

General Hinge Information

SELECTION OF THE PROPER WEIGHT AND BEARING TYPE

- Standard Weight Plain Bearing
- Standard Weight Ball Bearing, Concealed Bearing
- Heavy Weight..... Ball Bearing, Concealed Bearing

CONSIDERATIONS TO DETERMINE WEIGHT AND BEARING TYPE:

- Weight of Door
 - Frequency of use
 - Frame
 - Door Hardware
- Always use ball bearing or concealed bearing hinges for doors with door closers and in all fire rated openings. Heavy weight doors and high frequency doors should use heavy weight ball bearing or concealed bearing hinges.

GUIDELINES FOR HINGE METAL

- Interior door or non-corrosive area use: Plated or painted Steel
- Interior labeled door use: Plated or Painted Steel, Stainless Steel
- Interior door in corrosive area use: Stainless Steel, Brass, Bronze
- Exterior doors use: Stainless Steel, Brass, Bronze

Standard pin material are Brass Hinge – Steel Pin,
Stainless Steel Hinge – Stainless Steel Pin, Steel Hinge – Steel Pin

GUIDELINES FOR FREQUENCY OF DOOR USAGE:

Build Type	Daily Usage	Hinge Type
High Frequency/ Heavy Weight Door		
Large Department Store Entrance	5,000	Heavy Weight
Hospital Corridor and Surgical Doors	5,000	Heavy Weight
Large Office Building Entrance	4,000	Heavy Weight
School Entrance	1,250	Heavy Weight
School Toilet Door	1,250	Heavy Weight
Office Stairwell	500	Heavy Weight
Office Building Toilet Door	400	Heavy Weight
Medium Frequency/ Medium Weight Door		
School Corridor Door	100	Standard Weight
Hospital Consultation Rooms	100	Standard Weight
Office Building Corridor Door	80	Standard Weight
Store Toilet Door	60	Standard Weight
Storage Room	50	Standard Weight
Low Frequency /Light Door		
Residential Entrance	30	Plain Bearing
Interior Residential	20	Plain Bearing

ANSI/BHMA GRADE/MINIMUM CYCLE REQUIREMENTS

- Grade 1: 2,500,000 Heavy Weight Ball & Concealed Bearing
- Grade 2: 1,500,000 Standard Weight Ball & Concealed Bearing
- Grade 3: 350,000 Light Weight Plain Bearing

CONSIDERATIONS TO DETERMINE HINGE SIZE

- Door Width
- Door Thickness
- Weight
- Clearance

GUIDELINES FOR HINGE HEIGHT

DOOR THICKNESS IN INCHES	DOOR WIDTH IN INCHES	HINGE HEIGHT IN INCHES
1-3/8"	Up to 32"	3-1/2"
1-3/8"	32" to 37"	4"
1-3/4"	Up to 36"	4-1/2"
1-3/4"	36" to 48"	5"
1-3/4"	Over 48"	6"
2" - 2-1/2"	Up to 42"	5" heavy weight
2" - 2-1/2"	Over 42"	6" heavy weight

CLEARANCE REQUIREMENT*

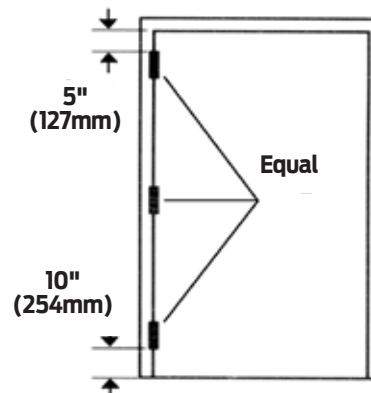
DOOR THICKNESS	CLEARANCE NEEDED	HINGE OPEN WIDTH
1-3/8"	3/4"	4"
1-3/4"	1"	4"
1-3/4"	1-1/2"	4-1/2"
1-3/4"	2"	5"
1-3/4"	3"	6"
2"	1"	4-1/2"
2"	1-1/2"	5"
2"	2-1/2"	6"
2-1/4"	1"	5"
2-1/4"	2"	6"
2-1/2"	3/4"	5"
2-1/2"	1-3/4"	6"
3"	3/4"	8"
3"	2-3/4"	8"

*Distance needed between wall and door at 180° to allow for any projections from wall; trim, decorative molding, etc.

GUIDELINES FOR NUMBER OF HINGES

- Doors under 7'6" 3 hinges
- Doors over 7'6" 4 hinges

LOCATION OF HINGES



Top hinge 5" from jamb rabbet to top of barrel

Bottom hinge 10" from bottom edge of barrel to finished floor

Third hinge centered between top and bottom hinges

Note: Some western states use a standard 7" from top and 11" from the bottom

Ives Hinge Number System

Please note: For availability of specific models, please refer to the item's catalog page or consult Customer Service.

How to Order:

5 - BB - 1 - HW - 4.5x4.5 - 652 - NRP

Number of Knuckles:

- 3 - 3 Knuckle
- 5 - 5 Knuckle

Function:

- PB** Plain Bearing
- BB** Ball Bearing
- CB** Concealed Bearing
- SP** Spring Hinge

Type:

- 1** Full Mortise
- 2** Half Mortise
- 3** Full Surface
- 4** Half Surface

Weight/Options:

- Blank** Standard Weight
- HW** Heavy Weight
- SC** Swing Clear
- SH** Security Stud
- WT** Wide Throw
- HT** Hospital Tip
- RC** Round Corners, 1/4" or 5/8" Radius

Size Examples:

- | | | | |
|------------------|----------------|--------------|--|
| 3.5 x 3.5 | 4.5 x 5 | 5 x 6 | <i>Larger sizes, up to 6 x 8 are available. Consult factory.</i> |
| 4 x 4 | 4.5 x 6 | 5 x 7 | |
| 4.5 x 4 | 5 x 4.5 | | |
| 4.5 x 4.5 | 5 x 5 | | |
| | | | |

Finish (Some models require extended lead times):

- 600** USP - Steel
- 605** US3 - Brass
- 606** US4 - Brass
- 612** US10 - Brass
- 613** US10B - Brass
- 619** US15 - Brass
- 625** US26 - Brass
- 626** US26D - Brass
- 630** US32D - Stainless
- 632** US3 - Steel
- 633** US4 - Steel
- 639** US10 - Steel
- 640** US10B - Steel
- 641** US10A - Steel
- 643** US11 - Steel
- 646** US15 - Steel
- 651** US26 - Steel
- 652** US26D - Steel

Special Pins Applications:

- NRP** Non-Removable Pin
- TW4** Four Wire
- TW8** Eight Wire
- MON** Monitor
- TW4M** Four Wire with Monitor
- TW8M** Eight Wire with Monitor

ANSI Hinge Identification Reference

A = ANSI

First number indicates material

- 1 – Cast, forged or extruded brass or bronze
- 2 – Wrought brass or bronze
- 5 – Stainless steel
- 8 – Wrought or forged steel, or malleable iron

Second number indicates product type

- 1 – Full mortise
- 2 – Half mortise
- 3 – Full surface
- 4 – Half surface
- 5 – Anchor, pivot reinforced or thrust pivot unit or hinge sets
- 6 – Olive knuckle hinges
- 7 – Pivot hinge
- 8 – Rescue hardware

Third number indicates function

- 1 – Anti-friction bearing
- 2 – Anti-friction bearing, swing clear
- 3 – Plain bearing
- 4 – 4 to 0, special conditions

Fourth number indicates grade

- 1 – Grade 1, 4BB Extra Heavy Duty
- 2 – Grade 2, 2BB Standard Duty
- 3 – Grade 3, Plain Bearing

Example:

A8111 – Steel, Full Mortise, Anti-friction, Grade 1

A5112 – Stainless, Full Mortise, Anti Friction Bearing, Grade 2



Meets ANSI/BHMA A156.1
A8133 – Steel
A5133 – Stainless Steel
A2133 – Brass

5PB1 5 Knuckle, Plain Bearing Full Mortise Hinge

- For standard weight doors
 - Low frequency usage
 - Packed with wood and metal screws
- Not for use with a door closer.*

Options

- NRP, Non-Removable Pin
- SH, Security Stud
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge
3.5 x 3.5	89 x 89	0.123
4 x 4	102 x 102	0.134
4.5 x 4	114 x 102	0.134
4.5 x 4.5	114 x 114	0.134
5 x 4.5	127 x 114	0.134



Meets ANSI/BHMA A156.1
A8112 – Steel
A5112 – Stainless Steel
A2112 – Brass

5BB1 5 Knuckle, Ball Bearing Full Mortise Hinge

- For standard weight doors
- Medium frequency usage
- 2 ball bearing
- Packed with wood and metal screws

Options

- NRP, Non-Removable Pin
- SH, Security Stud
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge	Size (Inches)	Size (mm)	Gauge
3.5 x 3.5	80 x 102	0.130	5 x 4.5	127 x 114	0.146
4 x 4	102 x 102	0.130	5 x 5	127 x 127	0.146
4.5 x 4	114 x 102	0.134			
4.5 x 4.5	114 x 114	0.134			

Finishes brass

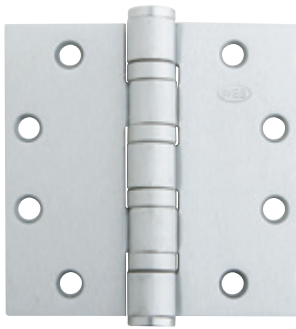
Ives Finish	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	605	606	612	613	614	616	619	625	626

Finishes steel

Ives Finish	USP	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	600	632	633	639	640	641	643	646	651	652

Finishes stainless steel

Ives Finish	US32	US32D
BHMA	629	630



Meets ANSI/BHMA A156.1
 A8111 – Steel
 A5111 – Stainless Steel
 A2111 – Brass

5BB1HW

5 Knuckle, Ball Bearing, Heavy Weight Full Mortise Hinge

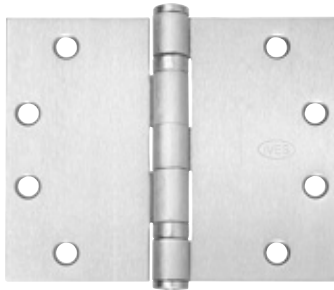
- For heavy weight doors
- High frequency usage
- 4 ball bearing
- Packed with wood and metal screws

Options

- NRP, Non-Removable Pin
- SH, Security Stud
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge	Size (Inches)	Size (mm)	Gauge
4.5 x 4	114 x 102	0.180	5 x 4.5	127 x 114	0.190
4.5 x 4.5	114 x 114	0.180	5 x 5	127 x 127	0.190



Meets ANSI/BHMA A156.1
 A8111 – Steel

5BB1WT

5 Knuckle, Ball Bearing, Wide Throw Full Mortise Hinge

- For medium weight doors
- Medium frequency usage
- 2 ball bearing
- Packed with wood and metal screws

Options

- NRP, Non-Removable Pin
- SH, Security Stud
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge
4.5 x 5	114 x 127	0.134
4.5 x 6	114 x 152	0.134
5 x 6	127 x 152	0.146
5 x 7	127 x 178	0.146
5 x 8	127 x 203	0.146

Finishes *brass*

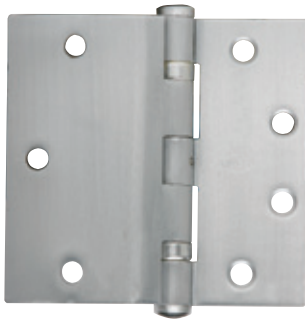
Ives Finish	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	605	606	612	613	614	616	619	625	626

Finishes *steel*

Ives Finish	USP	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	600	632	633	639	640	641	643	646	651	652

Finishes *stainless steel*

Ives Finish	US32	US32D
BHMA	629	630



Meets ANSI/BHMA A156.1
A8412 – Steel

5BB4 5 Knuckle, Ball Bearing, Half Surface Hinge

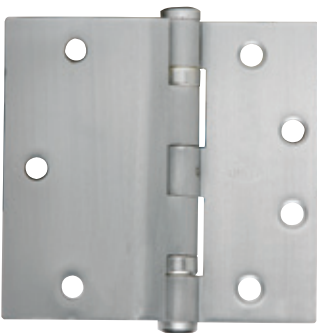
- For standard weight doors
- Medium frequency usage
- 2 ball bearing
- Packed with through bolts, grommets and sheet metal screws

Options

- NRP, Non-Removable Pin
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge
4.5	114	0.134



Meets ANSI/BHMA A156.1
A8411 – Steel

5BB4HW 5 Knuckle, Ball Bearing, Half Surface Heavy Weight Hinge

- For heavy weight doors
- High frequency usage
- 4 ball bearing
- Packed with through bolts, grommets and sheet metal screws

Options

- NRP, Non-Removable Pin
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge
4.5	114	0.180

Finishes brass

Ives Finish	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	605	606	612	613	614	616	619	625	626

Finishes steel

Ives Finish	USP	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	600	632	633	639	640	641	643	646	651	652

Finishes stainless steel

Ives Finish	US32	US32D
BHMA	629	630



Meets ANSI/BHMA A156.1
 A8122 – Steel
 A5122 – Stainless Steel
 A2122 – Brass

5BB1SC

5 Knuckle, Ball Bearing, Swing Clear Full Mortise Hinge

- For standard weight doors
- Square edge standard
- Medium frequency usage
- 2 ball bearing
- Packed with flat head wood and metal screws

Designed to completely clear the opening when door is opened 92 degrees.

Options

- NRP, Non-Removable Pin
- B, beveled edge door
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge
4.5	114	0.134
5	127	0.145



Meets ANSI/BHMA A156.1
 A8121 – Steel

5BB1SCHW

5 Knuckle, Ball Bearing, Swing Clear Heavy Weight Full Mortise Hinge

- For heavy weight doors
- High frequency usage
- 2 ball bearing
- Packed with flat head wood and metal screws

Designed to completely clear the opening when door is opened 92 degrees.

Options

- NRP, Non-Removable Pin
- B, beveled edge door
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge
4.5	114	0.180
5	127	0.190

Finishes *brass*

Ives Finish	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	605	606	612	613	614	616	619	625	626

Finishes *steel*

Ives Finish	USP	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	600	632	633	639	640	641	643	646	651	652

Finishes *stainless steel*

Ives Finish	US32	US32D
BHMA	629	630