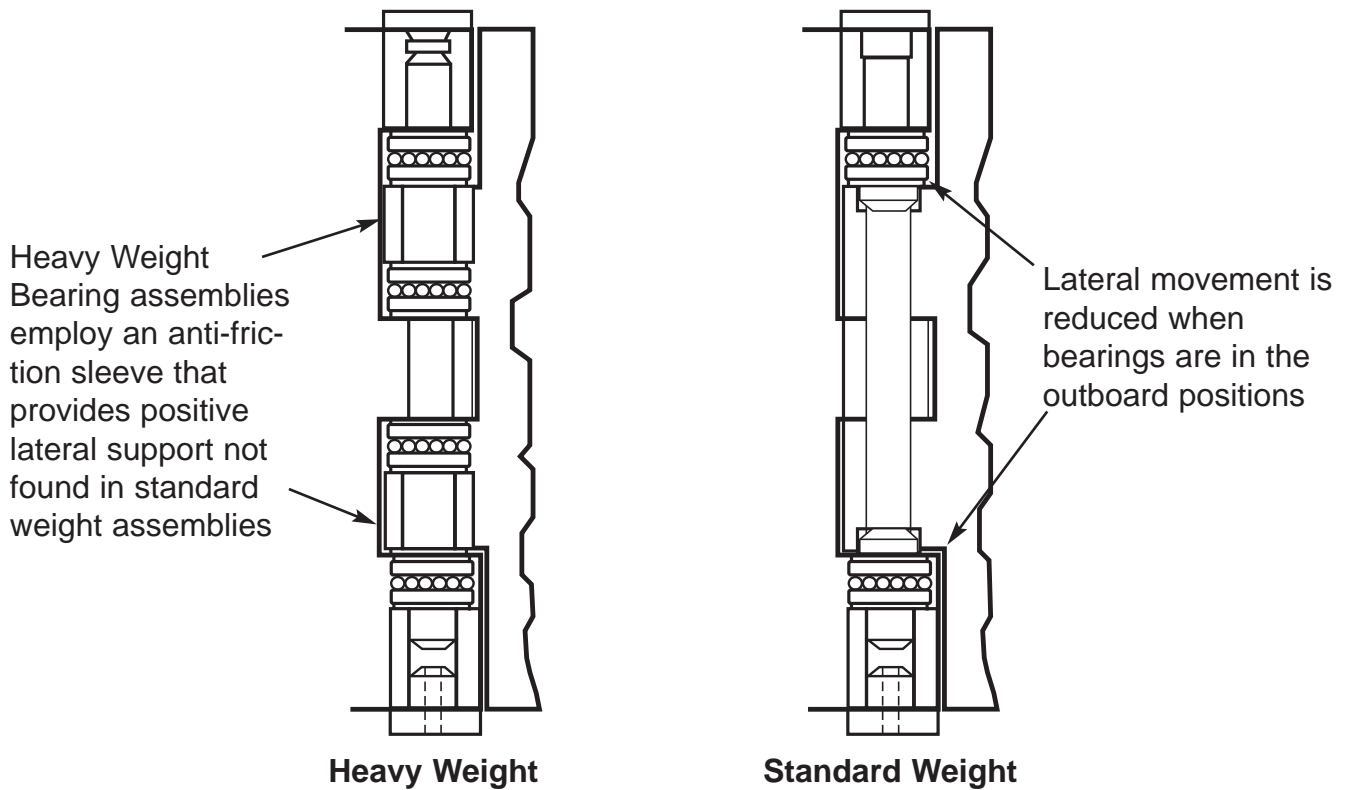


## 5 KNUCKLE BALL BEARING HINGES



- The vertical load of the door is supported by through-hardened chrome alloy, vertical thrust ball bearing assemblies.
- The lateral load of the door is supported by the pin bearing on the inside of the hinge knuckles.
- Large cold headed, drawn stock of the pins and long bearing area within the knuckles distributes lateral wear over a greater area, resulting in increased life of the hinge.
- Approved for use on all types of fire doors up to 4' x 10' (1219mm x 3048mm), 8' x 10' (2438mm x 3048mm) pairs, to maintain the integrity of fire rated openings and walls. **Refer to NFPA80.**



**Heavy Weight**



**Standard Weight**

**5 KNUCKLE FULL MORTISE HINGES**

**Standard Weight Ball Bearing**

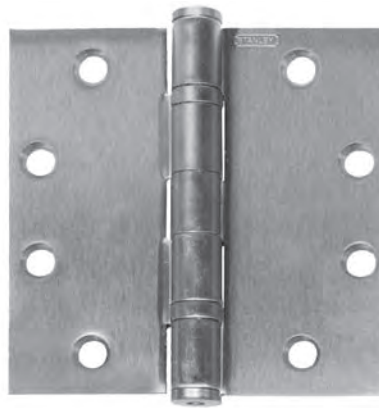
**FBB179** – (ANSI A8112) Steel – polished and plated or phosphated and prime coated for painting

**FBB191** – (ANSI A2112) Brass or bronze – polished and plated or painted

**FBB191 (32)** – (ANSI A5112) Stainless steel – highly polished

**FBB191 (32D)** – (ANSI A5112) Stainless steel – satin finish

- For medium weight doors of average frequency
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames
- Equipped with two Stanley permanently lubricated non-detachable ball bearings
- Pins in non-ferrous hinges are stainless steel
- Hole in bottom tip for easy pin removal
- Reversible flush tips and pins
- Hinges can be furnished as follows:
  - with raised barrel (RB)
  - with electric wires and/or switches (CE and/or CS)
  - with hospital tips (HT)
  - with decorative tips
  - with security studs
  - with non-removable pins (NRP)



Size Open		Gauge of Metal		Flat Head Screws Per Piece		Quantity Per Box	Quantity Per Case	Case Weight			
Inches	(mm)	Inches	(mm)	Machine	Wood			Bronze	Steel		
							Lbs.	(Kg)	Lbs.	(Kg)	
3 1/2 x 3	(89 x 76)	.123	(3.1)	6 - 10-24 x 1/2	6 -10 x 1	3 EA.	90 EA.	58	(26)	54	(24)
3 1/2 x 3 1/2	(89 x 89)	.123	(3.1)	6 - 10-24 x 1/2	6 -10 x 1	3 EA.	90 EA.	65	(29)	59	(27)
4 x 3 1/2	(102 x 89)	.130	(3.3)	8 - 12-24 x 1/2	8 -12 x 1 1/4	3 EA.	48 EA.	43	(19)	39	(18)
4 x 4	(102 x 102)	.130	(3.3)	8 - 12-24 x 1/2	8 -12 x 1 1/4	3 EA.	48 EA.	45	(20)	42	(19)
4 1/2 x 4	(114 x 102)	.134	(3.4)	8 - 12-24 x 1/2	8 -12 x 1 1/4	3 EA.	48 EA.	55	(25)	52	(24)
4 1/2 x 4 1/2	(114 x 114)	.134	(3.4)	8 - 12-24 x 1/2	8 -12 x 1 1/4	3 EA.	48 EA.	59	(27)	55	(25)
5 x 4	(127 x 102)	.146	(3.7)	8 - 12-24 x 1/2	4 -12 x 1 1/4	3 EA.	30 EA.	41	(19)	39	(18)
5 x 4 1/2	(127 x 114)	.146	(3.7)	8 - 12-24 x 1/2	4 -12 x 1 1/4	3 EA.	30 EA.	45	(20)	43	(19)
5 x 5	(127 x 127)	.146	(3.7)	8 - 12-24 x 1/2	4 -12 x 1 1/4	3 EA.	30 EA.	50	(23)	46	(21)
*6 x 4 1/2	(152 x 114)	.160	(4.1)	10 -1/4-20 x 1/2	5 -14 x 1 1/2	3 EA.	24 EA.	43	(19)	36	(16)
*6 x 5	(152 x 127)	.160	(4.1)	10 -1/4-20 x 1/2	5 -14 x 1 1/2	3 EA.	24 EA.	47	(21)	40	(18)
*6 x 6	(152 x 152)	.160	(4.1)	10 -1/4-20 x 1/2	5 -14 x 1 1/2	3 EA.	24 EA.	67	(30)	61	(28)

\* Available in Steel only

Consult factory for other sizes not listed

**Heavy Weight Ball Bearing**

**FBB168** – (ANSI A8111) Steel – polished and plated or phosphated and prime coated for painting

**FBB199** – (ANSI A2111) Brass or bronze – polished and plated or painted

**FBB199 (32)** – (ANSI A5111) Stainless steel – highly polished

**FBB199 (32D)** – (ANSI A5111) Stainless steel – satin finish

- For use on heavy doors or doors where high frequency is expected such as entrance doors to office buildings, stores, public buildings and corridor entrance doors to offices
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames
- Equipped with four Stanley permanently lubricated non-detachable ball bearings
- Pins in non-ferrous hinges are stainless steel
- Hole in bottom tip for easy pin removal
- Reversible flush tips and pins
- Hinges can be furnished as follows:
  - with raised barrel (RB)
  - with electric wires and/or switches (CE and/or CS)
  - with hospital tips (HT)
  - with decorative tips
  - with security studs
  - with non-removable pins (NRP)



Size Open		Gauge of Metal		Flat Head Screws Per Piece		Quantity Per Box	Quantity Per Case	Case Weight			
Inches	(mm)	Inches	(mm)	Machine	Wood			Bronze Lbs.	(Kg)	Steel Lbs.	(Kg)
4 1/2 x 4 1/2	(114 x 114)	.180	(4.6)	8 - 12-24 x 1/2	8 -12 x 1 1/4	3 EA.	30 EA.	45	(21)	42	(19)
5 x 4 1/2	(127 x 114)	.190	(4.8)	8 - 12-24 x 1/2	8 -12 x 1 1/2	3 EA.	24 EA.	46	(21)	40	(18)
5 x 5	(127 x 127)	.190	(4.8)	8 - 12-24 x 1/2	8 -12 x 1 1/2	3 EA.	24 EA.	50	(23)	46	(21)
6 x 4 1/2	(152 x 114)	.203	(5.2)	10 - 1/4-20 x 1/2	10 -14 x 1 1/2	3 EA.	24 EA.	63	(29)	53	(24)
6 x 5	(152 x 127)	.203	(5.2)	10 - 1/4-20 x 1/2	10 -14 x 1 1/2	3 EA.	24 EA.	65	(30)	55	(25)
6 x 6	(152 x 152)	.203	(5.2)	10 - 1/4-20 x 1/2	10 -14 x 1 1/2	3 EA.	24 EA.	76	(35)	61	(28)
8 x 6*	(203 x 152)	.203	(5.2)	16 - 1/4-20 x 1/2	16 -14 x 1 1/2	3 EA.	12 EA.	57	(26)	51	(23)
8 x 8*	(203 x 203)	.203	(5.2)	16 - 1/4-20 x 1/2	16 -14 x 1 1/2	3 EA.	12 EA.	68	(31)	61	(28)

\*Available in Steel only

Consult factory for other sizes not listed

5 KNUCKLE HALF SURFACE HINGES

Standard Weight Ball Bearing

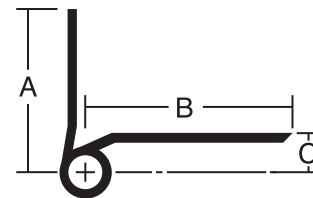
**FBB173** (ANSI A8412) – Steel – polished and plated or phosphated and prime coated for painting

**FBB112** (ANSI A2412) – Brass or bronze – highly polished and painted or plated

**FBB112 (32)** (ANSI A5412) – Stainless steel – highly polished

**FBB112 (32D)** (ANSI A5412) – Stainless steel – satin finish

- For medium weight wood, kalamein, or mineral core doors with edge rails that won't hold screws, hung on hollow metal frames, of average frequency
- Equipped with two Stanley permanently lubricated non-detachable ball bearings
- Pins in non-ferrous hinges are stainless steel
- Reversible flush tips and pins
- Hinges can be furnished with hospital tips (HT)
- Consider using a back plate with these hinges
- Packed with machine screws and grommet nuts for 1 3/4" doors



Measurements below

Size Length of Joint	Width		Offset (C)	Gauge of Metal	Flat Head Machine Screws/Per Piece		Quantity Per Box	Quantity Per Case	Case Weight	
	Frame Leaf (A)	Door Leaf (B)			Frame Leaf	Door Leaf			Bronze Lbs. (Kg)	Steel Lbs. (Kg)
4 (102)	1 13/16 (46)	2 1/4 (57.2)	1/2 (12.7)	.130 (3.3)	4-12-24 X 1/2	3-1/4-20 X 2	3 EA.	48 EA.	56 (26)	47 (22)
4 1/2 (114)	2 1/16 (52.4)	2 9/16 (65.1)	9/16 (14.3)	.134 (3.4)	4-12-24 X 1/2	3-1/4-20 X 2	3 EA.	30 EA.	44 (20)	37 (17)
5 (127)	2 1/16 (52.4)	2 7/8 (73)	9/16 (14.3)	.146 (3.7)	4-12-24 X 1/2	4-1/4-20 X 2	3 EA.	24 EA.	48 (22)	39 (18)