ 50kg
4.5"x4.5"x3.0mm	≤ 50kg
4.5"x4.0"x3.4mm	≤ 60kg
4.5"x4.5"x3.4mm	≤ 60kg



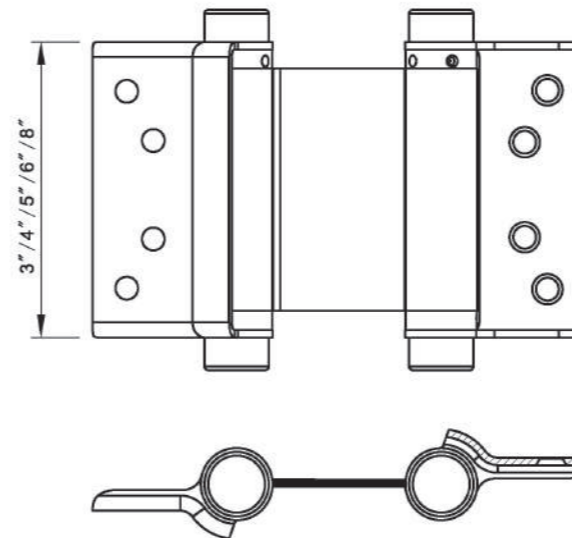
DDSS038

Stainless Steel Double Action Spring Hinge

- Open to 180° in each direction
- Double Acting
- Adjustable Spring Tension
- Self-closing
- Size: 3"/4"/5"/6"/8" x2.0 Thickness
- Mainly used in two-way free access and automatic door closing occasions. Such as: bar counter, cash register
- Hotel/ Motel Entrance door

Recommendation: 3 Pieces per door

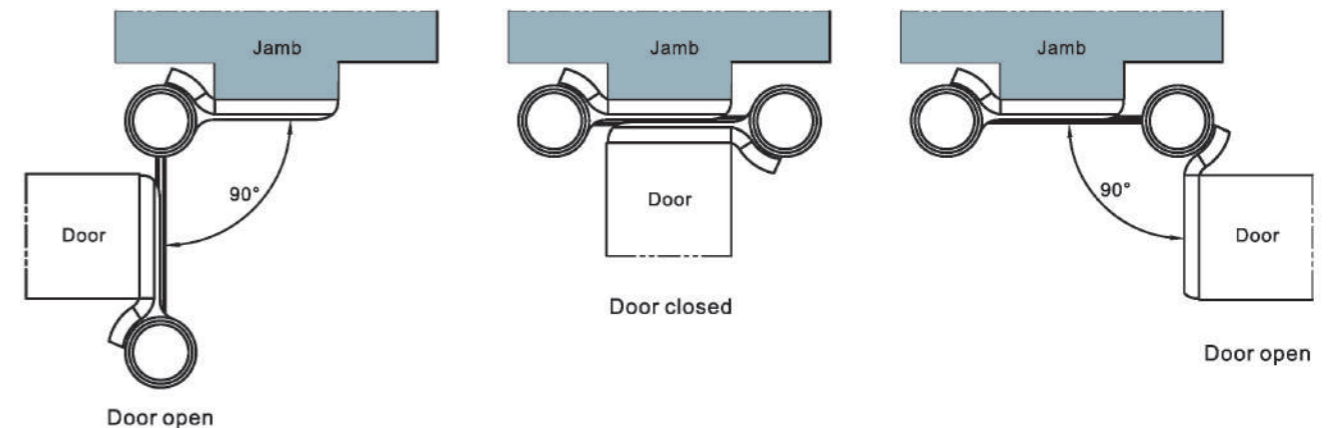
Size	Door Thickness	Door Weight/ 3 Pcs
3"	22-30	≤ 22kg
4"	25-38	≤ 27kg
5"	25-42	≤ 35kg
6"	30-42	≤ 40kg
8"	30-45	≤ 60kg

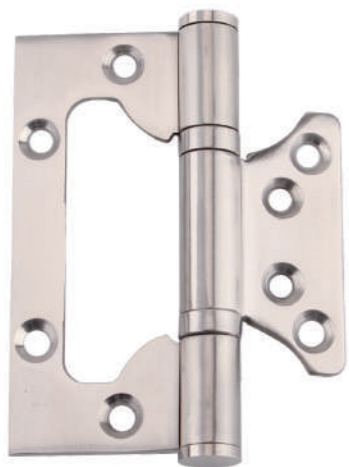


Double Acting Spring Hinges

- Permits doors to open in either direction and automatically return to closed position.
- Provides maximum protection for doors subject to normal abuse of lift trucks, due to resiliency of spring support and shock absorbing reaction of flexible mounting.
- Available in size to accommodate a wide range of door sizes and weights.
- Adjustable spring tension permits power and speed adjustment of each size spring hinge.
- No hanging strip is required on frame.

Top View of Double Acting Spring Hinge Operation

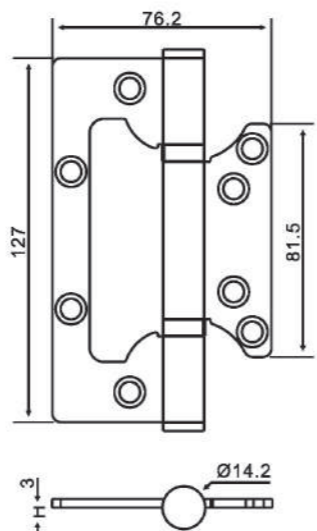




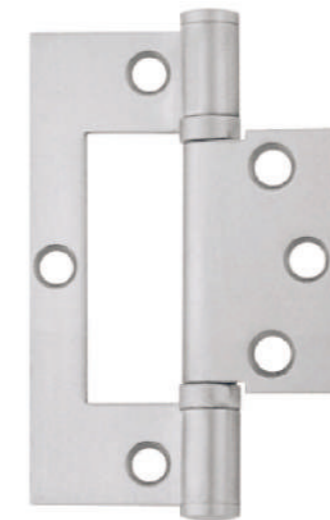
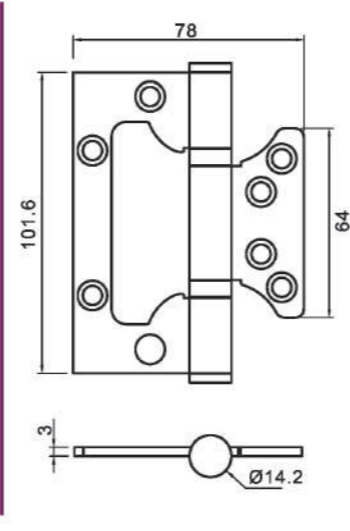
Dimension(H x W x T)
4.0" x 3.0" x 2.5mm
4.0" x 3.0" x 3.0mm
5.0" x 3.0" x 3.0mm

Stainless Steel Flush Hinge
DDSS026

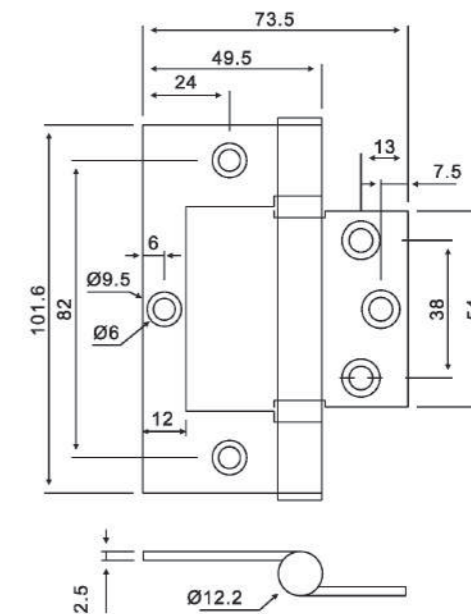
5 Inch



4 Inch



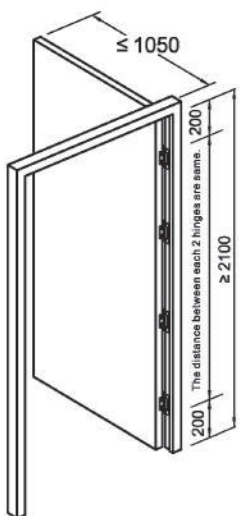
DDSS027



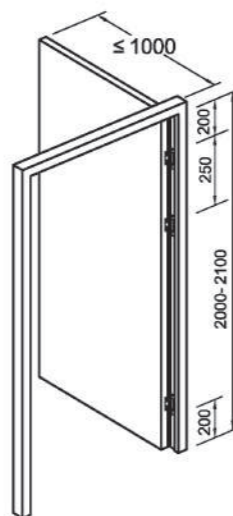
Stainless Steel Flush Hinge

Dimension(H x W x T)
101.6 x 73.5 x 2.5mm
100 x 75 x 2.5mm

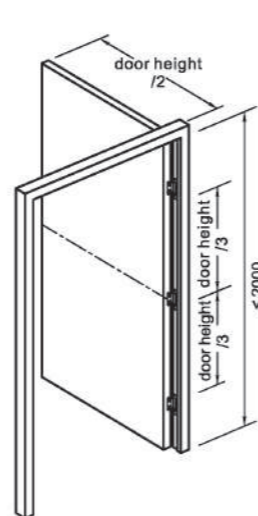
Load bearing reference



Install 4pcs if door height ≥ 2100mm
Max door width ≤ 1050mm

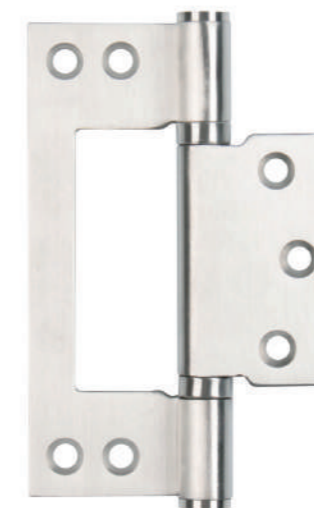


Install 3pcs if door height between 2000 - 2100mm
Max door width ≤ 1000mm

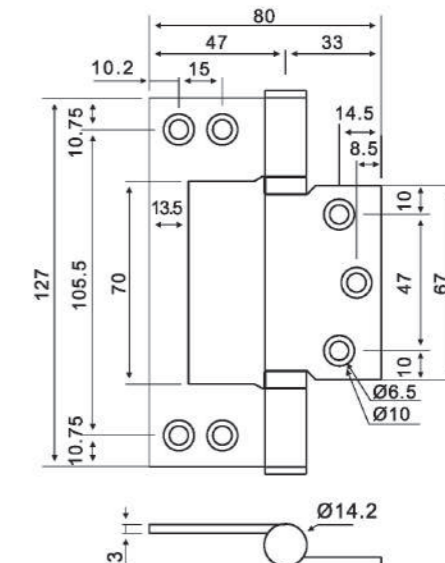


Install 3pcs if door height ≤ 2000mm
Max door width ≤ half of door height

Size	Install 4pcs if door height ≥ 2100mm Max door width ≤ 1050mm	Install 3pcs if door height between 2000 - 2100mm Max door width ≤ 1000mm	Install 3pcs if door height ≤ 2000mm Max door width ≤ half of door height
4.0" x 3.0" x 2.5mm	With door closers ≤ 42kg Without door closers ≤ 50kg	With door closers ≤ 34kg Without door closers ≤ 40kg	With door closers ≤ 30kg Without door closers ≤ 35kg
4.0" x 3.0" x 3.0mm	With door closers ≤ 50kg Without door closers ≤ 55kg	With door closers ≤ 40kg Without door closers ≤ 46kg	With door closers ≤ 35kg Without door closers ≤ 40kg
5.0" x 3.0" x 3.0mm	With door closers ≤ 60kg Without door closers ≤ 72kg	With door closers ≤ 50kg Without door closers ≤ 60kg	With door closers ≤ 40kg Without door closers ≤ 48kg

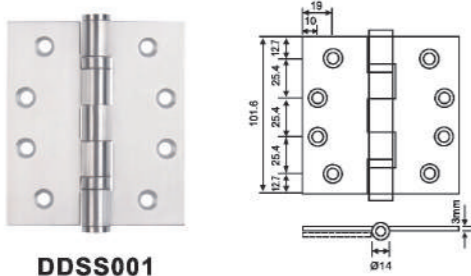


DDSS027-B



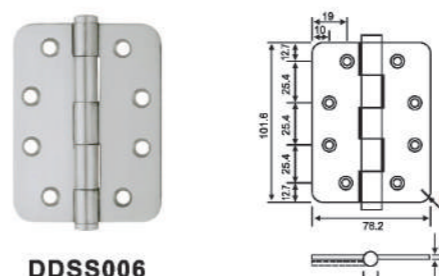
Stainless Steel Flush Hinge

Dimension(H x W x T)
127 x 80 x 3.0mm



Stainless Steel 2 Ball Bearing Hinge

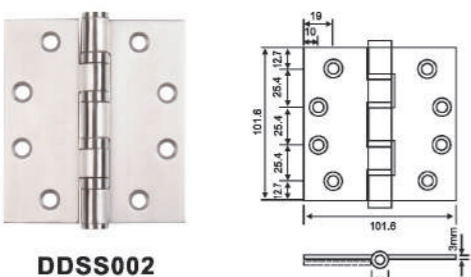
Dimension(H x W x T)	Dimension(H x W x T)	Dimension(H x W x T)
3.0" x 2.0" x 2.0mm	4.0" x 3.0" x 3.0mm	4.5" x 4.5" x 3.5mm
3.0" x 2.5" x 2.0mm	4.0" x 3.5" x 3.0mm	5.0" x 5.0" x 3.5mm
3.0" x 3.0" x 2.0mm	4.5" x 4.5" x 3.0mm	4.0" x 3.0" x 4.0mm
4.0" x 3.0" x 2.0mm	5.0" x 3.0" x 3.0mm	5.0" x 5.0" x 4.0mm
4.0" x 4.0" x 2.0mm	5.0" x 3.5" x 3.0mm	6.0" x 4.0" x 4.0mm
3.5" x 3.0" x 2.5mm	5.0" x 4.0" x 3.0mm	4.0" x 4.0" x 4.5mm
3.5" x 3.5" x 2.5mm	5.0" x 5.0" x 3.0mm	4.5" x 4.0" x 4.5mm
4.0" x 3.5" x 2.5mm	6.0" x 4.0" x 3.0mm	4.5" x 4.5" x 4.5mm
4.0" x 4.0" x 2.5mm	6.0" x 5.0" x 3.0mm	5.0" x 4.0" x 4.5mm
5.0" x 3.0" x 2.5mm	4.5" x 4.0" x 3.5mm	5.0" x 4.5" x 4.5mm



Stainless Steel Plain Joint Round Corner Hinge

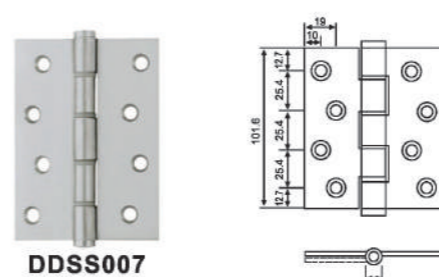
Dimension(H x W x T)	Dimension(H x W x T)
4.0" x 3.0" x 2.0mm	3.5" x 3.5" x 3.0mm
4.0" x 4.0" x 2.0mm	4.0" x 3.0" x 3.0mm
3.5" x 3.5" x 2.5mm	4.0" x 4.0" x 3.0mm
4.0" x 3.0" x 2.5mm	4.5" x 4.5" x 3.0mm
4.0" x 4.0" x 2.5mm	5.0" x 3.0" x 3.0mm
5.0" x 3.0" x 2.5mm	5.0" x 3.5" x 3.0mm
5.0" x 3.5" x 2.5mm	5.0" x 4.0" x 3.0mm

R=1/4", 3/8"



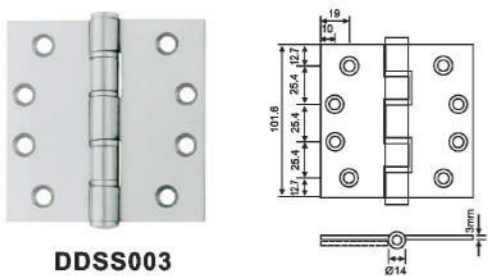
Stainless Steel 4 Ball Bearing Hinge

Dimension(H x W x T)	Dimension(H x W x T)	Dimension(H x W x T)
4.0" x 3.0" x 2.0mm	5.0" x 3.0" x 3.0mm	4.0" x 3.0" x 4.0mm
4.0" x 4.0" x 2.0mm	5.0" x 3.5" x 3.0mm	5.0" x 5.0" x 4.0mm
4.0" x 3.5" x 2.5mm	5.0" x 4.0" x 3.0mm	6.0" x 4.0" x 4.0mm
4.0" x 4.0" x 2.5mm	5.0" x 5.0" x 3.0mm	4.0" x 4.0" x 4.5mm
5.0" x 3.0" x 2.5mm	6.0" x 4.0" x 3.0mm	4.5" x 4.0" x 4.5mm
4.0" x 3.0" x 3.0mm	4.5" x 4.0" x 3.5mm	4.5" x 4.5" x 4.5mm
4.0" x 3.5" x 3.0mm	4.5" x 4.5" x 3.5mm	5.0" x 4.0" x 4.5mm
4.5" x 4.5" x 3.0mm	5.0" x 5.0" x 3.5mm	5.0" x 4.5" x 4.5mm



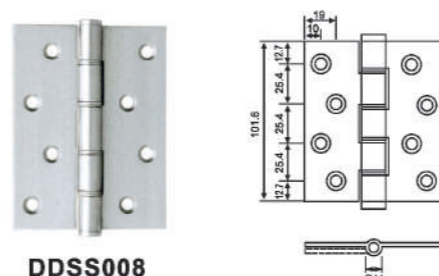
Stainless Steel Nylon Washer Hinge

Dimension(H x W x T)	Dimension(H x W x T)
4.0" x 3.0" x 2.0mm	5.0" x 3.0" x 2.5mm
4.0" x 4.0" x 2.0mm	5.0" x 3.5" x 2.5mm
3.5" x 3.5" x 2.5mm	3.5" x 3.5" x 3.0mm
4.0" x 3.0" x 2.5mm	4.0" x 3.0" x 3.0mm
4.0" x 4.0" x 2.5mm	4.0" x 4.0" x 3.0mm



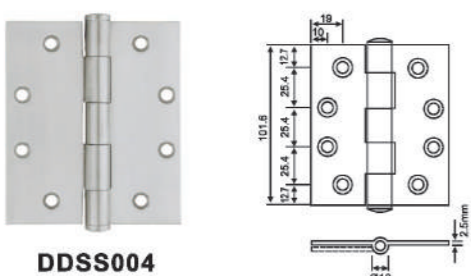
Stainless Steel Single Washer Hinge

Dimension(H x W x T)	Dimension(H x W x T)
4.0" x 3.0" x 2.0mm	3.5" x 3.5" x 3.0mm
4.0" x 4.0" x 2.0mm	4.0" x 3.0" x 3.0mm
3.5" x 3.5" x 2.5mm	4.0" x 4.0" x 3.0mm
4.0" x 3.0" x 2.5mm	4.5" x 4.5" x 3.0mm
4.0" x 4.5" x 2.5mm	5.0" x 3.0" x 3.0mm
5.0" x 3.0" x 2.5mm	5.0" x 3.5" x 3.0mm
5.0" x 3.5" x 2.5mm	5.0" x 4.0" x 3.0mm



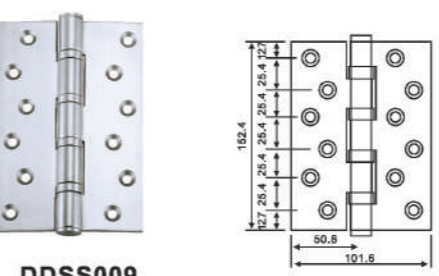
Stainless Steel Double Washer Hinge

Dimension(H x W x T)
4.0" x 3.0" x 2.0mm
4.0" x 4.0" x 2.0mm
4.0" x 3.0" x 2.5mm
4.0" x 4.0" x 2.5mm



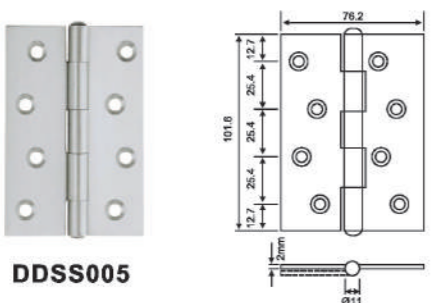
Stainless Steel Plain Joint Hinge

Dimension(H x W x T)	Dimension(H x W x T)	Dimension(H x W x T)
4.0" x 3.0" x 2.0mm	4.5" x 4.0" x 3.0mm	5.0" x 5.0" x 3.5mm
4.0" x 4.0" x 2.0mm	5.0" x 3.0" x 3.0mm	6.0" x 4.0" x 3.5mm
3.5" x 3.5" x 2.5mm	5.0" x 3.5" x 3.0mm	6.0" x 5.0" x 3.5mm
4.0" x 3.0" x 2.5mm	5.0" x 4.0" x 3.0mm	4.0" x 3.0" x 4.0mm
4.0" x 4.0" x 2.5mm	5.0" x 5.0" x 3.0mm	4.0" x 3.5" x 4.0mm
5.0" x 3.0" x 3.0mm	6.0" x 3.5" x 3.0mm	5.0" x 3.5" x 4.0mm
5.0" x 3.5" x 2.5mm	6.0" x 4.0" x 3.0mm	5.0" x 4.0" x 4.0mm
3.5" x 3.5" x 3.0mm	6.0" x 5.0" x 3.0mm	6.0" x 4.0" x 4.0mm
4.0" x 3.0" x 3.0mm	4.0" x 3.0" x 3.5mm	6.0" x 5.0" x 4.0mm
4.5" x 4.0" x 3.0mm	4.0" x 4.0" x 3.5mm	



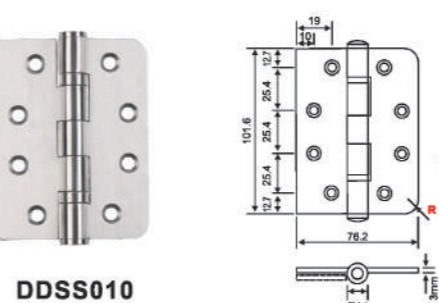
Stainless Steel Heavy Duty Hinge

Dimension(H x W x T)
6.0" x 3.0" x 3.0mm
6.0" x 3.5" x 3.0mm
6.0" x 4.0" x 3.0mm
6.0" x 4.0" x 4.0mm
6.0" x 3.5" x 5.0mm
6.0" x 4.0" x 5.0mm



Stainless Steel Rivet Tip Hinge

Dimension(H x W x T)
4.0" x 3.0" x 2.0mm
4.0" x 4.0" x 2.0mm



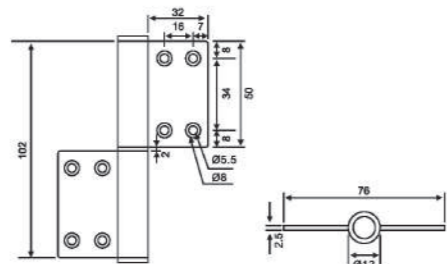
Stainless Steel One Round Corner One Square Corner Hinge

Dimension(H x W x T)	Dimension(H x W x T)	Dimension(H x W x T)
3.0" x 2.0" x 2.0mm	5.0" x 3.0" x 2.5mm	4.5" x 4.5" x 3.5mm
3.0" x 2.5" x 2.0mm	4.0" x 3.0" x 3.0mm	5.0" x 5.0" x 3.5mm
4.0" x 3.0" x 2.0mm	4.0" x 4.0" x 3.0mm	4.0" x 3.5" x 4.0mm
3.0" x 3.0" x 2.0mm	4.5" x 4.0" x 3.0mm	4.5" x 4.5" x 4.0mm
4.0" x 3.5" x 2.0mm	4.5" x 4.5" x 3.0mm	5.0" x 3.0" x 4.0mm
4.0" x 4.0" x 2.0mm	5.0" x 3.5" x 3.0mm	5.0" x 4.0" x 4.0mm
3.5" x 3.0" x 2.5mm	5.0" x 4.0" x 3.0mm	5.0" x 5.0" x 4.0mm
3.5" x 3.5" x 2.5mm	6.0" x 4.0" x 3.0mm	6.0" x 4.0" x 4.0mm
4.0" x 3.0" x 2.5mm	6.0" x 5.0" x 3.0mm	5.0" x 4.0" x 4.5mm
4.0" x 4.0" x 2.5mm	4.5" x 4.0" x 3.5mm	5.0" x 4.5" x 4.5mm

R=1/4", 3/8"



DDSS032

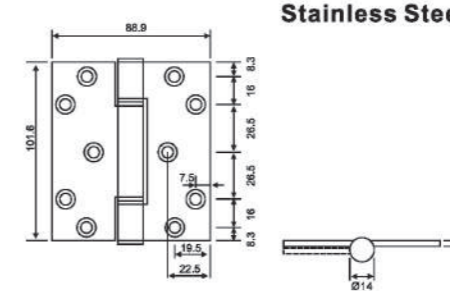


Stainless Steel Flag Hinge

Dimension(H x W x T)
4.0" x 3.0" x 2.5mm
4.0" x 3.5" x 2.5mm



DDSS039

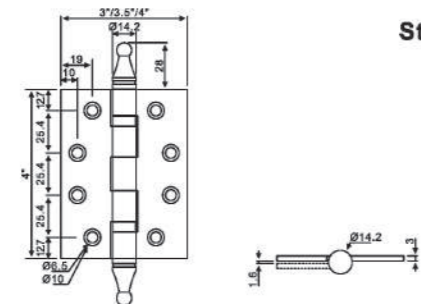


Stainless Steel 3 Knuckle Double Washered Hinge

Dimension(H x W x T)
4.0" x 3.0" x 3.0mm
4.0" x 3.5" x 2.0mm



DDSS034-B

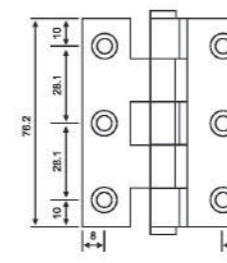


Stainless Steel Hinge With Crown Tip

Dimension(H x W x T)
4.0" x 3.0" x 3.0mm
4.0" x 3.5" x 3.0mm
4.0" x 4.0" x 3.0mm

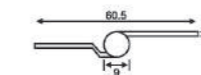


DDSS040

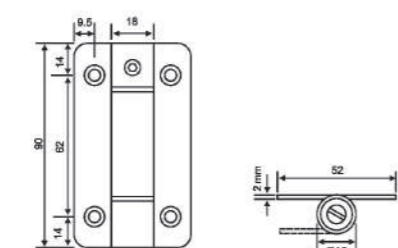


Stainless Steel Crank Hinge

Dimension(H x W x T)
4.0" x 3.0" x 2.0mm
3.0" x 2.4" x 1.5mm



DDSS035

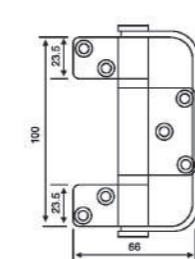


Stainless Steel Single Action Hinge

Dimension(H x W x T)
90 x 52 x 2.0mm - Ø18

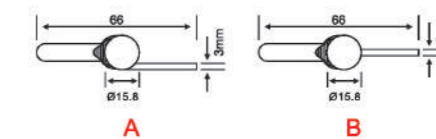


DDSS041

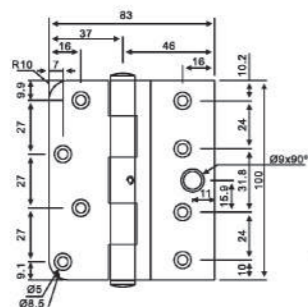


Stainless Steel 2 Ball Bearing Three Leaves Hinge With Handle for Folding Door

Dimension(H x W x T)
100 x 66 x 3.0mm



DDSS036

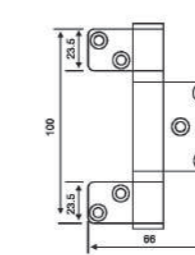


Stainless Steel Crank Hinge

Dimension(H x W x T)
100 x 83 x 2.0mm

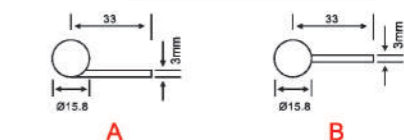


DDSS042

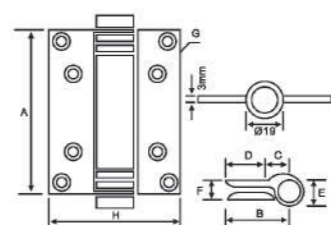


Stainless Steel Three Leaves Hinge for Folding Door

Dimension(H x W x T)
100 x 66 x 3.0mm



DDSS037

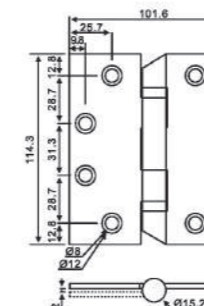


Stainless Steel Single Action Spring Hinge

	A	B	C	D	E	F	G	H
102(4")	40	16.5	23.5	24	12.5	5.5	77	
127(5")	47.5	15.5	32	24	12.5	5.5	90	
153(6")	51.5	16.5	35	24	14	5.5	104	



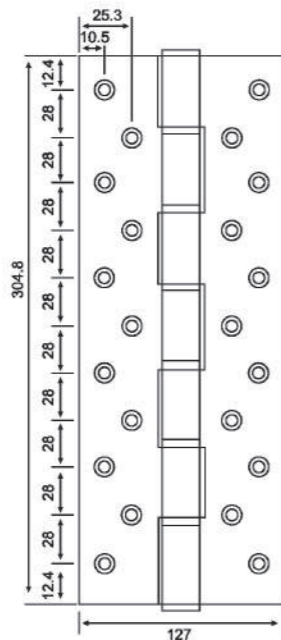
DDSS044-B



Stainless Steel Hospital Hinge

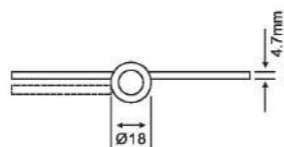
- Hospital tip hinge
- Sloped tip prevents hanging any objects on the tip of the hinge, making it difficult to attach rope, wearing apparel etc.
- Double ball bearing, five knuckle hinge

Dimension(H x W x T)	Dimension(H x W x T)
4.0" x 3.0" x 3.0mm	4.5" x 4.0" x 3.4mm
4.0" x 3.5" x 3.0mm	4.5" x 4.5" x 3.4mm
4.0" x 4.0" x 3.0mm	5.0" x 3.0" x 3.0mm
4.5" x 4.5" x 3.0mm	5.0" x 5.0" x 3.0mm



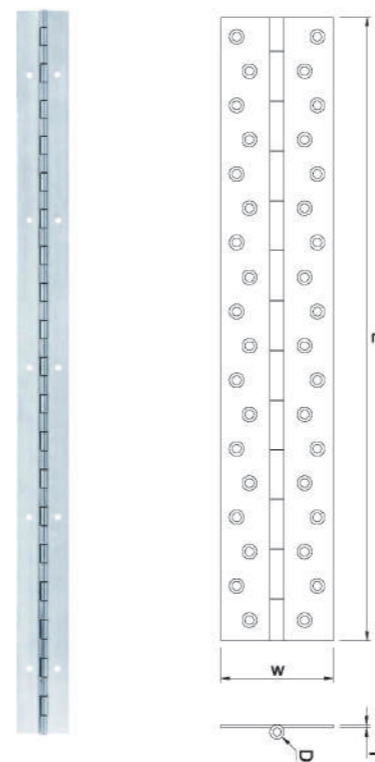
Stainless Steel Heavy Duty Hinge

Dimension(H x W x T)
12" x 6" x 10.0mm
12" x 5" x 10.0mm
12" x 5" x 4.7mm
10" x 5" x 10.0mm
10" x 5" x 4.7mm



DDSS053

A: Model with Holes



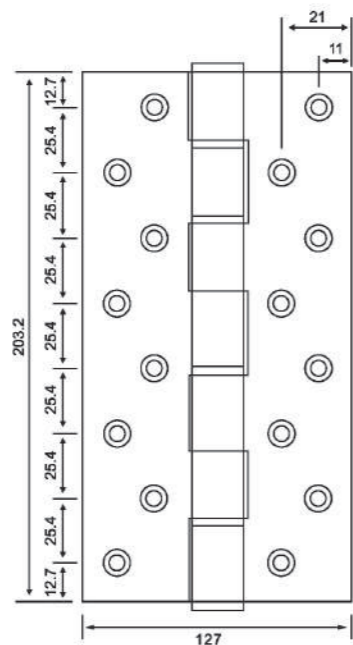
Piano Hinge Continuous Hinge / Piano Hinge DDSS050

Features

- Finish:** SSS
- Material:** stainless steel, or steel, or brass
- Screw holes:** drilled and undrilled
- Size:** L=1800mm,2000mm,standard. Other sizes are available on request.
- W=A,** 1-1/16", 1-1/15", 1-1/14", 1-3/8", 1.5", 2.0", 2.5", 3.0", 4.0"
- T=** 0.5mm min, 4.0mm max
- Finish:** self-color standard, SSS, PSS

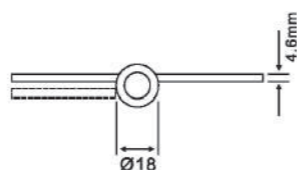
Note: 2.0mm thick and 3.0mm thick can be specially customized

Diameter	Width	Thickness	Material	Pin	Finish
4.1	25	0.8	304#	Stainless Steel	SS
4.1	30	0.8	304#	Stainless Steel	SS
4.1	38	0.8	304#	Stainless Steel	SS
4.8	25	1.0	304#	Stainless Steel	SS
4.8	30	1.0	304#	Stainless Steel	SS
4.8	38	1.0	304#	Stainless Steel	SS
5.9	30	1.2	304#	Stainless Steel	SS
5.9	38	1.2	304#	Stainless Steel	SS
5.9	50	1.2	304#	Stainless Steel	SS
7.5	30	1.5	304#	Stainless Steel	SS
7.5	38	1.5	304#	Stainless Steel	SS
7.5	50	1.5	304#	Stainless Steel	SS
7.5	63	1.5	304#	Stainless Steel	SS
7.5	76	1.5	304#	Stainless Steel	SS



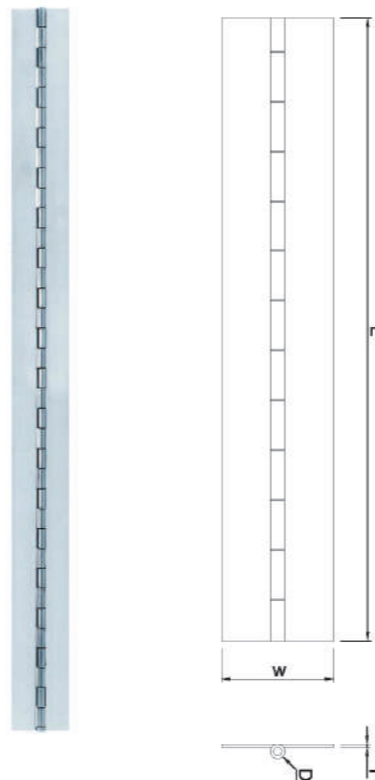
Stainless Steel Heavy Duty Hinge

Dimension(H x W x T)
8.0" x 5.0" x 4.6mm
8.0" x 4.5" x 4.6mm
8.0" x 4.0" x 3.0mm

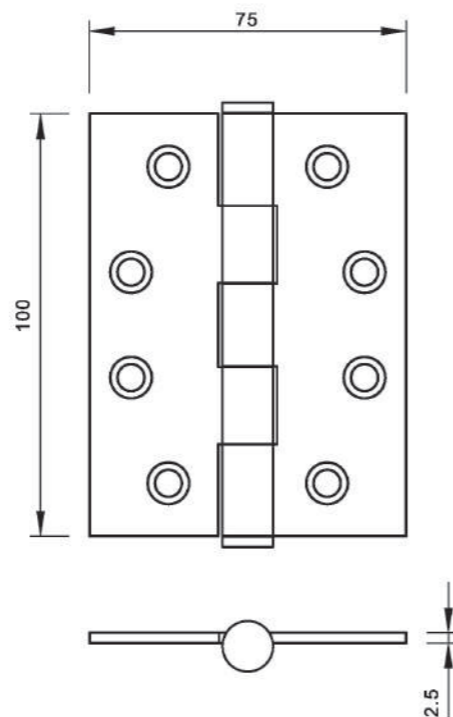
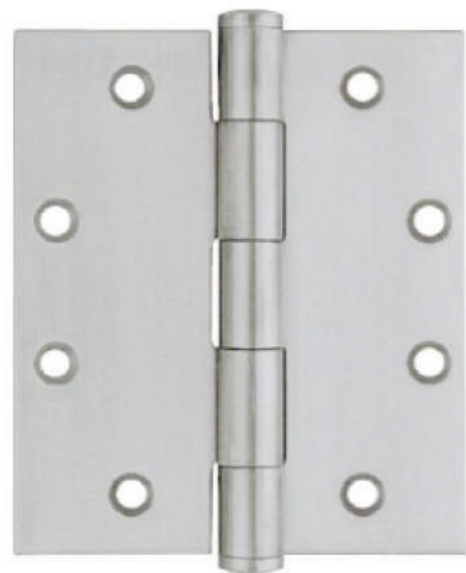


DDSS054

B: Model on Welding

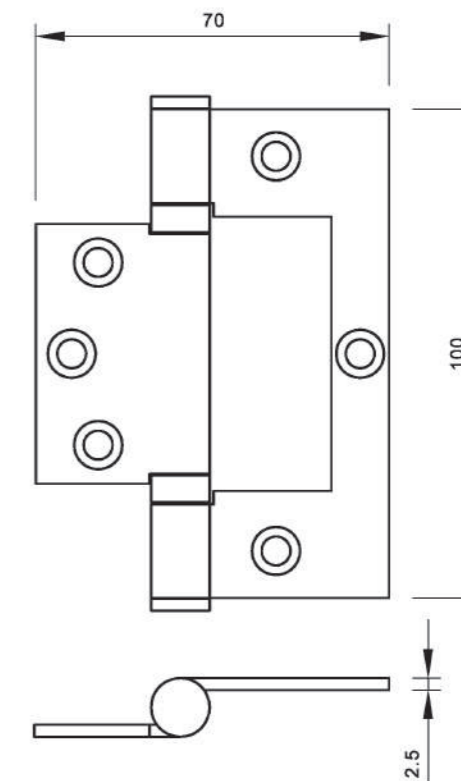


DDSS057



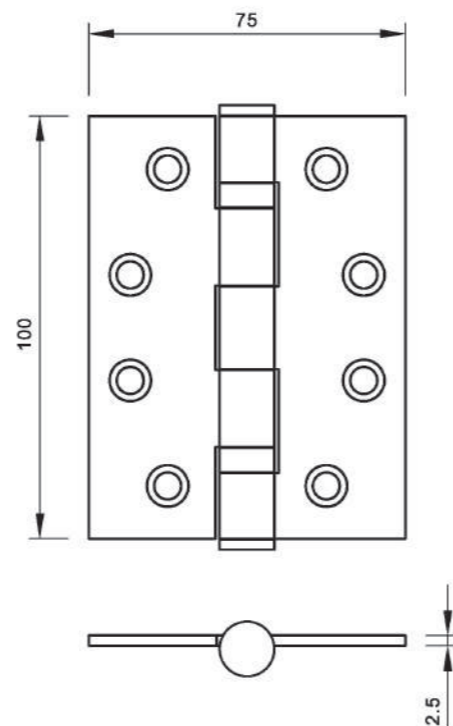
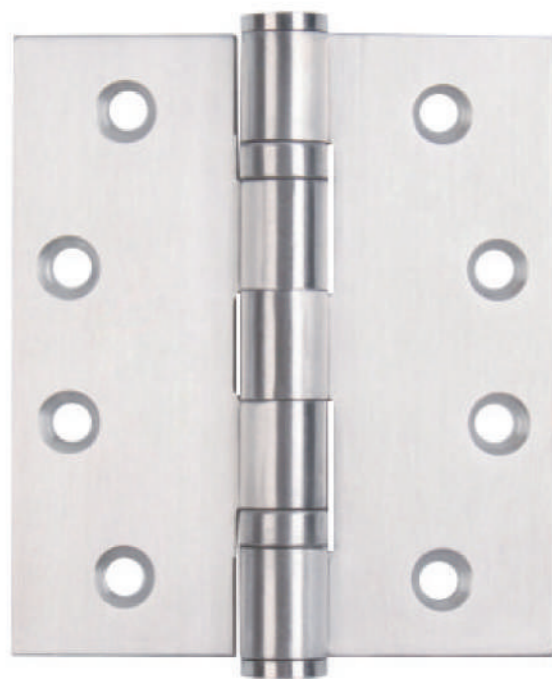
Dimension(H x W x T)
100x 75x 2.5mm-PN
100x 100x 2.5mm-PN

DDSS059



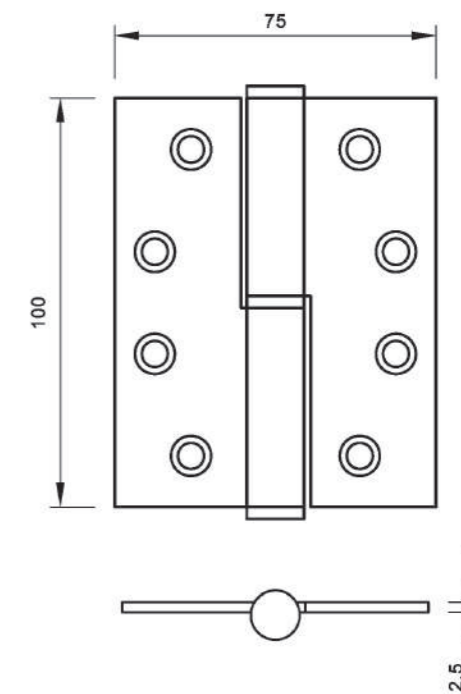
Dimension(H x W x T)
100x 70x 2.5mm-2BB

DDSS058

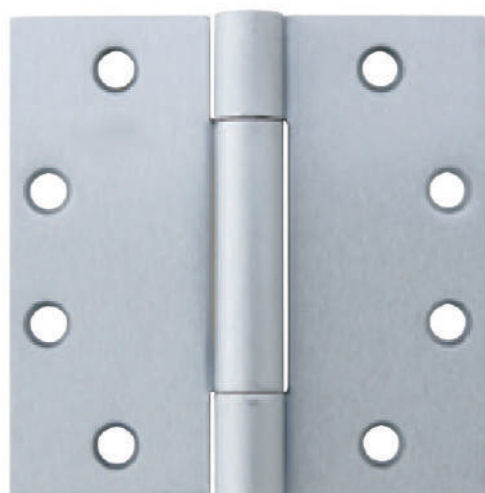


Dimension(H x W x T)
100x 75x 2.5mm-2BB
100x 100x 2.5mm-2BB
100x 75x 3.0mm-2BB
100x 100x 3.0mm-2BB

DDSS060



Dimension(H x W x T)
100x 75x 2.5mm-Left
100x 75x 2.5mm-Right

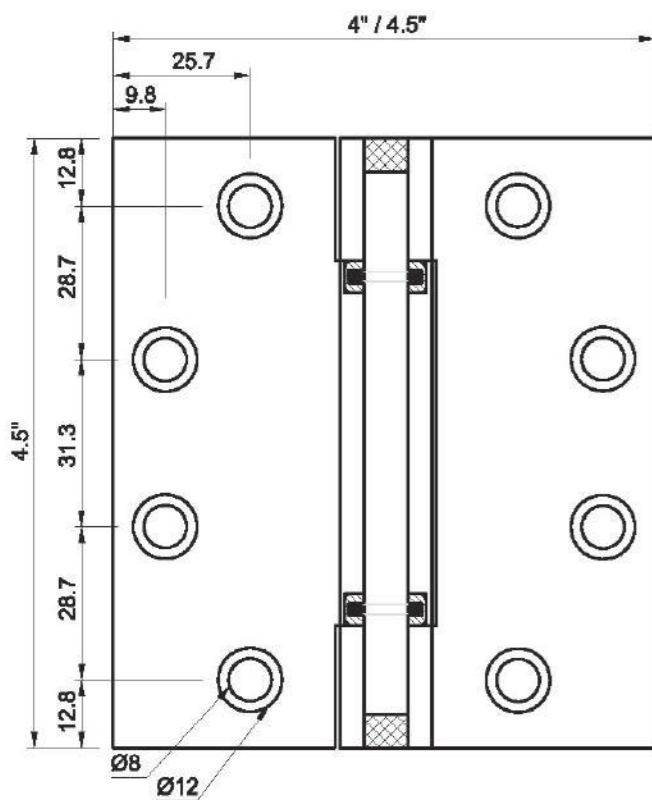


DDSS061

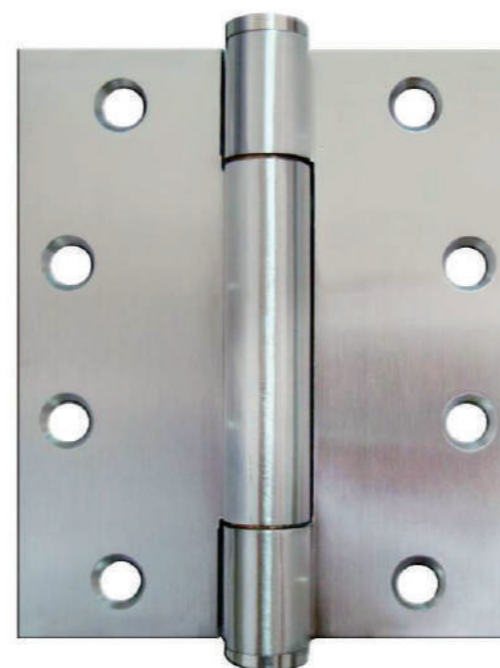
3 Knuckle, Concealed Bearing Full Mortise Hinge

Features

- Made of Stainless Steel
- Recommended for medium weight doors (<150 lbs)
- Recommended for medium frequency usage (< 400 cycles per day)
- Made with two concealed bearings
- Recommended for use with a door closer
- Packed with fasteners for hollow metal and wood doors
- Meets ANSI/BHMA 156.7 for template hinge dimensions
- Fire rated standard



Dimension(H x W x T)	Dimension(H x W x T)
4.5" x 4.0" x 3.4mm	4.5" x 4.0" x 4.6mm
4.5" x 4.5" x 3.4mm	4.5" x 4.5" x 4.6mm
5.0" x 4.0" x 3.7mm	5.0" x 4.5" x 4.8mm
5.0" x 4.5" x 3.7mm	5.0" x 5.0" x 4.8mm

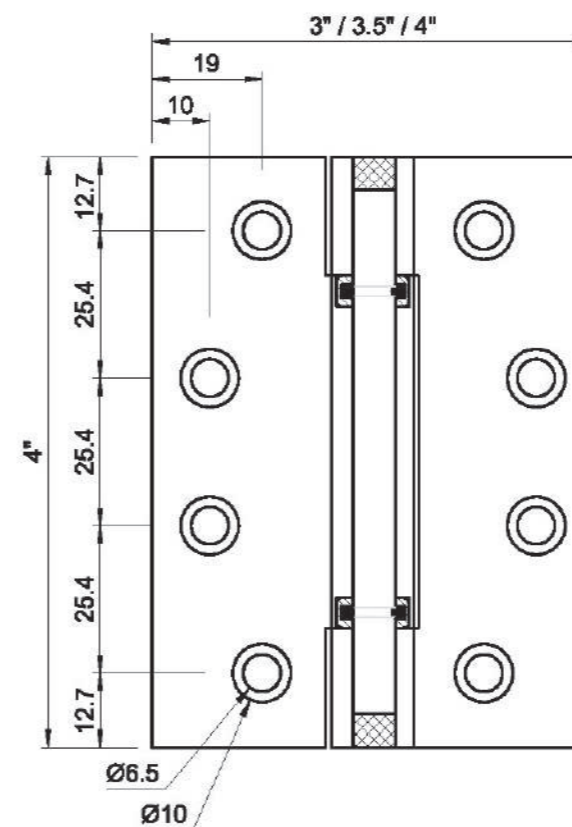


DDSS062

Euro-Profile 3 Knuckle Concealed Bearing Butt Hinge

Features

- Compliance:** BS EN 1935, Grade 13
 Door weight: up to 120kg
 Door thickness: 35-45mm
 Material: SUS 304
 Hole pattern: template
 Corner: square corner, optional radius
 Finish: SSS, PSS, other finish on request
 Application: For timber door or metal door.

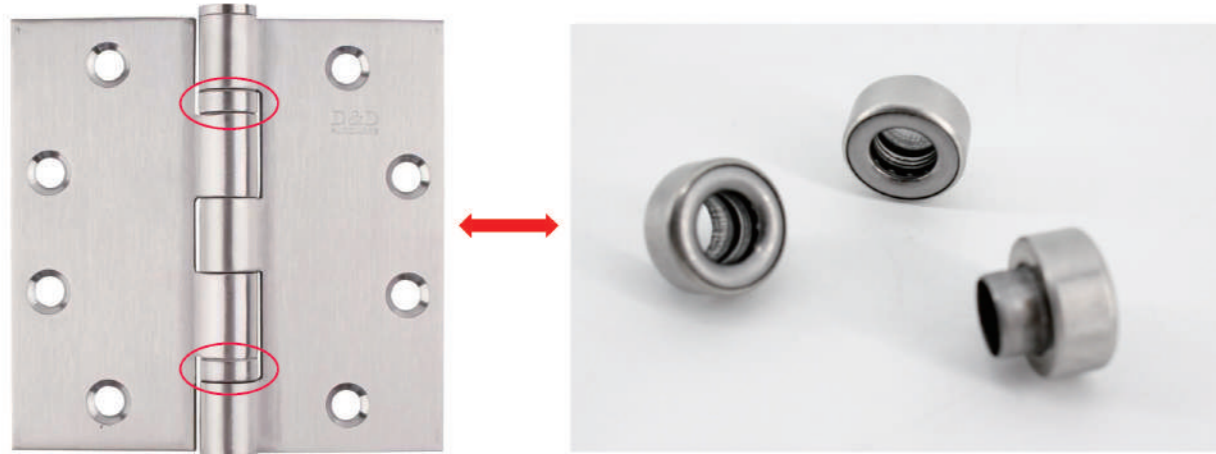


Dimension(H x W x T)
4.0" x 3.0" x 3.0mm
4.0" x 3.5" x 3.0mm
4.0" x 4.0" x 3.0mm

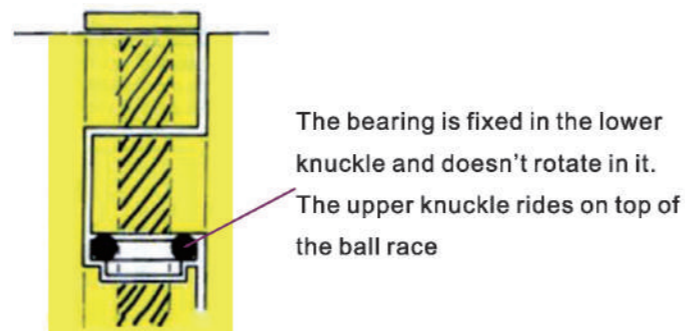
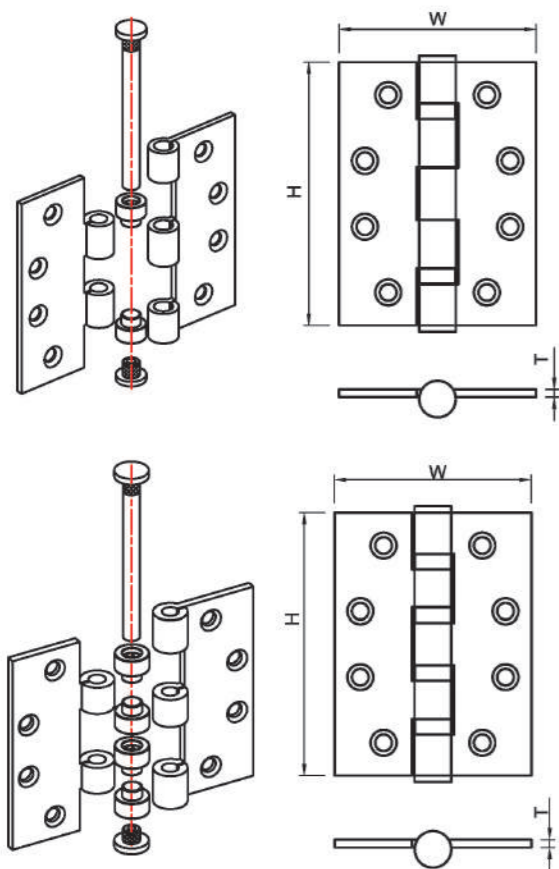
Has visible ball bearing cups fastened to the knuckles of the hinge, and cannot move horizontally or fall-off after the Loose Pin/Loose Non-rising Pin has been taken out.

Ball bearing hinges with properly 'housed' ball races will greatly extend the life expectancy of the hinge and performance of the door. It is for these reasons they are recommended for use with door controls.

They will also support the lateral forces acting on the hinge and pin. This reduces wear between the pin and the inside of the knuckle.



DDSS063



Available in two ball bearing or four ball bearing

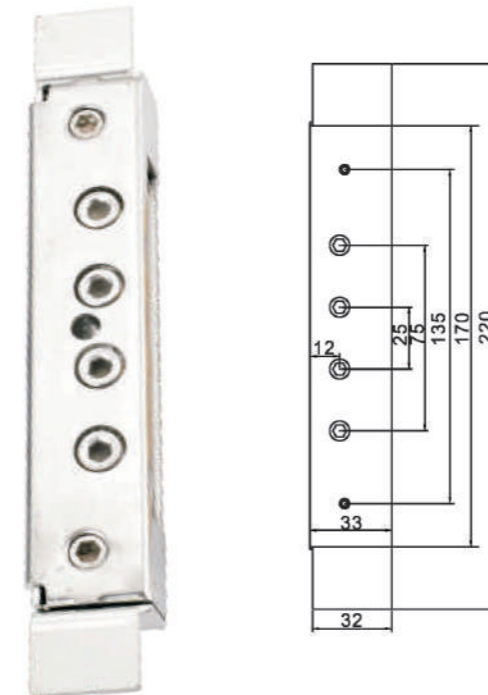
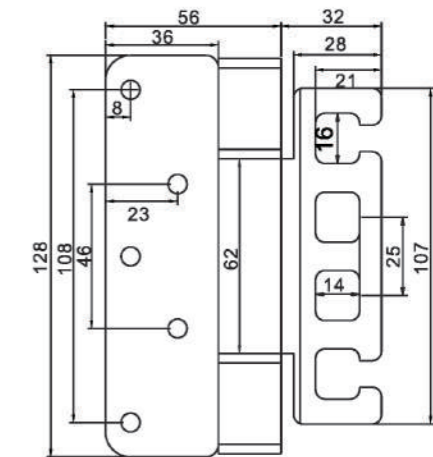
Dimension(H x W x T)	Dimension(H x W x T)	Dimension(H x W x T)
4.0"x3.5"x3.0mm	4.0"x3.0"x3.0mm	4.0"x4.0"x3.0mm
4.0"x4.0"x3.4mm	4.5"x4.0"x3.0mm	4.5"x4.0"x4.6mm
4.5"x4.0"x3.4mm	4.5"x4.5"x3.0mm	4.5"x4.5"x4.6mm
4.5"x4.5"x3.4mm	5.0"x3.0"x3.0mm	5.0"x4.0"x4.6mm
5.0"x4.0"x3.4mm	5.0"x3.5"x3.0mm	5.0"x4.5"x4.6mm
5.0"x4.5"x3.4mm	5.0"x4.0"x3.0mm	5.0"x5.0"x4.6mm
5.0"x4.0"x4.8mm	5.0"x4.5"x4.8mm	5.0"x5.0"x4.8mm



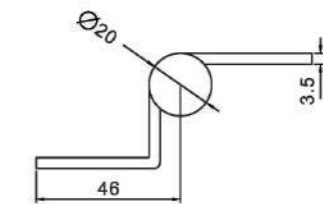
DDSS064

Adjustable Hinge

- For non-rebated doors on wooden, steel or aluminum frames.
- With OBX adjustable frame box adjustable in three dimensions inner.
- Firmly rotating axis.
- Wear and maintenance-free ball bearing technology.
- Suitable for entrance metal and narrow stile door.
- Can be used DIN left and DIN right without modification.



DDSS065

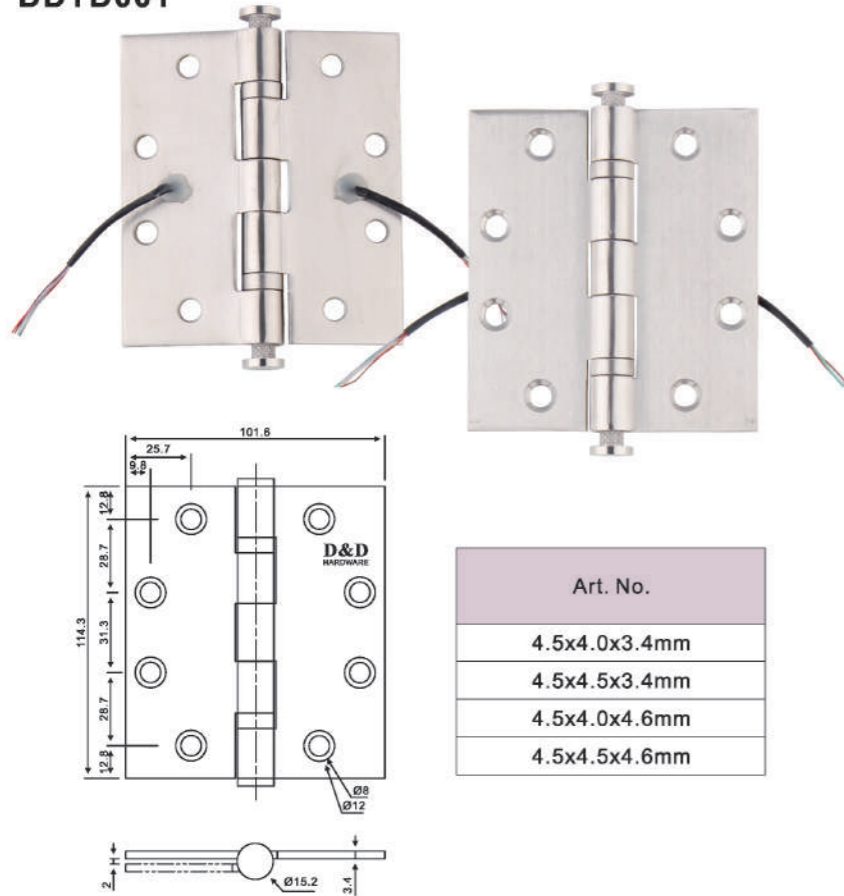


Why an adjustable hinge?

Adjustable hinges allow for easy maintenance of proper door function by compensating for unwanted shifting between the door panel and door frame. Such shifting may be caused by moisture, seasonal temperature fluctuation, foundation setline, and ground swelling.

Electric Transfer Butt Hinge

DDTD001



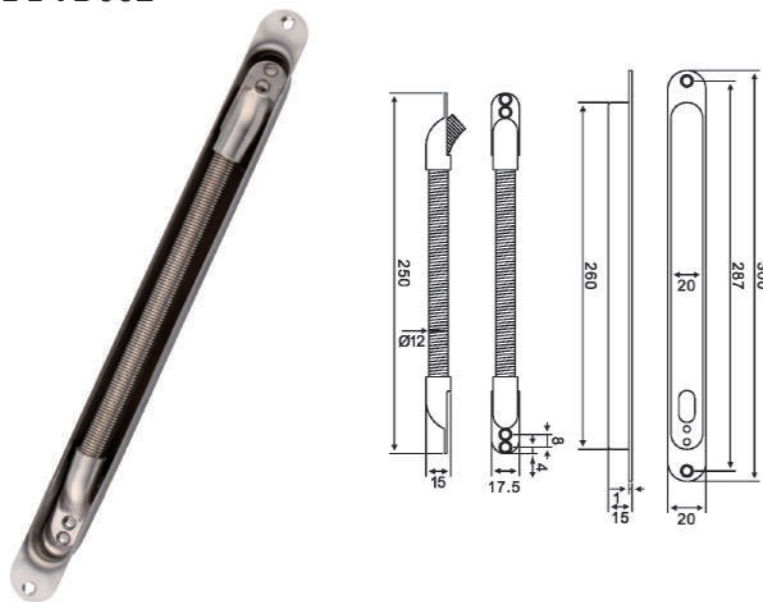
Features

- 5 Knuckle Standard Weight Transfer Hinges
- Center located wire access holes for easy installation (5 Knuckle std. wt.)
- Plastic wire access cap for added wire protection
- Material in SUS304
- Finish in Satin
- 4 wires/ 6 wires

The Energy Transfer Hinge (ETH) is the ideal way to pass low voltage power from the hinge jamb to the lockset without having any exposed wires. These hinges are commonly used with electric mortise & cylindrical locks, electric strikes (when on a pair of doors), electric exit trims, latch pullback devices, door mounted card readers and low voltage door lights.

Power Transfer Device

DDTD002



Features

- Power Transfer Device are designed to ensure unbroken transfer of wires between door and frame in electric locking situations.
- Recommended for wood and hollow metal fire rated door applications.
- Completely concealed when the door is closed.
- Material in SUS304.
- Finish in Satin.



Benefits of Electrified Hinges

- Secures your building and doorways
- Easily and safely powers locking hardware and access control
- Uses wires with connectors that leads or snaps together
- Resistant to tampering as there are no external wires
- Improves the overall look of the access door

Industrial Applications

Electric power transfer hinges can be used with exit devices or hold-open doors. You can monitor a door's position, activate alarms, and observe doors when you need them to be "tamper proof".

Special Considerations of Electrified Hinges

In addition, electric hinges are available in full mortise only, which is a plate hinge that's designed to have a single or two leaves mortised into the door and door jamb. The hinge is placed flush with the surface of the door and frame when attached, leaving a completely smooth appearance.

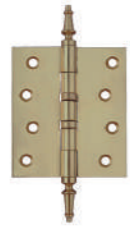
Types of Electric Hinges and Power Transfer Devices

Electric hinges are full mortise, heavyweight, and standard weight style hinges. The primary difference between heavy and standard is heavyweight electric hinges use a thicker gauge metal more suitable for commercial applications.

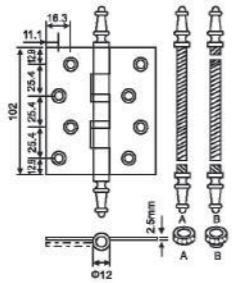
What Types of Doors and Applications Use Electric Hinges?

- Hospitals
- Research labs
- Industrial access
- Banks
- Military
- Vaults

From frame to door, power transfer devices can provide considerable security. They transfer power, and monitoring signals to doors with electronic devices and locks. Power transfer devices may include mortise devices, wired door transfer hinges, and mortise power transfer devices.



DDBH002

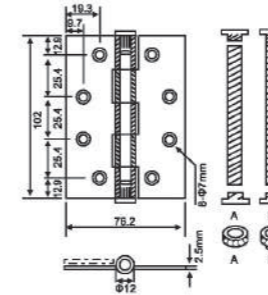


Solid Brass 2 Ball Bearing Steeple Tip Hinge

Dimension(H x W x T)	Dimension(H x W x T)	Dimension(H x W x T)
3.0" x 2.0" x 2.0mm	5.0" x 4.0" x 2.5mm	4.5" x 4.0" x 3.5mm
3.0" x 2.5" x 2.0mm	4.0" x 3.0" x 3.0mm	4.5" x 4.5" x 3.5mm
4.0" x 3.0" x 2.0mm	4.0" x 4.0" x 3.0mm	5.0" x 5.0" x 3.5mm
3.0" x 3.0" x 2.0mm	4.5" x 4.0" x 3.0mm	4.0" x 3.5" x 4.0mm
4.0" x 3.5" x 2.0mm	4.5" x 4.5" x 3.0mm	4.5" x 4.0" x 4.0mm
4.0" x 4.0" x 2.0mm	5.0" x 3.0" x 3.0mm	4.5" x 4.5" x 4.0mm
3.5" x 3.5" x 2.5mm	5.0" x 3.5" x 3.0mm	5.0" x 3.0" x 4.0mm
3.5" x 3.0" x 2.5mm	5.0" x 4.0" x 3.0mm	5.0" x 4.0" x 4.0mm
4.0" x 3.0" x 2.5mm	6.0" x 4.0" x 3.0mm	5.0" x 5.0" x 4.0mm
5.0" x 3.0" x 2.5mm	6.0" x 5.0" x 3.0mm	5.0" x 4.5" x 4.5mm

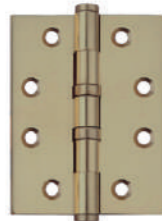


DDBH006

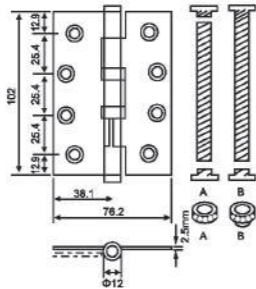


Solid Brass 4 Ball Bearing Hinge

Dimension(H x W x T)	Dimension(H x W x T)	Dimension(H x W x T)
3.0" x 2.0" x 2.0mm	5.0" x 4.0" x 2.5mm	4.5" x 4.0" x 3.5mm
3.0" x 2.5" x 2.0mm	4.0" x 3.0" x 3.0mm	4.5" x 4.5" x 3.5mm
4.0" x 3.0" x 2.0mm	4.0" x 4.0" x 3.0mm	5.0" x 5.0" x 3.5mm
3.0" x 3.0" x 2.0mm	4.5" x 4.0" x 3.0mm	4.0" x 3.5" x 4.0mm
4.0" x 3.5" x 2.0mm	4.5" x 4.5" x 3.0mm	4.5" x 4.0" x 4.0mm
4.0" x 4.0" x 2.0mm	5.0" x 3.0" x 3.0mm	4.5" x 4.5" x 4.0mm
3.5" x 3.5" x 2.5mm	5.0" x 3.5" x 3.0mm	5.0" x 3.0" x 4.0mm
3.5" x 3.0" x 2.5mm	5.0" x 4.0" x 3.0mm	5.0" x 4.0" x 4.0mm
4.0" x 3.0" x 2.5mm	6.0" x 4.0" x 3.0mm	5.0" x 5.0" x 4.0mm
5.0" x 3.0" x 2.5mm	6.0" x 5.0" x 3.0mm	5.0" x 4.5" x 4.5mm



DDBH005

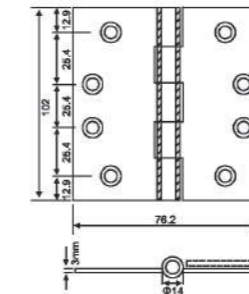


Solid Brass 2 Ball Bearing Hinge

Dimension(H x W x T)	Dimension(H x W x T)	Dimension(H x W x T)
3.0" x 2.0" x 2.0mm	5.0" x 4.0" x 2.5mm	4.5" x 4.0" x 3.5mm
3.0" x 2.5" x 2.0mm	4.0" x 3.0" x 3.0mm	4.5" x 4.5" x 3.5mm
4.0" x 3.0" x 2.0mm	4.0" x 4.0" x 3.0mm	5.0" x 5.0" x 3.5mm
3.0" x 3.0" x 2.0mm	4.5" x 4.0" x 3.0mm	4.0" x 3.5" x 4.0mm
4.0" x 3.5" x 2.0mm	4.5" x 4.5" x 3.0mm	4.5" x 4.0" x 4.0mm
4.0" x 4.0" x 2.0mm	5.0" x 3.0" x 3.0mm	4.5" x 4.5" x 4.0mm
3.5" x 3.5" x 2.5mm	5.0" x 3.5" x 3.0mm	5.0" x 3.0" x 4.0mm
3.5" x 3.0" x 2.5mm	5.0" x 4.0" x 3.0mm	5.0" x 4.0" x 4.0mm
4.0" x 3.0" x 2.5mm	6.0" x 4.0" x 3.0mm	5.0" x 5.0" x 4.0mm
5.0" x 3.0" x 2.5mm	6.0" x 5.0" x 3.0mm	5.0" x 4.5" x 4.5mm



DDBH007

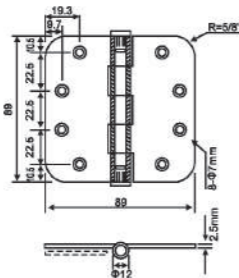


Solid Brass Hinge

Dimension(H x W x T)	Dimension(H x W x T)
3.0" x 1.5" x 1.7mm	4.0" x 4.0" x 2.5mm
3.0" x 3.0" x 2.0mm	4.0" x 4.0" x 2.8mm
3.5" x 3.5" x 2.0mm	5.0" x 4.0" x 2.8mm
4.0" x 3.0" x 2.0mm	3.0" x 3.0" x 3.0mm
3.5" x 3.5" x 2.2mm	3.5" x 3.5" x 3.0mm
4.0" x 4.0" x 2.2mm	4.0" x 3.0" x 3.0mm
3.0" x 2.5" x 2.4mm	4.0" x 3.0" x 3.3mm
4.0" x 3.0" x 2.4mm	4.5" x 4.5" x 3.5mm
3.5" x 3.5" x 2.5mm	5.0" x 3.0" x 4.0mm
4.0" x 3.0" x 2.5mm	

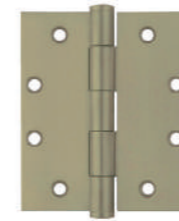


DDBH009

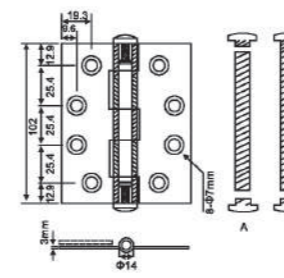


Solid Brass Plain Joint Round Corner Hinge

Dimension(H x W x T)	Dimension(H x W x T)
4.0" x 4.0" x 2.0mm	4.5" x 4.5" x 3.0mm
3.5" x 3.5" x 2.5mm	5.0" x 3.0" x 3.0mm
3.5" x 3.0" x 2.5mm	5.0" x 3.5" x 3.0mm
4.0" x 3.0" x 2.5mm	5.0" x 4.0" x 3.0mm
5.0" x 3.0" x 2.5mm	6.0" x 3.5" x 3.0mm
5.0" x 4.0" x 2.5mm	6.0" x 4.0" x 3.0mm
4.0" x 3.0" x 3.0mm	6.0" x 5.0" x 3.0mm
4.0" x 4.0" x 3.0mm	4.0" x 3.0" x 3.5mm
4.5" x 4.0" x 3.0mm	4.0" x 4.0" x 3.5mm



DDBH008

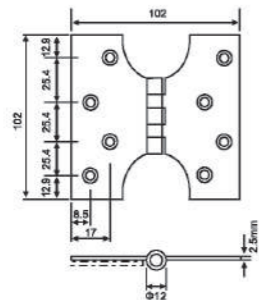


Solid Brass Plain Joint Hinge

Dimension(H x W x T)	Dimension(H x W x T)
4.0" x 3.0" x 2.0mm	4.5" x 4.0" x 3.0mm
4.0" x 4.0" x 2.0mm	4.5" x 4.5" x 3.0mm
3.5" x 3.5" x 2.5mm	5.0" x 3.0" x 3.0mm
4.0" x 3.0" x 2.5mm	5.0" x 3.5" x 3.0mm
4.0" x 4.0" x 2.5mm	5.0" x 4.0" x 3.0mm
5.0" x 3.0" x 2.5mm	5.0" x 5.0" x 3.0mm
5.0" x 3.5" x 2.5mm	6.0" x 3.5" x 3.0mm
3.5" x 3.5" x 3.0mm	6.0" x 4.0" x 3.0mm
4.0" x 3.0" x 3.0mm	6.0" x 5.0" x 3.0mm
4.0" x 4.0" x 3.0mm	



DDBH012

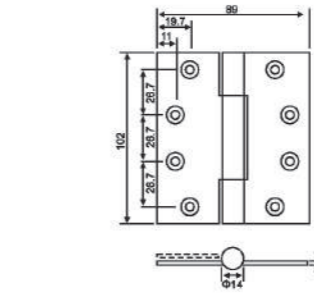


Solid Brass Parliament Hinge

Dimension(H x W x T)
3.0" x 5.0" x 4.0mm
4.0" x 4.0" x 4.0mm
4.0" x 5.0" x 4.0mm
4.0" x 6.0" x 4.0mm
4.0" x 7.0" x 4.0mm



DDBH010

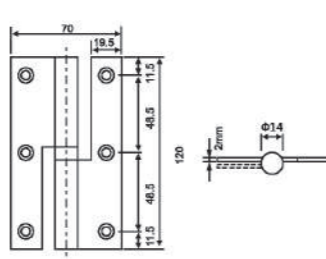


Solid Brass 3 Knuckle Hinge

Dimension(H x W x T)
4.0" x 3.0" x 3.0mm
4.0" x 3.5" x 3.0mm
4.0" x 4.0" x 3.0mm
4.0" x 4.0" x 3.5mm



DDBH018

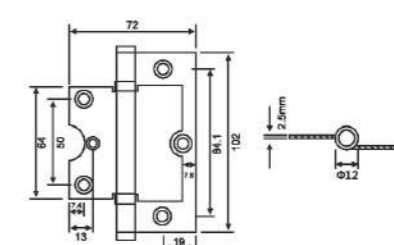


Solid Brass Lift-off Hinge

Dimension(H x W x T)
100 x 65 x 3.0mm
120 x 70 x 3.0mm
140 x 70 x 3.0mm
100 x 70 x 3.0mm
100 x 86 x 3.0mm



DDBH014



Solid Brass Flush Hinge

Dimension(H x W x T)
102 x 72 x 2.5mm
100 x 75 x 2.5mm



Standard offered

The standard in the industry is the Flat Button Tip for 5-knuckle hinges.



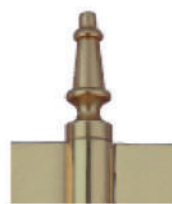
Tri-Con Flush Pin

The flush/concealed tip is standard on 3-knuckle. If button tip is required, specify Exposed Tip.



Ball Tips

Decorative tips such as Acorn, Ball, Steeple, and Urn are used in decorative areas of offices and residences.



Steeple Tips



Fast Riveted Pin

Fast Riveted Pins are spun on both ends, making the pin permanent.



Hospital Tips

- Hospital tips are used primarily for security areas in hospital mental wards and in prison areas. This type prevents hanging any objects on the tip of the hinge.
- Hospital type are also used in area where cleanliness in an important concern leg, operating rooms, laboratories, clean-rooms, etc.
- The beveled tips prevent the collection of dust and germs and their smooth surface is easily cleaned.



Residential Ball Tip Kit

Materials: Brass tips and stainless steel pin

Finishes: US3, US4, US5/ABA, US10A, US10R, US15, US15A/AN, US26, US26D

Notes: • Includes 2 ball tips and 1 pin

- For use with 3-1/2" (89 mm) or 4" (102 mm) hinges

Residential Steeple Tip Kit

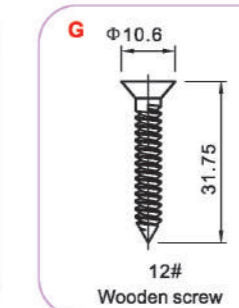
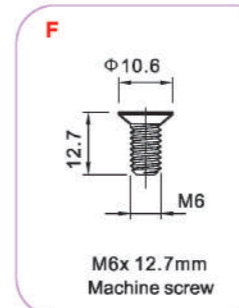
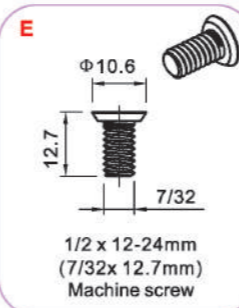
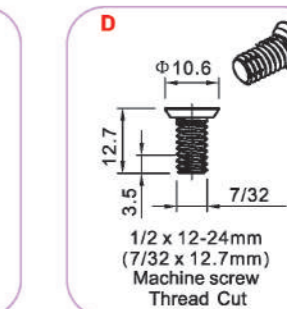
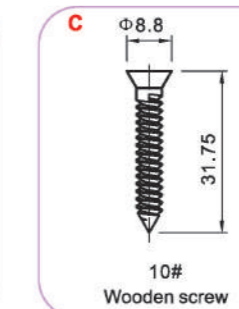
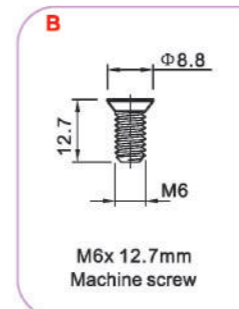
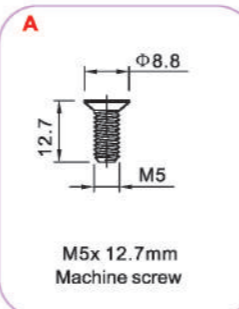
Materials: Brass tips and stainless steel pin

Finishes: US3, US4, US5/ABA, US10A, US10R, US15, US15A/AN, US26, US26D

Notes: • Includes 2 ball tips and 1 pin

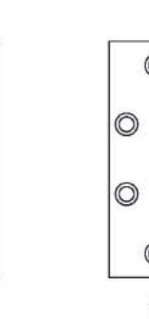
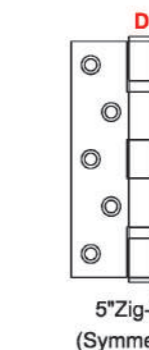
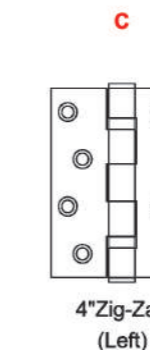
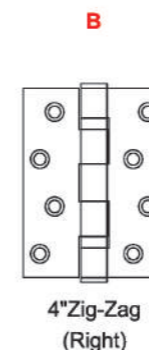
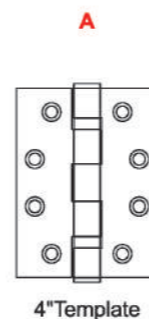
- For use with 3-1/2" (89 mm) or 4" (102 mm) hinges

Screw Options:



Other Length is Available

Hole Options:



Pin Options:

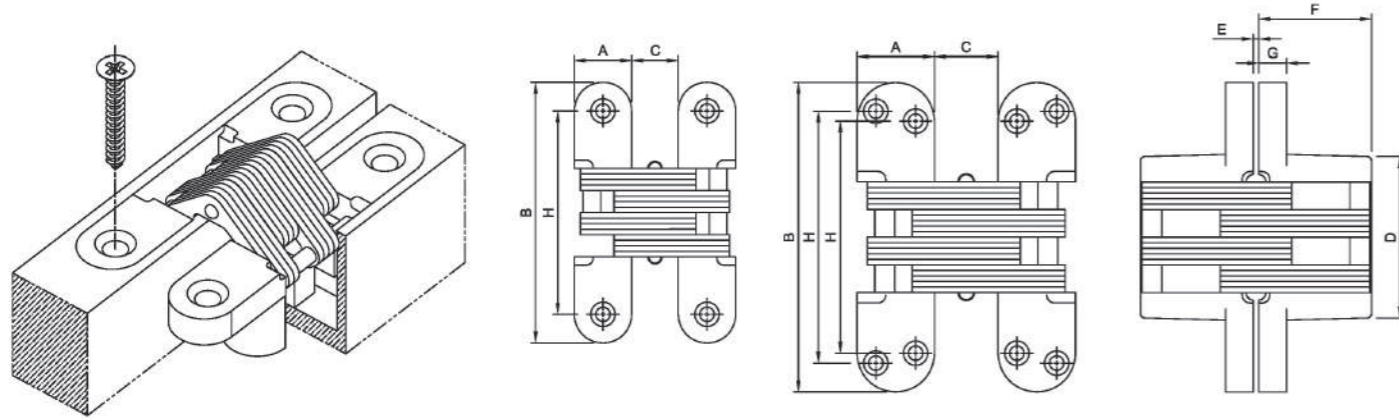




DDCH007 - Stainless Steel

Features

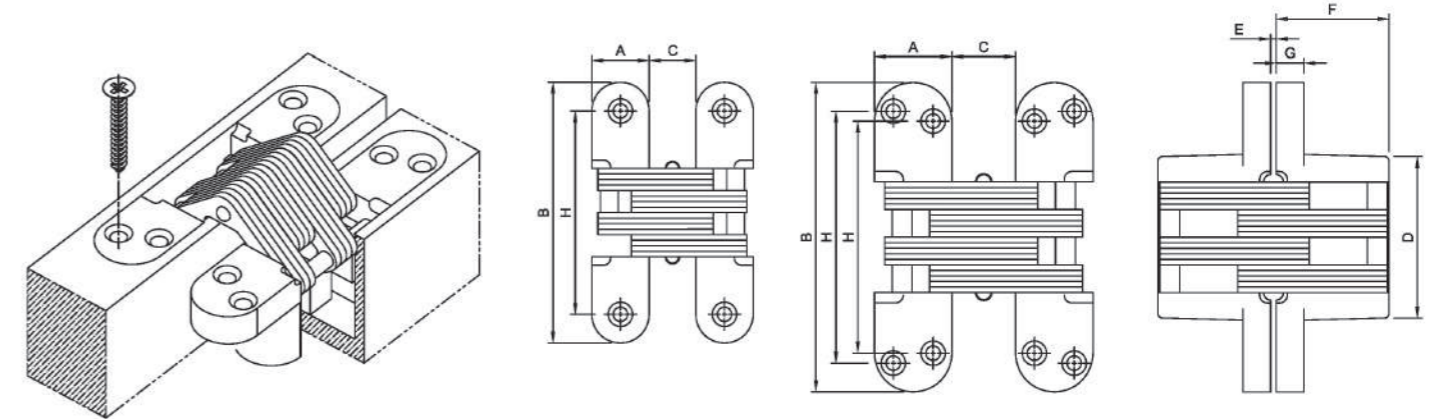
- Casting Stainless Steel Body, Stainless Steel Strips
- Concealed Installation
- Totally Invisible When Door Is Closed
- Non-handed
- Suitable For Timber And Metal Doors
- Finish: SSS, PSS, PB, PVD, AB, AC
- Maximum Opening Angle 180 Degree.
- Standard: 3 Pcs Per Door
- Packed With Screws



DDCH007 - Zinc Alloy

Features

- Casting Zinc Alloy Body, Stainless Steel Strips
- Concealed Installation
- Totally Invisible When Door Is Closed
- Non-handed
- Suitable For Timber And Metal Doors
- Finish: SSS, PSS, PB, PVD, AB, AC
- Maximum Opening Angle 180 Degree.
- Standard: 3 Pcs Per Door
- Packed With Screws






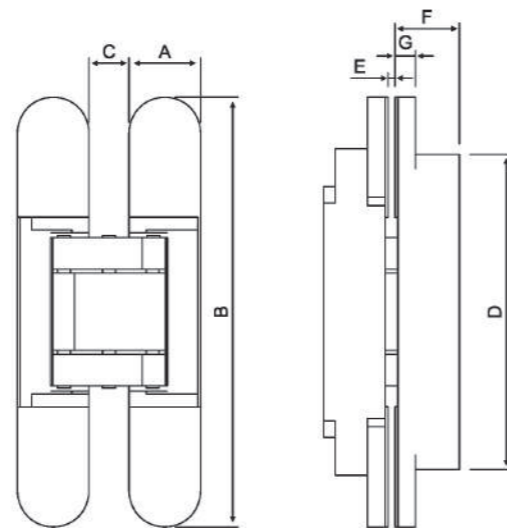
Data Unit (mm)	Stainless Steel Body, Stainless Steel Connecting Strips											
Product Code	Size	Min. Door Thickness	Max. Door Weight	A Hinge Width	B Hinge Length	C	D Mortise Length	E Dimension From Door Edge	F Mortise Depth	G Plate Depth	H < CTC >	
SS-CC09	34 x 140	50mm	120kgs	34	139.5	27.5	74.5	1.6	51	11.5	113.5	102.5
SS-CC08	28 x 118	40mm	100kgs	28	118	22	61.5	1.4	41	9.5	93	88
SS-CC07	25 x 118	35mm	80kgs	25	118	18	65.3	1	36.5	11.3	90.5	
SS-CC06	19 x 95	30mm	60kgs	19	95	13	52.5	1.2	27	9	73	
SS-CC05	16 x 70	25mm	45kgs	16	70	11	34	0.8	22.5	7.4	51	
SS-CC04 Spring Type	28 x 118	40mm	100kgs	28	118	22	61.5	1.4	41	9.5	93	88
SS-CC03 Spring Type	25 x 118	35mm	80kgs	25	118	18	65.3	1	36.5	11.3	90.5	

Data Unit (mm)	Zinc Alloy Body, Stainless Steel Connecting Strips											
Product Code	Size	Min. Door Thickness	Max. Door Weight	A Hinge Width	B Hinge Length	C	D Mortise Length	E Dimension From Door Edge	F Mortise Depth	G Plate Depth	H < CTC >	
ZA-CC09	34 x 140	50mm	70kgs	34	140	27.5	74.5	1.6	51	11.5	113.5	102.5
ZA-CC08	28 x 118	40mm	55kgs	28	117.5	22	61.5	1.4	41	9.5	93	87
ZA-CC07	25 x 118	35mm	45kgs	25	117.5	18	64	1.6	36	11	90	
ZA-CC06	19 x 95	30mm	35kgs	19	95	13	51.2	1.2	27	9	73	
ZA-CC05	16 x 70	25mm	25kgs	16	70	11	34	0.8	22.5	7	51	
ZA-CC04 Spring Type	13 x 60	20mm	14kgs	13	60	9	30.5	0.8	18	6	47	
ZA-CC03 Spring Type	13 x 45	20mm	10kgs	13	45	9	19	0.8	18	5	30.5	
ZA-CC10 Spring Type	28 x 117.5	40mm	50kgs	28	117.5	25	61.5	1.4	44	12	90	

3-D Adjustable Invisible Hinge DDCH008



		
Polished Screw Hole Details Fine workmanship, surface grinding treatment. The texture is more prominent.	One Piece Key parts are processed in one piece. Strong load bearing.	Uniform force on hinge arm Hinge movement groove adopts precision abrasive. Exercise to improve service life.



Data Unit (mm)		DDCH008 - Zinc Alloy Body + Stainless Steel Cover								
Product Code	Size	Min. Door Thickness	Max. Door Weight	A Hinge Width	B Hinge Length	C	D Mortice Length	E Dimension From Door Edge	F Mortice Depth	G Plate Depth
ZA-3D40	25 x 150	35mm	40kg	25	150	14	121	3.5	22.5	6.5
ZA-3D80	28 x 177	40mm	80kg	28	177	16	145	3.5	25.5	9
ZA-3D120	34 x 246	45mm	120kg	34	246	18	212.5	3.5	27.5	9

Color Option : Silver, Black, Gold, Polish Brass, AB, etc.

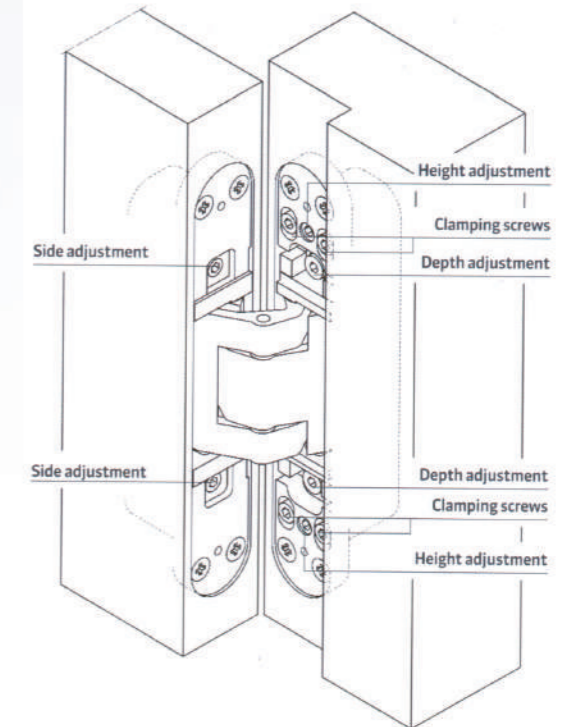
ADJUSTMENT

Three Way Adjustable

Side	+/- 3mm
Height	+/- 2mm
Depth	+/- 1mm

Side Adjustment (Horizontal)

- Adjust The Adjusting Spindles Using A 4mm (0.157") Allen Key
- Turn Side Adjustment Screw Counterclockwise For Increasing The Air Gap Max. 3mm (0.118") On The Locking Side
- Turn Side Adjustment Screw Clockwise For Decreasing The Air Gap Max. 3mm (0.118") On The Locking Side



Height Adjustment (Vertical)

- Slightly Loosen All Four Clamping Screws On All Hinges
- Adjust The Vertical Position Of The Door
- Turn The Lower Height Adjustment Screw Clockwise For Raising The Door
- Turn The Lower Height Adjustment Screw Counterclockwise For Lowering The Door Note: Before Raising The Door, Make Sure That The Upper Adjustment Screw Is Loosened.
- Retighten The Clamping Screws On All Hinges

Depth Adjustment (In / Out)

- Slightly Loosen The Fixing Screws
- Align The Door To The Desired Compression
- Retighten The Clamping Screws

All Adjustment Can Be Performed With A 4mm (0157") Allen Wrench.



3-D Adjustable Invisible Hinge

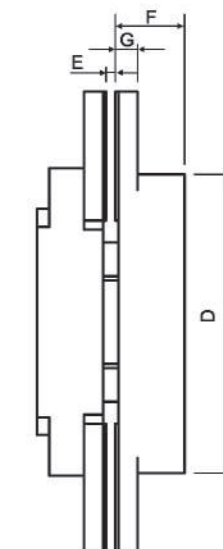
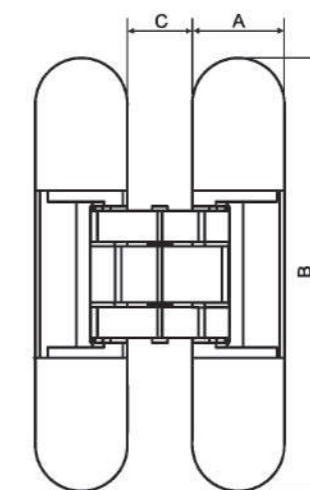
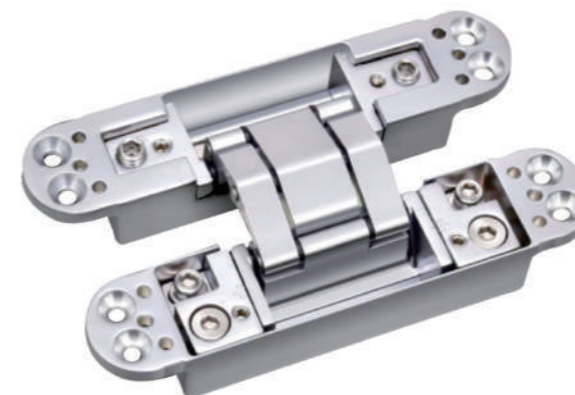
DDCH011

Features

- Material Zinc Alloy and Aluminum
- Concealed Installation
- Totally Invisible When Door is Closed
- Non-handed
- Suitable For Timber And Metal Doors
- Finish: SSS, PSS, PB, PVD, AB, AC
- Maximum Opening Angle 180 Degree.
- Standard: 2 pcs Per Door
- Packed With Screws



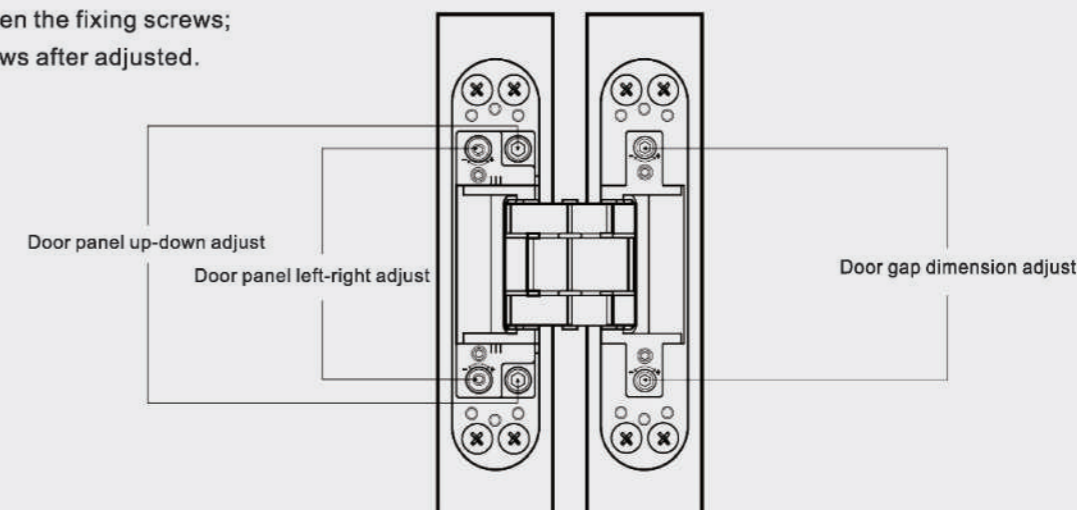
Color Option : Silver, Black, Gold, Polish Brass, AB, etc.



Data Unit (mm)	Zinc Alloy Body									
Product Code	Size	Min. Door Thickness	Max. Door Weight	A Hinge Width	B Hinge Length	C	D Mortice Length	E Dimension From Door Edge	F Mortice Depth	G Plate Depth
ZA-3D60	30 x 140	23.5mm	60kg	40	140	21	100	3	25	7.2
ZA-3D100	32 x 165	27.2mm	100kg	45	165	23	145	3	29.5	8.2

• Hinge Adjusting method

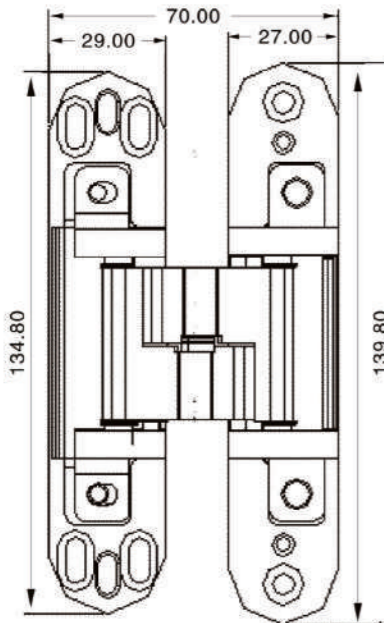
Slightly loosen the fixing screws;
Fasten Screws after adjusted.



Adjust	Door panel up-down adjust	Door panel left-right adjust	Door gap dimension adjust
Model			
ZA-3D60	±1.5mm	±1.5mm	±2mm
ZA-3D100	±2mm	±2mm	±2.5mm



DDCH012



3D Hidden Hinge



Features

- Suitable for wooden doors, swing doors, metal doors, etc
- Concealed installation
- Three dimensional adjustable range: up and down ± 3 mm
Left and right ± 3 mm, front and rear ± 1 mm
can be adjusted without removing the door
- Opening degree: 180°
- Overall material: SUS304
- Finish: SSS, PSS, PB, PVD, AB, AC

Parameter

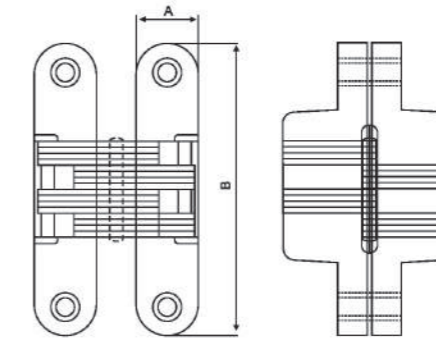
- Size: 28x135x140mm
- Maximum bearing capacity of 3 Pcs Per Door: 60kg
- Minimum thickness of door leaf: 40mm
- Maximum width of door leaf: 1000mm
- The door height is 2100mm,
and each door shall be equipped with 4 hinges

Note: 304 precision casting connector is selected, and the total bearing capacity is increased to about 80kg on the original basis.

3D Concealed Hinge



DDCH007-B



Dimension(A x B)	
13 x 45mm	34 x 140mm
13 x 60mm	25 x 118mm
16 x 70mm	28 x 118mm
19 x 95mm	

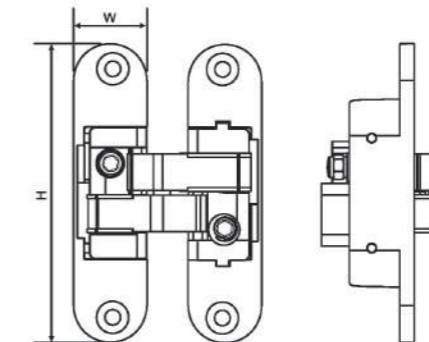
Specification:

- With Nylon Silencer
- Material: Stainless Steel / Zinc Alloy

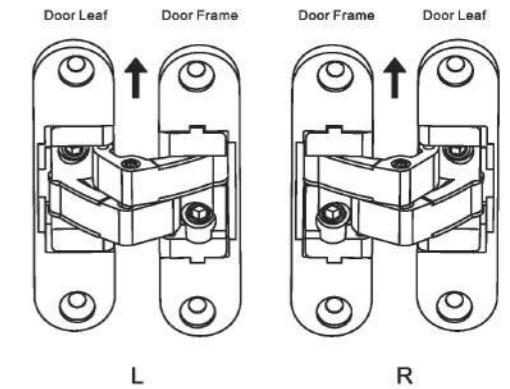
Zinc Alloy 3D Adjustable Invisible Hinge



DDCH009



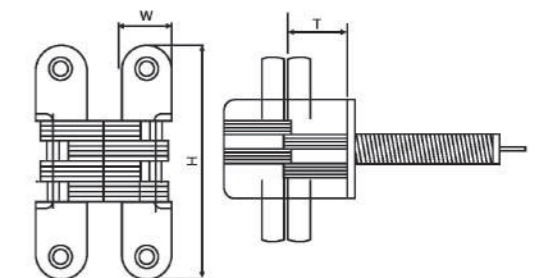
Art. No.	Dimension(W x H)
DDCH009-A	30 x 110mm
DDCH009-B	23 x 95mm



Stainless Steel Adjustable Spring Invisible Hinge



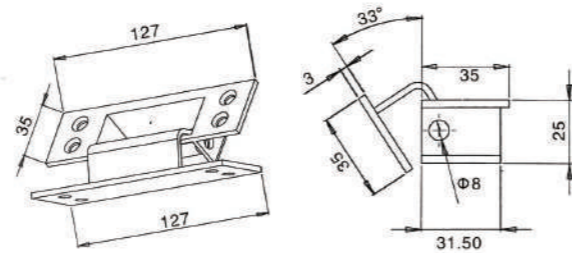
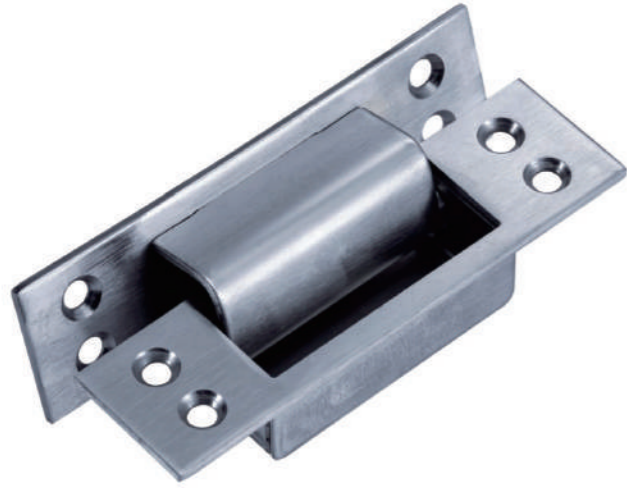
DDCH010



Art. No.	Dimension(W x H x T)
ZA-CC12	28 x 118 x 22mm
SS-CC04	28 x 118 x 22mm

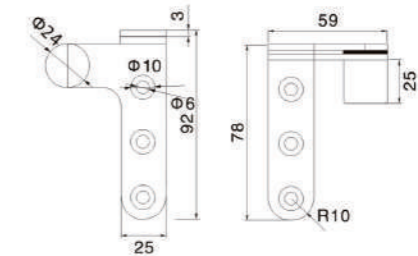
DDCH013-Stainless Steel Concealed Hinge

- Size: 127x35x3mm
- It is suitable for invisible door, concealed door, large solid wood cabinet door, cloakroom, storage room, etc
- Concealed installation, normally 2 to 3 pcs per door
- Maximum opening and closing: 130 °
- Overall material: 304 stainless steel stamping
- Finish: SSS, PSS, AB, AC, PVD, Brass, etc
- Maximum bearing capacity of three comparison chains: 50kg
- Applicable door thickness: 40-55mm



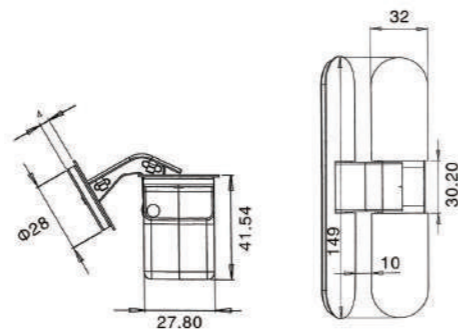
DDCH015-Stainless Steel Door Hinge

- Suitable for: wooden doors, aluminum alloy doors and swing doors.
- Exposed cylindrical installation, self-lubricating.
- Installation direction: regardless of left and right, up and down.
- Material: stainless steel.
- Maximum Opening Angle: 180 ° degree.
- Maximum bearing capacity: 40kg.
- Surface treatment: SSS, PSS, PB, PVD, AB, AC



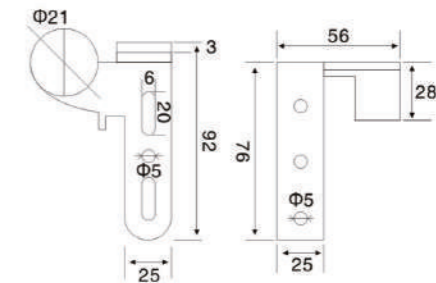
DDCH014-Stainless Steel Solid Concealed Hinge

- Size: 149x32x4mm
- It is suitable for invisible door, concealed door, large solid wood cabinet door, cloakroom, storage room, etc
- Concealed installation, normally 2 to 3 pcs per door
- Maximum opening and closing: 130 °
- Overall material: 304 stainless steel solid
- Finish: SSS, PSS, AB, AC, PVD, Brass, etc
- Maximum bearing capacity of three comparison chains: 60kg
- Applicable door thickness: 37-52mm



DDCH016-Stainless Steel Solid Door Hinge

- Suitable for: wooden doors, aluminum alloy doors and swing doors.
- Exposed cylindrical installation, self-lubricating.
- Installation direction: regardless of left and right, up and down.
- Material: stainless steel.
- Maximum Opening Angle: 180 ° degree.
- Maximum bearing capacity: 50kg.
- Surface treatment: SSS, PSS, PB, PVD, AB, AC





Adjustable Concealed Hinge DDCH017

Features

- Small distance between door leaf and door frame, with anti-pinching function
- Adjustable after installed
- Materials: zinc alloy, aluminum
- Finish: Chrome, Nickle, Brass and Painting
- Installation: Wood Tapping screws, Iron screws (optional)
- Suitable for: fire rated door, smoking door etc.

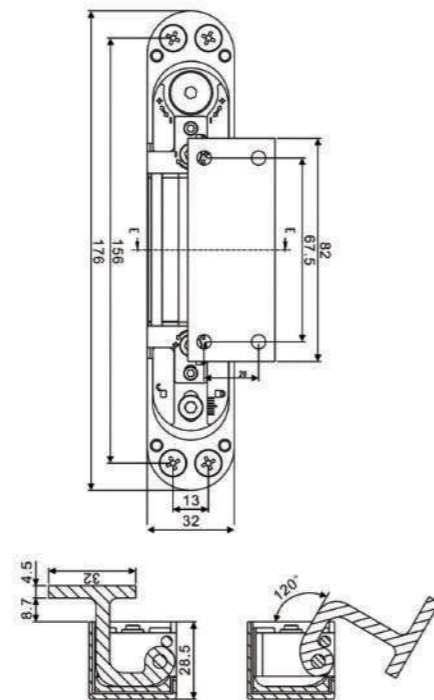
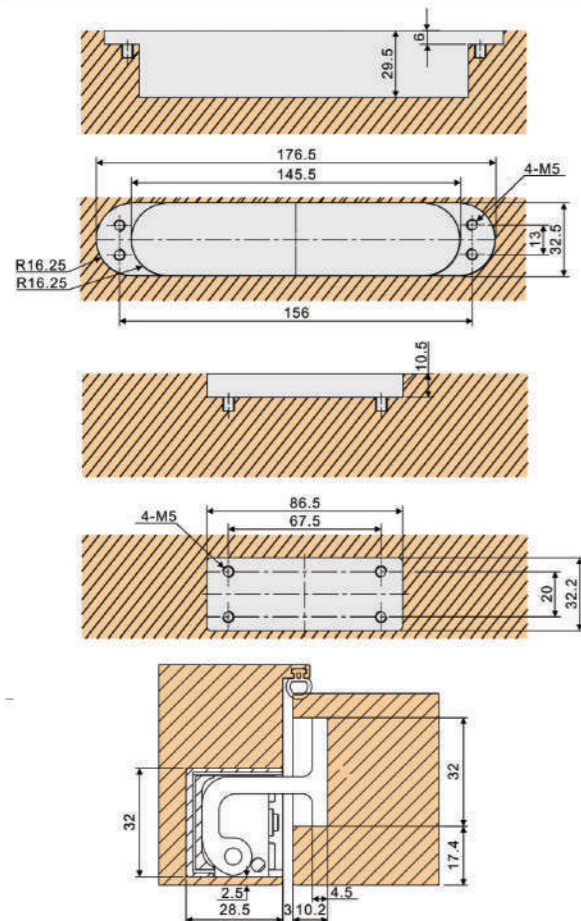
Technical Data

- Max. door weight with 2 hinges: 80kg
- Min. door thickness: 40mm
- Max. door width: 1000mm
- Slim design for thin door: 28.5mm

Adjustments

- Up/ Down: ±3mm
- Front and rear: ±1mm/ vertical ±3mm
- Depth: ±1mm
- Opening Angle: 120°

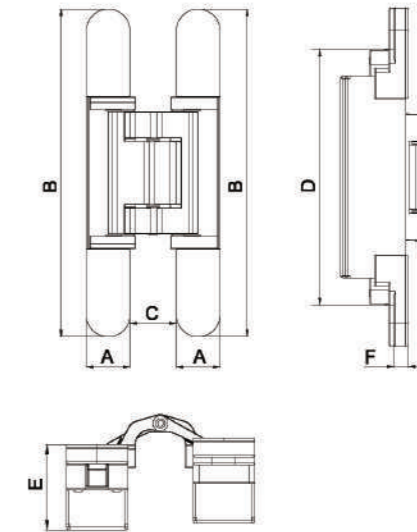
Cut Out



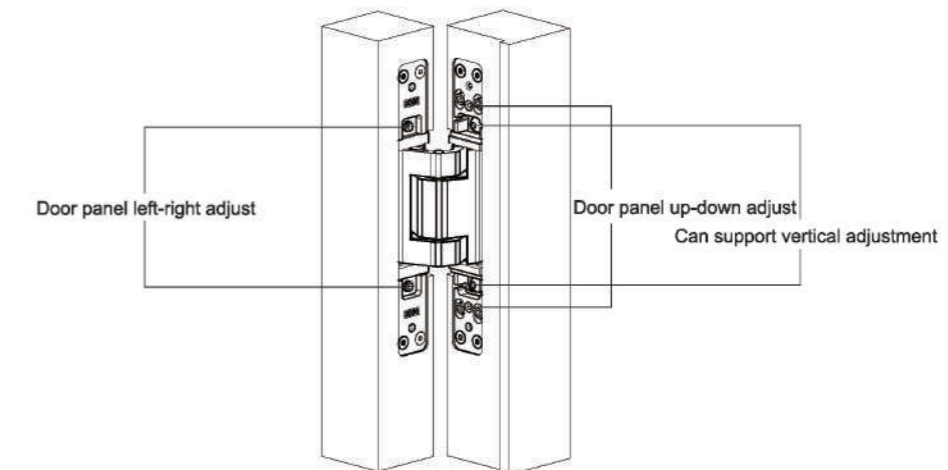
3D Adjustable Hidden Hinge DDCH018

Features

- Adjustable after installed
- Materials: SUS304
- Opening Angle: 180°
- Applicable to the left/right hand door



Data Unit (mm)	DDCH018-Stainless Steel Body							
Product Code	Size	Max. Door Weight	A Hinge Width	B Hinge Length	C	D Mortice Length	E Mortice Depth	F Plate Depth
SS-3D120	160x30	120kg	30	160	16.5	122	34	10
SS-3D200	240x32	200kg	32	240	34	182	44.5	10

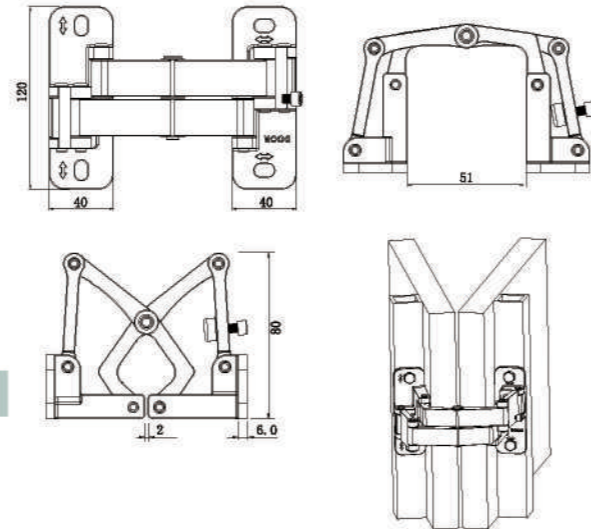
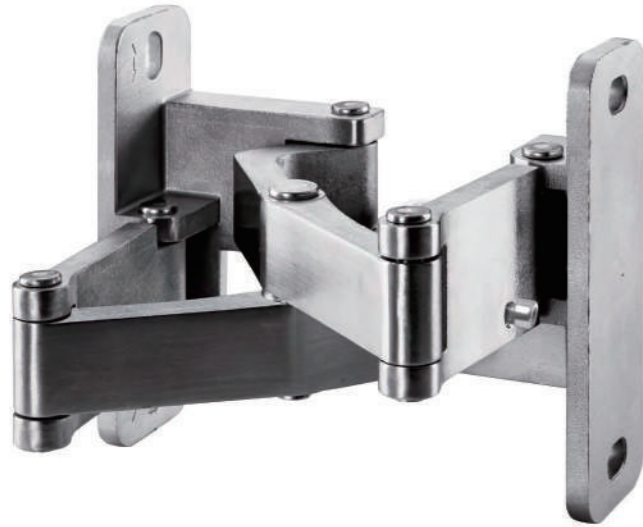


Adjust Model	Door panel up-down adjust	Door panel left-right adjust	Can support vertical adjustment
SS-3D120	±2.0mm	±1.5mm	±1.5mm
SS-3D200	±3.0mm	±2.0mm	±2.0mm

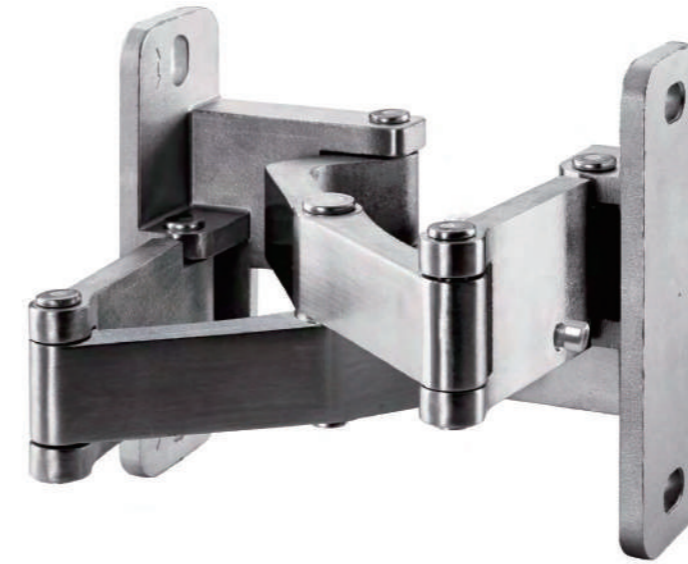
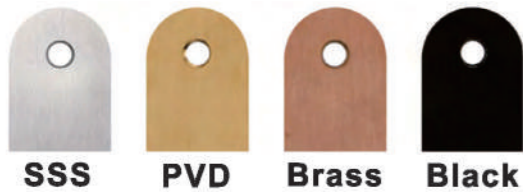
**2D Adjustable Hidden Hinge
DDCH019**

Features

- Material : SUS304
- Max. door weight : 150kg
- Min. door thickness: 50mm
- Adjustable Scope of Opening Angle: 160°~180°
- Can be realized up and down adjustment ± 2.0 mm front and rear the adjustment ± 2.0 mm
- Applicable to the Left / Right hand door tube well



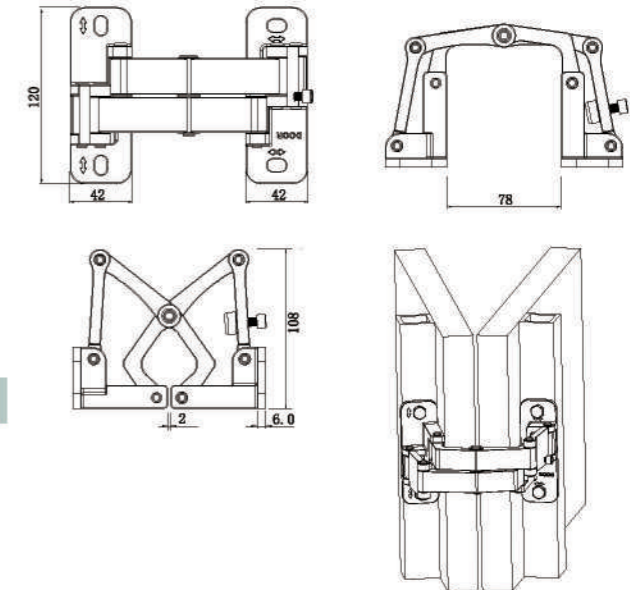
Finish



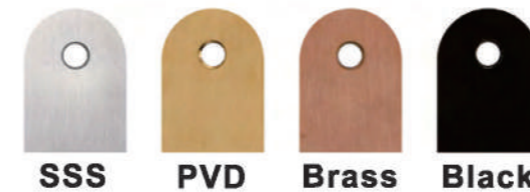
**2D Adjustable Hidden Hinge
DDCH020**

Features

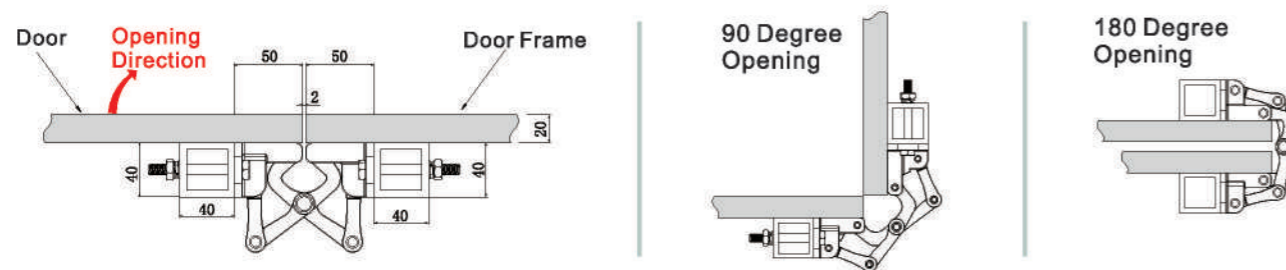
- Material : SUS304
- Max. door weight : 200kg
- Adjustable Scope of Opening Angle: 160°~180°
- Can be realized up and down adjustment ± 2.0 mm front and rear the adjustment ± 2.0 mm
- Applicable to the Left / Right hand door tube well



Finish



Opening



Opening

