



KF Threaded & Grooved End
Floating Ball Valves



KF Threaded & Grooved End Floating Ball Valves

Features

- Full & reduced port
- Threaded, grooved and socketweld end connections
- External grease fitting for stem journal lubrication
- Weather seal (stem)
- Firesafe API 607 4th Edition
- Blowout proof stem design
- Heavy duty flatted stem design
- Metal-to-metal firesafe sealing
- Integral locking device

Options

- Antistatic device
- Actuation & square nut assemblies
- Enduro-Bond™ coating for corrosion resistance
- Valves specified with stainless steel trim meet NACE MR0175
- Anti-freeze design available

Durable yet economical design constructed of the highest quality materials available.

Series A/AH
Ductile iron body
1"FP-4"RP • 1500-2000 psi

Series C/CH/CXH
Carbon steel or stainless steel body
1"FP-4"FP • 1000-5000 psi

Series CA/CAH, Carbon steel body
2³/₈ EUE x 2¹/₁₆" Bore
2⁷/₈ EUE x 2⁹/₁₆" Bore
1000-3000 psi

Series CB/CBH
Nickel aluminum bronze body
1"FP-2"FP • 1000-3000 psi

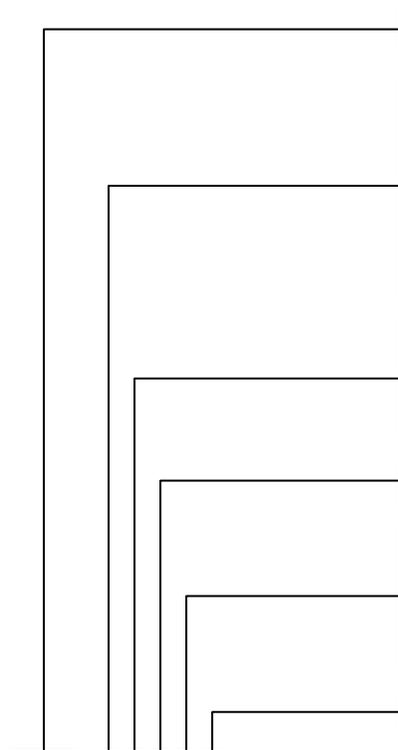
Series E/EC/EH
Ductile iron or stainless steel body
2"RP-4"RP • 750-1000 CWP



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KF Threaded & Grooved End Floating Ball Valves



2339-14312
Example

Base Number

See Chart Below

Trim Materials

Ball & Stem • Series A/AH, CA/CAH & E/EC/EH

- 1 • Carbon Steel 7 • All Stainless Steel (Series EC Only)
- 2 • Stainless Steel
- A • Carbon Steel w/Freeze
- B • Stainless Steel w/Freeze

Series CB/CBH

- 2 • Stainless Steel
- A • Carbon Steel w/Freeze

Body/Ball & Stem • Series C/CH/CXH

- 1 • Carbon Steel / Carbon Steel
- 2 • Carbon Steel / Stainless Steel
- 7 • Stainless Steel / Stainless Steel
- B • Stainless Steel w/Freeze

Seat & Seals

- 1 • Nylon/HNBR
- 2 • Teflon®/Viton®
- 3 • Nylon/Viton®
- 4 • Teflon®/HNBR
- 5 • PEEK™/Viton®
- 6 • PEEK™/EPDM
- 7 • PEEK™/Aflas®
- 8 • Nylon/PC Buna N
- 9 • Teflon®/PC Buna N
- D • PEEK™/ PC Buna N
- E • PEEK™/HNBR (D & E Not Available for CB/CBH)

Coating (Not Available for Series CB/CBH)

- 3 • Enduro-Bond™ Body/Adapter
- 9 • None

Actuation

Series A/AH, C/CH/CXH, CA/CAH & E/EC/EH

- 1 • Handle
- 2 • Square Nut
- 9 • Bare Stem

Series CB/CBH

- 1 • Handle
- 2 • Square Nut
- 3 • Handle w/Ribbon Seal Pin
- 4 • Square Nut w/Ribbon Seal Pin
- 8 • Bare Stem w/Ribbon Seal Pin
- 9 • Bare Stem

Options

- 1 • Standard
- 2 • with Antistatic Device

Note: Teflon® seats are not available for Series AFH, CH, CXH, CAH, CBH, CF and CFXH.
SS body not available for Series CXH or 4"FP Series CH.

Assembly Base Numbers

Series		Size (in.)							
		1FP	1 1/2FP	2RP	2FP	2 1/2RP	3RP	3FP	4RP
A	Threaded	2339-	2340-	2341-	2342-	2343-	2344-	2345-	2346-
	Grooved	2354-	2347-	2348-	2349-	2350-	2351-	2352-	2353-
AH	Threaded	2979-	2980-	2981-	2982-	—	2984-	—	—
	Grooved	2987-	2988-	2989-	—	—	—	—	—

Series		Size (in.)									
		1FP	1 1/2FP	2RP	2FP	2 1/2RP	3RP	2 1/2FP	3FP	4RP	4FP
C	Threaded	1477-	1500-	1501-	1502-	1503-	1504-	3798-	1505-	1506-	3604-
	Grooved	1478-	1507-	1508-	1509-	1510-	NA	3799-	1512-	1513-	3605-
CH		3001-	3002-	3003-	3004-	3005-	3006-	—	3007-	3008-	3363-
CXH		5050-	5051-	5052-	—	—	—	—	—	—	—

Series	Size (in.)	
	2 1/16 FP - 2 3/8 EUE	2 9/16 FP - 2 7/8 EUE
CA	1590-	1591-
CAH	2005-	2006-

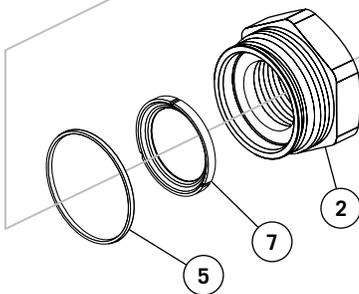
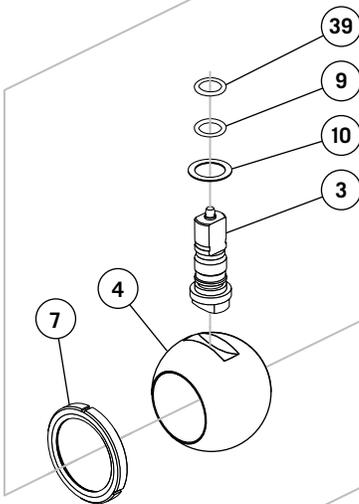
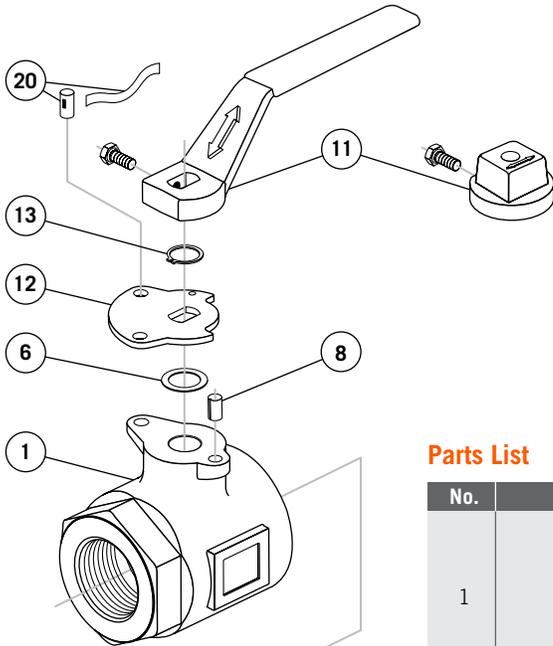
Series		Size (in.)		
		1FP	2RP	2FP
CB	Threaded	3351-	3353-	3354-
	Grooved	3371-	3373-	3374-
CBH		6070-	6072-	6073-

Series		Size (in.)			
		2 x 1 1/2	3 x 2	3 x 3	4 x 3
E	Threaded	3140-	3141-	3081-	3142-
	Grooved	3150-	3151-	3084-	3152-
EC	Grooved	3413-	3414-	—	3415-
EH	Threaded	6514-	6515-	—	6516-

Pressure Ratings

Series	Pressure Rating (in. • psi)
A	1FP-4RP • 1500
AH	1FP-3RP • 2000 1500 w/PTFE Seats
C	1FP-2FP • 2500 2 1/2RP-3RP • 2160 2 1/2 FP-4FP • 1500 w/Nylon or HT4 Seats 1FP-3RP • 1500 2 1/2FP-4FP • 1000 w/PTFE Seats
CH	1FP-4RP, 3FP-4FP • 3000
CXH	1FP-2RP • 5000
CA	2 1/16FP-2 9/16FP • 2000 1000 w/PTFE Seats
CAH	2 1/16FP-2 9/16FP • 3000
CB	1FP-2RP • 2500 2FP • 2160 w/Nylon or HT4 Seats 1FP-2FP • 1500 w/PTFE Seats
CBH	1FP -2FP • 3000
E/EC	2 RP-4 RP • 750 CWP
EH	2 RP-4 RP • 1000 CWP

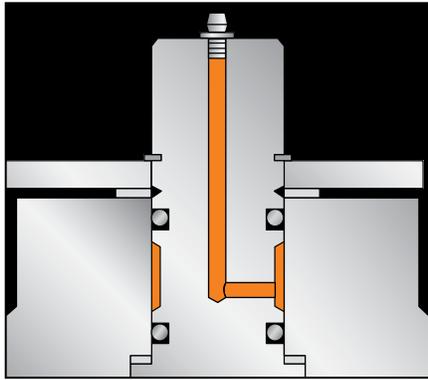
KF Threaded & Grooved End Floating Ball Valves



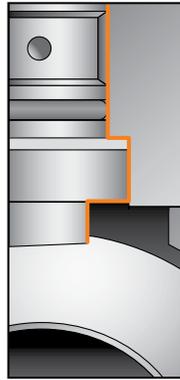
Parts List

No.	Description	Material
1	Body A/AH C/CH/CXH CA/CAH CB/CBH E/EC/EH	ASTM A395 Ductile Iron/A216 WCB CS A216 WCB/A105 CS or A351 Gr. CF8M ASTM A487 Gr. 4C Carbon Steel Ni-Aluminum Bronze, B-148-955 ASTM 395 Ductile Iron (E/EH), A351 Gr. CF8M (EC)
2	Adapter A/AH C/CH/CXH CA/CAH CB/CBH E/EC/EH	ASTM A395 Ductile Iron/A216 WCB CS A216 WCB/A105 CS or A351 Gr. CF8M ASTM A487 Gr. 4C Carbon Steel Ni-Aluminum Bronze, B-148-955 ASTM 395 Ductile Iron (E/EH), A351 Gr. CF8M (EC)
3	Stem A/AH/CA/CAH/E/EC/EH C/CH/CXH CB/CBH	Carbon Steel/Zinc Plated or 316 Stainless Steel Carbon Steel/Zinc Plated or 316SS, 17-4 SS 316 Stainless Steel or Monel®
4	Ball All Except CB/CBH CB/CBH	1215CS w/Chrome Over Nickel Plating or 316SS 316 Stainless Steel or Monel® Alloy 400
5	Body Seal	HNBR, Viton®, PC Buna N, EPDM or Aflas®
6	Stem Bearing	Nylon
7	Seat A/AH/E/EC/EH C/CH/CXH/CB/CBH CA/CAH	Nylon, Reinforced Teflon® or PEEK™ Nylon (Delrin® in CH/CXH/CBH), RTFE (C/CB) or PEEK™ Nylon (Delrin® in CAH), Reinforced Teflon® or PEEK™
8	Stop	Steel
9	Stem Seal	HNBR, Viton®, PC Buna N, EPDM or Aflas®
10	Thrust Bearing	Teflon® (HT4 when Using Hi Temp Seats & Seals)
11	Handle/Sq. Nut A/AH/E/EC/EH C/CH/CXH CA/CAH CB/CBH	1018 Carbon Steel (1"FP) or A47 Malleable Iron 1018CS (1"FP), A47 Malleable Iron (1½"FP-4"RP) A216 Gr. WCB (4"FP) 1018 Carbon Steel or A47 Malleable Iron 1018 Carbon Steel (1"FP) or A47 Malleable Iron (1½"FP-2"FP)
12	Stop Plate	Steel Plated
13	Retainer	Spring Steel
20	Ribbon Seal Pin	Copper Pin/Steel Chain (E/EC/EH Only)
39	Weather Seal	Buna N Only

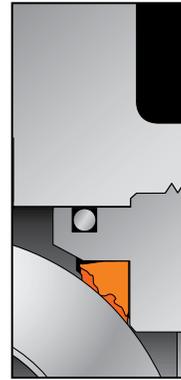
KF Threaded & Grooved End Floating Ball Valves



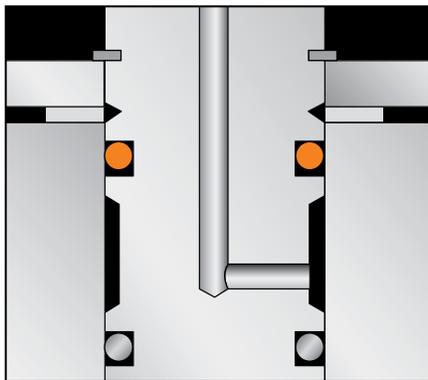
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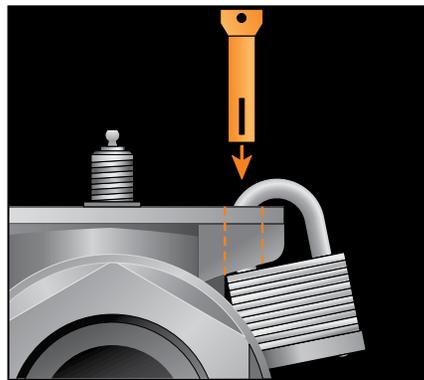
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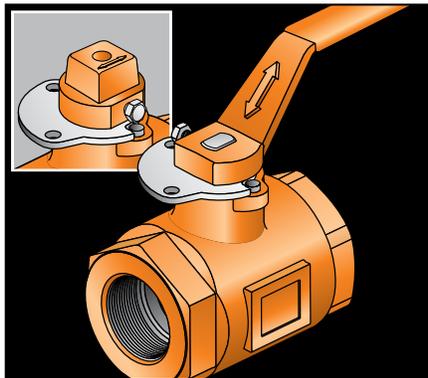
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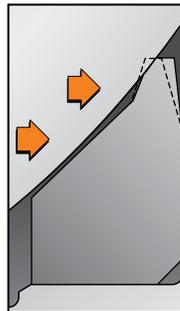


6 *Padlocks not included.

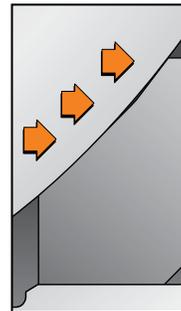


7 Standard Handle, Stem Wrench Area

KF ball valves are equipped with durable handles as a standard feature. Valves can also be provided with square nut assemblies. The heavy-duty flattened stem design allows usage of standard wrenches when necessary to conserve space and prevent accidental operation.



Low Pressure
Seat Position



High Pressure
Seat Position

8 Low Pressure Seat Position

An integral seat lip provides positive low pressure “bubble-tight” sealing of ball and seat. The assembly preload insures constant surface load of ball to seat with minimal operating torque.

1 Stem Journal Lubrication

Valves that utilize an external stem lubrication fitting also incorporate a vented weather seal which allows safe pressure relief in the event of excessive grease gun pressure.

2 Blowout Proof Stem

Internally inserted “backseated” stem assures fire safety and blowout prevention by retaining stem in the valve at all pressures.

3 Firesafe Design/Certified

Upon destruction of the seat (in the event of a fire) the ball floats downstream to provide metal-to-metal contact behind the seat area. Pressure assisted shut-off prevents fire feeding leakage.

4 Weather Seal

Weather seals are utilized in most KF ball valves to effectively eliminate stem journal corrosion, abrasion and galling. The series W and B/BH feature stem packing instead of the weather seal.

5 Fight the Cost of Corrosion

(Not pictured) Prolong the life of your valves by reducing corrosion with Enduro-Bond™ coating. Internal and external protection now available for many KF Valves. Consult factory for more information.

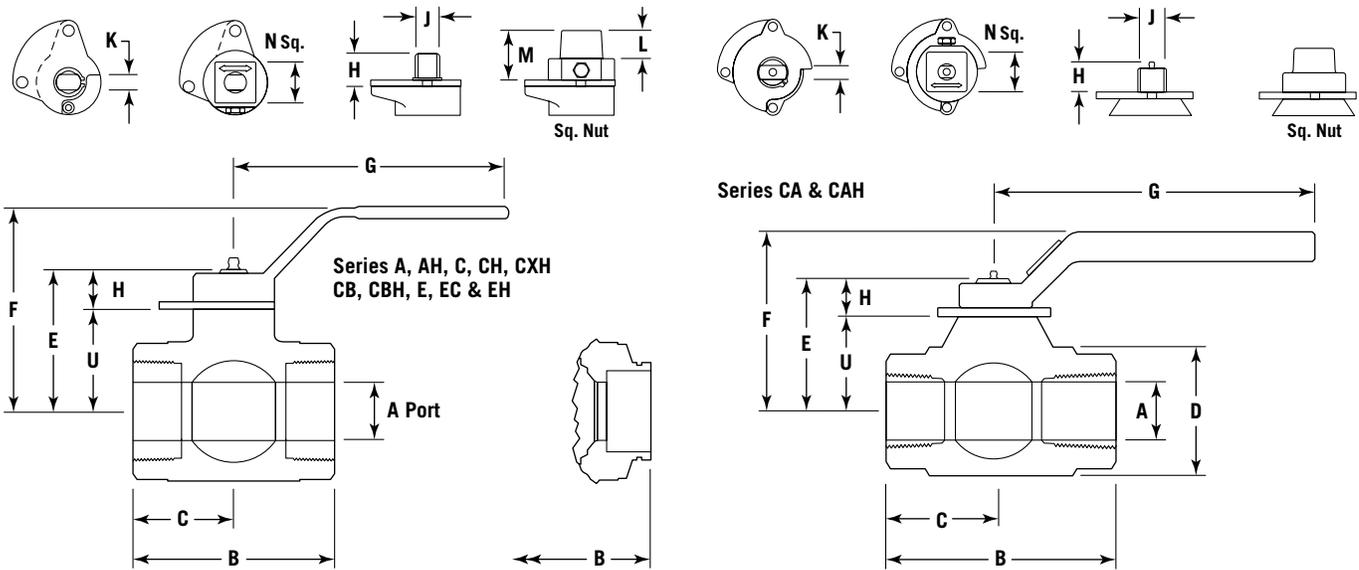
6 Secure Your Investment

A majority of the threaded/grooved ball valves come standard with an integral locking ear to prevent unauthorized operation.

High Pressure Seat Position

The KF seat lip deflects slightly at higher pressures to ensure full seat-to-ball contact. The seat’s “memory-action” provides bubble-tight sealing at low and high pressures. This “self compensation for swell” feature results in low torque and long life operation.

KF Threaded & Grooved End Floating Ball Valves



Series A/AH Dimensional Data (in., mm)

Size (in.)	Dimension (in.)													
	A	B/Thrd.	B/Grvd.	C	E	F	G	H	J	K	L	M	N	U
1FP	1.00	4.00	4.88	2.00	2.75	3.06	6.25	1.03	.615/.610	.372/.370	—	—	—	1.72
1½FP/2RP	1.50	5.50	6.00	2.75	3.66	5.41	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	2.63
2FP/2½RP	2.00	6.00	6.31	3.00	4.09	5.84	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	3.06
3RP	2.00	7.50	7.31	3.31	4.09	5.84	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	3.06
3FP/4RP	3.00	8.75	8.75	4.38	5.34	6.69	15.00	1.34	1.235/1.230	.621/.618	1.13	2.00	1.81	4.00
Size (in.)	Dimension (mm)													
	A	B/Thrd.	B/Grvd.	C	E	F	G	H	J	K	L	M	N	U
1FP	25.40	101.6	124.0	50.80	69.85	77.72	158.8	26.16	15.62/15.49	9.45/9.40	—	—	—	43.69
1½FP/2RP	38.10	139.7	152.4	69.85	92.96	137.4	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	66.80
2FP/2½RP	50.80	152.4	160.3	76.20	103.9	148.3	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	77.72
3RP	50.80	190.5	185.7	84.07	103.9	148.3	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	77.72
3FP/4RP	76.20	222.3	222.3	111.3	135.6	169.9	381.0	34.04	31.37/31.24	15.77/15.70	28.70	50.80	45.97	101.6

Series C/CH/CXH Dimensional Data (in., mm)

Size (in.)	Dimension (in.)														
	A	B/Thrd.	B/Grvd.	C	E	F	G/C	G/CH	H	J	K	L	M	N	U
1FP	1.00	4.00	4.88	2.00	2.75	3.06	6.25	6.25	1.03	.615/.610	.372/.370	—	—	—	1.72
1½FP/2RP	1.50	5.50	6.00	2.75	3.66	5.41	8.50	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	2.63
2FP/2½RP	2.00	6.00	6.31	3.00	4.09	5.84	8.50	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	3.06
2½FP	2.50	7.00	7.00	3.38	5.03	6.47	15.00	15.00	1.38	1.235/1.230	.621/.618	1.13	2.00	1.81	3.66
3RP	2.00	7.50	NA	3.31	4.09	5.84	8.50	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	3.06
3FP/4RP	3.00	8.75	8.75	4.38	5.34	6.69	15.00	15.00	1.34	1.235/1.230	.621/.618	1.13	2.00	1.81	4.00
4FP	4.00	9.38	9.38	4.69	6.34	8.06	18.00	48.00	1.34	1.360/1.355	.747/.743	1.13	2.00	1.81	5.00
Size (in.)	Dimension (mm)														
	A	B/Thrd.	B/Grvd.	C	E	F	G/C	G/CH	H	J	K	L	M	N	U
1FP	25.40	101.6	124.0	50.80	69.85	77.72	158.8	158.8	26.16	15.62/15.49	9.45/9.40	—	—	—	43.69
1½FP/2RP	38.10	139.7	152.4	69.85	92.96	137.4	215.9	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	66.80
2FP/2½RP	50.80	152.4	160.3	76.20	103.9	148.3	215.9	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	77.72
2½FP	63.50	177.8	177.8	85.85	127.8	164.3	381.0	381.0	35.05	31.37/31.24	15.77/15.70	28.70	50.80	45.97	92.96
3RP	50.80	190.5	NA	84.07	103.9	148.3	215.9	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	77.72
3FP/4RP	76.20	222.3	222.3	111.3	135.6	169.9	381.0	381.0	34.04	31.37/31.24	15.77/15.70	28.70	50.80	45.97	101.6
4FP	101.6	238.3	238.3	119.1	161.0	204.7	457.2	1219.2	34.04	34.54/34.42	18.97/18.87	28.70	50.80	45.97	127.0

KF Threaded & Grooved End Floating Ball Valves

Series CA/CAH Dimensional Data (in., mm)

Size (in.)	Dimension (in.)											
	A	B	C	D	E	F	G	H	J	K	N	U
2 3/8 EUE x 2 1/16 Bore	2.06	8.50	4.25	4.50	4.75	6.09	15.00	1.34	1.235/1.230	.622/.618	1.81	3.41
2 7/8 EUE x 2 9/16 Bore	2.56	9.50	4.75	5.38	5.03	6.38	15.00	1.38	1.235/1.230	.622/.618	1.81	3.66
Size (in.)	Dimension (mm)											
2 3/8 EUE x 2 1/16 Bore	52.32	215.9	108.0	114.3	120.7	154.7	381.0	34.04	31.37/31.24	15.80/15.70	45.97	86.61
2 7/8 EUE x 2 9/16 Bore	65.02	241.3	120.7	136.7	127.8	162.1	381.0	35.05	31.37/31.24	15.80/15.70	45.97	92.96

Series CB/CBH Dimensional Data (in., mm)

Size (in.)	Dimension (in.)													
	A	B/Thrd.	B/Grvd.	C	E	F	G	H	J	K	L	M	N	U
1FP	1.00	4.00	4.88	2.00	2.75	3.06	6.25	1.03	.615/.610	.372/.370	—	—	—	1.72
2RP	1.50	5.50	6.00	2.75	3.66	5.41	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	2.63
2FP	2.00	6.00	6.25	3.00	4.09	5.84	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	3.06
Size (in.)	Dimension (mm)													
1FP	25.40	101.6	124.0	50.80	69.85	77.72	158.8	26.16	15.62/15.49	9.45/9.40	—	—	—	43.69
2RP	38.10	139.7	152.4	69.85	92.96	137.4	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	66.80
2FP	50.80	152.4	158.8	76.20	103.9	148.3	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	77.72

Series E/EC/EH Dimensional Data (in., mm)

Size (in.)	Dimension (in.)															
	A	B/Thrd.	B/Grvd.	B/EC	C/Thrd.	C/Grvd.	E	F	G	H	J	K	L	M	N	U
2RP	1.50	5.25	5.13	5.06	2.75	2.28	3.66	5.41	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	2.63
3RP	2.00	7.31	7.31	6.13	3.31	3.31	4.09	5.84	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	3.06
3FP	3.00	7.50	7.31	—	3.75	3.50	5.34	6.69	15.00	1.34	1.235/1.230	.622/.618	1.13	2.00	1.81	4.00
4RP	3.00	8.75	8.75	—	4.38	4.38	5.34	6.69	15.00	1.34	1.235/1.230	.622/.618	1.13	2.00	1.81	4.00
Size (in.)	Dimension (mm)															
2RP	38.10	133.4	130.3	128.5	69.85	57.91	92.96	137.4	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	66.80
3RP	50.80	185.7	185.7	155.7	84.07	84.07	103.9	148.3	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	77.72
3FP	76.20	190.5	185.7	—	95.25	88.90	135.6	169.9	381.0	34.04	31.37/31.24	15.80/15.70	28.70	50.80	45.97	101.6
4RP	76.20	222.3	222.3	—	111.3	111.3	135.6	169.9	381.0	34.04	31.37/31.24	15.80/15.70	28.70	50.80	45.97	101.6

Weights with Handle Except As Noted (lbs., kg)

Size (in.)	Series	Weight	
		(lbs.)	(kg)
1 x 1FP	A/AH/C/CH/CXH/CB/CBH	4.50	2.04
1 1/2 x 1 1/2 FP	A/AH/C/CH/CXH	13.00	5.90
2 x 1 1/2 RP	A/AH/C/CH/CXH/CB/CBH/E/EC/EH	12.50	5.67
2 x 2FP	A/AH/C/CH/CXH/CB/CBH	18.00	8.16
2 1/2 x 2 RP	A/AH/C/CH/CXH	16.25	7.37
2 1/2 x 2 1/2 FP	C/CH/CXH	20.00	9.07
3 x 2RP	A/AH/C/CH/CXH/E/EC/EH	22.00	9.98
3 x 3FP	A/AH/C/CH/CXH/E/EC/EH	52.00	23.59
4 x 3RP	A/AH/C/CH/CXH/E/EC/EH	46.00	20.87
4 x 4FP	C/CH/CXH	58.00	26.31
2 3/8 EUE x 2 1/16 Bore	CA/CAH*	28.00	12.70
2 7/8 EUE x 2 9/16 Bore	CA/CAH*	36.00	16.33

*Handle weight not included.

KF Threaded Bolted Body Floating Ball Valves

Features

- Full & reduced port
- Secured bolted body & adapter threaded end connections
- External grease fitting for stem journal lubrication
- Weather seal (stem)
- Blowout proof stem design
- Heavy duty flatted stem design
- Metal-to-metal firesafe sealing
- Integral locking device

Options

- Antistatic device
- Manual operation handle, actuation & square nut assemblies
- Enduro-Bond™ coating for corrosion resistance
- NACE MRO175 & ANSI B16.34 conformance
- Anti-freeze design

Durable and economical, utilizing a flanged body and adapter secured by cap screws to provide a firesafe connection and maintain seal integrity when servicing.

Series AF/AFH
Ductile iron or carbon steel body
2"RP-4"RP • 1000-2000 psi
Series CF/CFH/CFXH
Carbon steel body
2"RP-4"RP • 1500-5000 psi

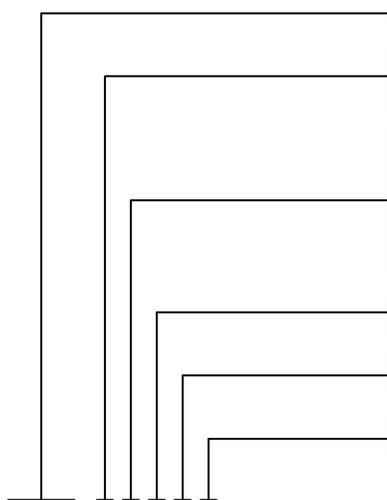


Series AF



Series CFXH

Part Number Codes



6390-21912

Example

Base Number • See Chart Below

Trim (Ball & Stem) & Bolting

- 1 • Carbon Steel (Non-NACE)
- 2 • Stainless Steel (NACE III)
- A • SS (NACE II)
- B • SS (Non-NACE)

- C • CS w/Freeze (Non-NACE, AF/AFH)
- D • SS w/Freeze (NACE II, AF/AFH)

Seat & Seals

- 1 • Nylon/HNBR (AF/AFH)
- 2 • Teflon®/Viton® (AF & CFH)
- 3 • Nylon/Viton® (AF/AFH)
- 4 • Teflon®/HNBR (AF & CFH)
- 5 • PEEK™/Viton®
- 6 • PEEK™/EPDM
- 7 • PEEK™/Aflas®
- 8 • Nylon/PC Buna N (AF/AFH)
- 9 • Teflon®/PC Buna N (AF & CFH)
- D • PEEK™/PC Buna N
- E • PEEK™/HNBR

Coating

- 3 • Enduro-Bond™ Body/Adapter
- 9 • None

Actuation

- 1 • Handle
- 2 • Square Nut
- 9 • Bare Stem

Options

- 1 • Standard
- 2 • With Antistatic Device

Pressure Ratings

Series	Pressure Rating (in. • psi)
AF	2RP-3RP • 1500 3FP-4RP • 1000
AFH	2RP-3RP • 2000 1500 w/PTFE Seats
CF	2RP • 2500 1500 w/Teflon® Seats 2FP-3RP • 2160 3FP-4RP • 1500
CFH	1000 w/Teflon® Seats
CFXH	2RP-4RP • 3000
CFXH	2RP-2FP • 5000

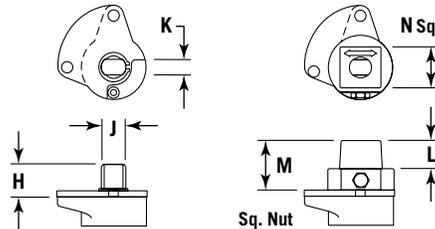
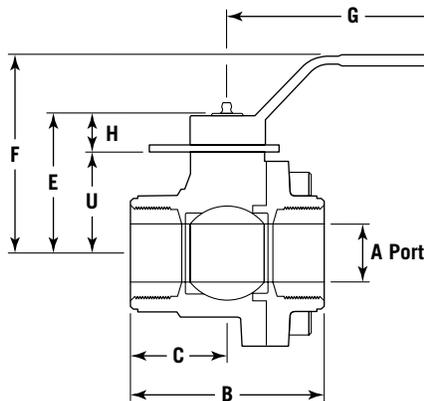
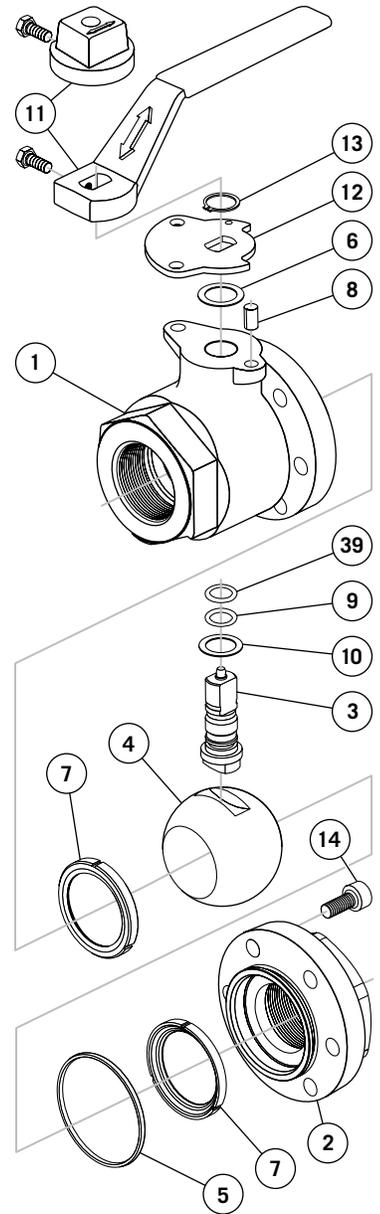
Assembly Base Numbers

Series	Size (in.)				
	2 RP	2 FP	3 RP	3 FP	4 RP
AF	6377-	6378-	6379-	6380-	6381-
AFH	6383-	6384-	6385-	—	—
CF	6389-	6390-	6391-	6392-	6393-
CFH	6395-	6396-	6397-	6398-	6399-
CFXH	6375-	6376-	—	—	—

KF Threaded Bolted Body Floating Ball Valves

Parts List

No.	Description	Material
1	Body AF/AFH CF/CFH/CFXH	ASTM A395 Ductile Iron/A216 WCB CS A216 WCB
2	Adapter AF/AFH CF/CFH/CFXH	ASTM A395 Ductile Iron/A216 WCB CS A216 WCB
3	Stem	Carbon Steel/Zinc Plated or 316 Stainless Steel
4	Ball	1215CS w/Chrome Over Nickel Plating or 316SS
5	Body Seal	HNBR, Viton®, PC Buna N, EPDM or Aflas®
6	Stem Bearing	Nylon
7	Seat AF/AFH CF/CFH/CFXH	Nylon, Reinforced Teflon® or PEEK™ Delrin®, Reinforced Teflon® or PEEK™
8	Stop	Steel
9	Stem Seal	HNBR, Viton®, PC Buna N, EPDM or Aflas®
10	Thrust Bearing	Teflon® (HT4 when using HT4 Seats)
11	Handle/Sq. Nut	A47 Malleable Iron
12	Stop Plate	Steel Plated
13	Retainer	Spring Steel
14	Cap Screw	Carbon Steel B7 (NACE III) or B7M (NACE II)
39	Weather Seal	Buna N Only



Weights with Handle (lbs., kg)

Size (in.)	Weight	
	(lbs.)	(kg)
2 x 1 1/2 RP	12.50	5.67
2 x 2 FFP	21.00	9.53
3 x 2 RP	25.00	11.34
3 x 3 FFP	60.00	27.22
4 x 3 RP	53.00	24.04

Dimensional Data (in., mm)

Size (in.)	Dimension (in.)														
	A	B		C		E	F	G	H	J	K	L	M	N	U
		CF/CFH AF/AFH	CFXH	CF/CFH AF/AFH	CFXH										
2RP	1.50	5.09	5.09	2.55	2.55	3.66	5.38	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	2.63
2FP	2.00	5.75	6.13	2.88	2.81	4.09	5.84	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	3.06
3RP	2.00	7.25	—	3.63	—	4.09	5.84	8.50	1.03	.860/.855	.560/.556	1.00	1.75	1.44	3.06
3FP/4RP	3.00	8.13	—	4.00	—	5.34	6.69	15.00	1.34	1.235/1.230	.621/.618	1.13	2.00	1.81	4.00
Dimension (mm)															
2RP	38.10	129.3	129.3	64.77	64.77	92.96	136.7	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	66.80
2FP	50.80	146.1	155.7	73.15	71.37	103.9	148.3	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	77.72
3RP	50.80	184.2	—	92.20	—	103.9	148.3	215.9	26.16	21.84/21.72	14.22/14.12	25.40	44.45	36.58	77.72
3FP/4RP	76.20	206.5	—	101.6	—	135.6	169.9	381.0	34.04	31.37/31.24	15.77/15.70	28.70	50.80	45.97	101.6

KF Three-Piece Threaded & Socketweld End Floating Ball Valves

Features

- Full & reduced port
- Male, female or socketweld end connections
- Graphite stem packing
- Blowout proof stem design
- Heavy duty flatted stem design
- Metal-to-metal firesafe sealing
- Manual operation handle
- Direct mount actuation pattern

Options

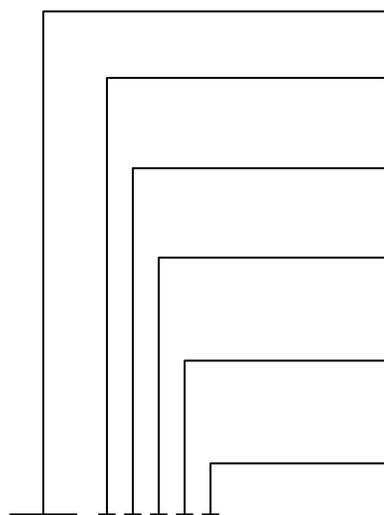
- Antistatic device
- Oval handle & locking device
- Actuation & square nut assemblies
- Enduro-Bond™ coating for corrosion resistance
- Valves specified with stainless steel trim meet NACE MR0175
- Anti-freeze design

Versatile high quality three-piece body construction in carbon steel, stainless steel or low temp carbon steel. Available with any combination of male, female or socketweld end connections.

Series B • 1/4" FP thru 2" RP
3000 psi, 2250 psi for ptfe seats
Series BH
1/4" FP thru 1" FP • 5000 psi



Part Number Codes



6100-12273

Example

Base Number • See Chart Below

Body & Adapter (& External Parts)

- 1 • Carbon Steel
- 2 • Stainless Steel
- 3 • Enduro-Bond™ CS Body/Adapter
- 5 • SS Body w/LT CS Adapters (LF2)
- 8 • Low Temp Carbon Steel

End Connections

- 1 • Female x Female
- 2 • Male x Female
- 3 • Male x Male
- 4 • Socketweld x Socketweld
- 5 • Socketweld x Female
- 6 • Socketweld x Male

Trim (Ball & Stem)

- 1 • Carbon Steel
- 2 • Stainless Steel
- A • Carbon Steel w/Antistatic
- B • Stainless Steel w/Antistatic

Seat & Seat Seals

- 1 • Delrin®/Buna N
- 2 • Teflon®/None (B Only)
- 3 • Delrin®/Viton®
- 4 • HT4/LT Buna N
- 5 • HT4/Viton®
- 6 • PEEK™/EPDM
- 7 • PEEK™/Atlas®
- 8 • PEEK™/PC Buna N
- 9 • Delrin®/PC Buna N

Actuation

- 1 • Handle
- 2 • Handle w/Locking Device
- 3 • Handle w/Locking Device
- 7 • Oval Handle
- A • For Actuation (Consult Factory for Topworks Data)

Assembly Base Numbers

Series		Size (in.)						
		1/4FP	1/2FP	3/4FP	1RP	1FP	1 1/2FP	2RP
B	Standard	6100-	6102-	6103-	6104-	6105-	6107-	6108-
	Secured Adapter	8020-	8022-	8023-	8024-	8025-	8027-	8028-
BH	Standard	6112-	6114-	6115-	6116-	6117-	—	—
	Secured Adapter	8030-	8032-	8033-	8034-	8035-	—	—

Pressure Ratings

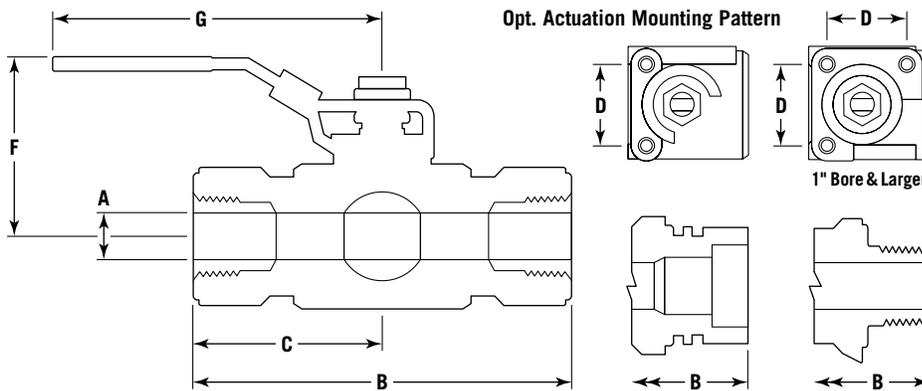
Series	Pressure Rating (in. • psi)
B	1/4FP-2RP • 3000 2250 w/PTFE Seats
BH	1/4FP-1FP • 5000

KF Three-Piece Threaded & Socketweld End Floating Ball Valves

Parts List

No.	Description	Material
1	Body	A216 WCB CS, A351 Gr. CF8M SS or A352 LCC
2	Adapter	AISI 1018CS, AISI 316SS or A350 Gr. LF2 Low Temp.
3	Stem	Plated 12L14 Carbon Steel or 316SS
4	Ball	Plated 12L14 Carbon Steel or 316SS (1/2" 316SS Std.)
5	Adapter Gasket	Virgin PTFE
7	Seat	Delrin®, PEEK™ or PTFE (B Only)
8	Seat Seal*	Buna N, Viton®, PC Buna N, EPDM or Aflas®
9	Stem Washer	316 Stainless Steel (1/2" Body Only)
10	Packing	RTFE (Standard) or Grafoil® (Optional)
11	Thrust Bearing	Coated 316SS, 1"FP-2"RP, PTFE or PEEK™
12	Handle Assembly	304 Stainless Steel
13	Packing Nut	316 Stainless Steel
14	Handle Nut	316 Stainless Steel
15	Lock Washer	316 Stainless Steel
17	Set Screw	Carbon Steel or 316 Stainless Steel

*Not required when using PTFE seats.

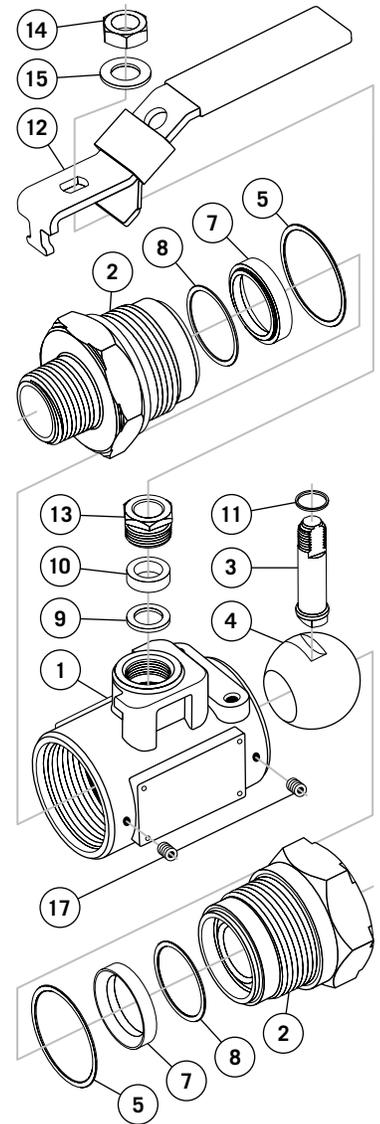


Weights with Handle (lbs., kg)

Size (in.)	Weight		Size (in.)	Weight	
	(lbs.)	(kg)		(lbs.)	(kg)
1/4 x 1/2 FP / 1/2 x 1/2 FP	2.00	0.91	1 x 1FP	5.00	2.27
3/4 x 3/4 FP / 1 x 3/4 RP	2.50	1.13	1 1/2 x 1 1/2 FP / 2 x 1 1/2 RP	10.75	4.88

Dimensional Data (in., mm)

Size (in.)	Dimension (in.)												
	A	B/FxF	B/MxM	B/FxM	B/SWxSW	B/SWxF	B/SWxM	C/F	F/Std.	F/Lckg.	G/Std.	G/Lckg.	
1/4FP	0.50	3.00	3.81	3.38	5.00	4.00	4.38	1.50	—	1.88	—	3.81	
1/2FP	0.50	4.00	4.44	4.25	5.00	4.50	4.75	2.00	—	1.88	—	3.81	
3/4FP/1RP	0.75	4.25	5.13	4.69	6.25	5.25	5.69	2.13	—	2.38	—	4.31	
1FP	1.00	4.50	—	—	6.50	5.50	—	2.25	—	3.06	—	8.00	
1 1/2FP	1.50	5.25	—	—	7.50	6.38	—	2.63	4.00	3.94	11.00	12.00	
2RP	1.50	6.25	7.38	6.81	7.50	7.38	7.94	3.13	4.00	3.94	11.00	12.00	
Dimension (mm)													
1/4FP	12.70	76.20	96.77	85.85	127.0	101.6	111.3	38.10	—	47.75	—	96.77	
1/2FP	12.70	101.6	112.8	108.0	127.0	114.3	120.7	50.80	—	47.75	—	96.77	
3/4FP/1RP	19.05	108.0	130.3	119.1	158.8	133.4	144.5	54.10	—	60.45	—	109.5	
1FP	25.40	114.3	—	—	165.1	139.7	—	57.15	—	77.72	—	203.2	
1 1/2FP	38.10	133.4	—	—	190.5	162.1	—	66.80	101.6	100.1	279.4	304.8	
2RP	38.10	158.8	187.5	173.0	190.5	187.5	201.7	79.50	101.6	100.1	279.4	304.8	



KF Commodity Ball Valves

Features

- Two-piece & unibody
- Reinforced PTFE seats
- Carbon & stainless steel balls
- Blowout proof stem
- Locking device
- NACE MR10175
- Firesafe API 607

Designed for hydraulic hook-ups, offshore, well heads, production lines, petroleum and chemical plants and compressor skids to name a few applications.

Series W & HC-740 two-piece
 Series HS-820 two-piece seal weld
 Series HC-710, HC-730 & HS-810 unibody
 Carbon steel or stainless steel body
 1/4"-2" • 1500-2000 CWP
 Series HB-600 two-piece bronze body
 1/4"-4" • 400-600 CWP



Series HC-710 unibody



Series HS-820 two-piece seal-welded



Series HS-810 unibody



Series HC-740 two-piece w/optional locking device



Series HC-730 unibody



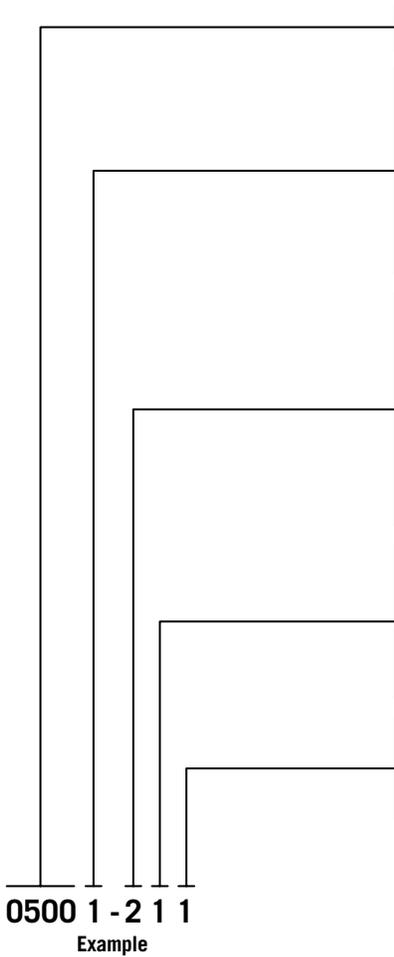
Series W two-piece seal-welded*



Series HB-600 two-piece

* Seal-welded in 1 1/2" - 2" Only

KF Commodity Ball Valves



Base Number

U500 • Unibody **0500** • Two-Piece (For Part Number Codes See Chart Below)

Size

Series W, HC-710, HC/HXC-740, HS-810/820 & HB-600

0 • 1/4" **3** • 3/4" **6** • 1 1/2" **9** • 3"
1 • 3/8" **4** • 1" **7** • 2" **10** • 4"
2 • 1/2" **5** • 1 1/4" (Not Available for W) **8** • 2 1/2" (8, 9 & 10 HB-600 Only)

Series HC/HXC-730

2 • 1/2" **4** • 1" **7** • 2"
3 • 3/4" **6** • 1 1/2"

Series

Series W Body/Adapter Packing Nut

1 • Carbon Steel w/Zinc Plating **B** • Carbon Steel w/Black Oxide
2 • Stainless Steel (S8000)*

Series HC-710, HC/HXC-730/740, HS-810/820 & HB-600

C • HC-710 (CS) **S** • HS-820 (FxF) **3** • HB-600 (Replaces WBZ)
D • HS-810 (SS) **T** • HXC-730 (1 1/2"-2") **F** • HB-600F (2"FP Only)
P • HC-740 **V** • HXC-740 (1 1/4"-2") **M** • HB-600M (2"RP Lightweight Design)
Q • HC-730

Trim (Ball & Stem)

Series W, HC-710 & HS-810

1 • 316 Stainless Steel

Series HC/HXC-730

1 • Carbon Steel
2 • 316 Stainless Steel

Series HS-820

2 • 316 Stainless Steel

Series HC/HXC-740

1 • Carbon Steel, Plated
2 • 316 Stainless Steel

Series HB-600

2 • 316 Stainless Steel
3 • Hard Chrome Plated Brass Ball/Unplated Brass Stem

Actuation

Series W, HC-710 & HS-810

1 • Handle w/Locking Device
3 • Oval Locking Handle

Series HC/HXC-730 & 740

1 • Handle
2 • Handle w/Locking Device

Series HS-820 & HB-600

2 • Handle w/Locking Device

*All Stainless Steel Series W valves conform to NACE MR0175.

Part Number Codes

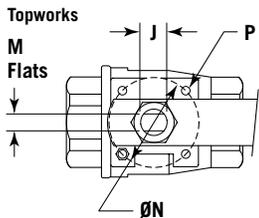
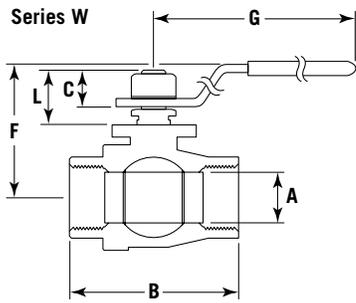
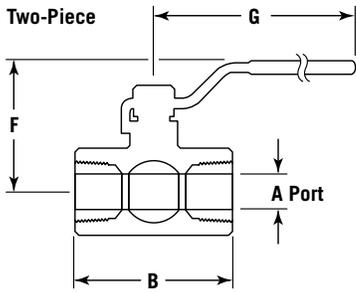
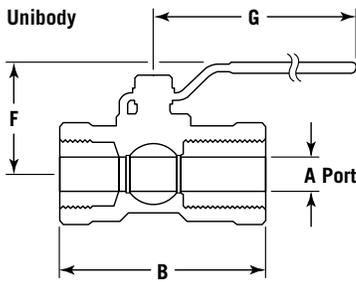
Size (in.)	Series/Part Number						
	Unibody Ball Valves			Two-Piece Ball Valves			
	HC-710	HS-810	HC/HXC-730	HC/HXC-740	HS-820	W	HB-600
1/4	U5000-C1X	U5000-D2X	—	05000-PXX	05000-S22	05000-X1X	05000-3X2
3/8	U5001-C1X	U5001-D2X	—	05001-PXX	05001-S22	05001-X1X	05001-3X2
1/2	U5002-C1X	U5002-D2X	U5002-QXX	05002-PXX	05002-S22	05002-X1X	05002-3X2
3/4	U5003-C1X	U5003-D2X	U5003-QXX	05003-PXX	05003-S22	05003-X1X	05003-3X2
1	U5004-C1X	U5004-D2X	U5004-QXX	05004-P1X	05004-S22	05004-X1X	05004-3X2
1 1/4	U5005-C1X	U5005-D2X	—	05005-XXX	05005-S22	—	05005-3X2
1 1/2	U5006-C1X	U5006-D2X	U5006-XXX	05006-XXX	05006-S22	05006-X1X	05006-3X2
2	U5007-C1X	U5007-D2X	U5007-XXX	05007-XXX	05007-S22	05007-X1X	05007-3X2
2M	—	—	—	—	—	—	05007-MX2
2F	—	—	—	—	—	—	05007-FX2
2 1/2	—	—	—	—	—	—	05008-3X2
3	—	—	—	—	—	—	05009-3X2
4	—	—	—	—	—	—	05010-3X2

Pressure Ratings

Series	Pressure Rating (in. • CWP)
HC-710	1/4 - 2 • 2000
HS-810	1/4 - 2 • 2000
HC-730	1/2 - 1 • 2000
	1 1/2, 2 • 1500*
HC-740	1/4 - 1 • 2000
	1 1/4 - 2 • 1500*
HS-820	1/4 - 2 • 2000
	W 1/4 - 2 • 2000
HB-600	1/4 - 2M • 600
	2F - 4 • 400

*HXC-730 and HXC-740, 2000 CWP

KF Commodity Ball Valves



Dimensional Data (in., mm)

Size (in.)	Unibody Dimensions (in.)								Weight (lbs.)	
	A		B		F		G		HC-710 HS-810	HC/HXC 730
1/4	0.31	—	2.60	—	1.97	—	4.29	—	0.66	—
3/8	0.31	—	2.60	—	1.97	—	4.29	—	0.66	—
1/2	0.31	0.40	2.60	2.19	1.97	1.63	4.29	3.78	0.66	0.50
3/4	0.47	0.54	2.83	2.62	2.20	1.73	4.29	3.78	0.93	0.80
1	0.62	0.68	3.23	3.12	2.56	2.08	5.75	5.10	1.59	1.4
1 1/4	0.81	—	3.54	—	2.76	—	5.75	—	2.12	—
1 1/2	1.00	1.00	3.86	4.00	3.29	2.58	7.40	6.10	3.22	3.1
2	1.25	1.25	4.33	4.50	3.49	2.98	7.40	6.10	4.65	5.0
Unibody Dimensions (mm) (kg)										
1/4	7.87	—	66.04	—	50.04	—	109.0	—	0.30	—
3/8	7.87	—	66.04	—	50.04	—	109.0	—	0.30	—
1/2	7.87	10.16	66.04	55.63	50.04	41.40	109.0	96.01	0.30	0.23
3/4	11.94	13.72	71.88	66.55	55.88	43.94	109.0	96.01	0.42	0.36
1	15.75	17.27	82.04	79.25	65.02	52.83	146.1	129.5	0.72	0.64
1 1/4	20.57	—	89.92	—	70.10	—	146.1	—	0.96	—
1 1/2	25.40	25.40	98.04	101.6	83.57	65.53	188.0	154.9	1.46	1.41
2	31.75	31.75	110.0	114.3	88.65	75.69	188.0	154.9	2.11	2.27
Two-Piece Dimensions (in.) (lbs.)										
	HC-740	HS-820	HC-740	HS-820	HC-740	HS-820	HC-740	HS-820	HC-740	HS-820
1/4	0.40	0.37	2.00	2.07	1.63	1.76	3.78	4.33	0.60	0.57
3/8	0.40	0.37	2.00	2.07	1.63	1.76	3.78	4.33	0.60	0.53
1/2	0.54	0.50	2.37	2.34	1.73	1.92	3.78	4.33	0.80	0.73
3/4	0.68	0.69	2.90	2.80	2.08	2.40	5.10	5.83	1.40	1.41
1	0.88	0.87	3.41	3.23	2.30	2.56	5.10	5.83	2.40	1.98
1 1/4	1.00	1.00	3.94	3.57	2.76	2.74	6.10	7.76	2.70	2.77
1 1/2	1.25	1.25	4.65	4.04	2.98	2.98	6.10	7.76	4.50	4.00
2	1.50	1.50	4.98	4.63	3.54	3.17	8.60	7.76	6.10	5.03
Two-Piece Dimensions (mm) (kg)										
1/4	10.16	9.40	50.80	52.58	41.40	44.70	96.01	110.0	0.27	0.26
3/8	10.16	9.40	50.80	52.58	41.40	44.70	96.01	110.0	0.27	0.24
1/2	13.72	12.70	60.20	59.44	43.94	48.77	96.01	110.0	0.36	0.33
3/4	17.27	17.53	73.66	71.12	52.83	60.96	129.5	148.1	0.64	0.64
1	22.35	22.10	86.61	82.04	58.42	65.02	129.5	148.1	1.09	0.90
1 1/4	25.40	25.40	100.1	90.68	70.10	69.60	154.9	197.1	1.22	1.26
1 1/2	31.75	31.75	118.1	102.6	75.69	75.69	154.9	197.1	2.04	1.81
2*	38.10	38.10	126.5	117.6	89.92	80.52	218.4	197.1	2.77	2.28

Series W Two-Piece Dimensional Data (in., mm)

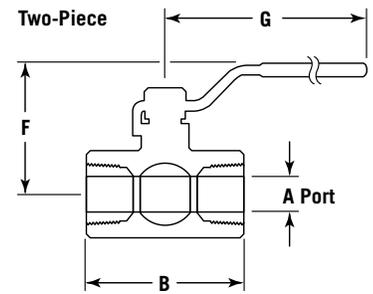
Size (in.)	Dimension (in., mm)																Weight				
	A		B		C		F		G		J		L		M		ØN		P	(lbs.)	(kg)
1/4	0.43	10.92	2.32	58.93	0.37	9.40	2.13	54.10	5.31	134.9	0.31	7.87	0.59	14.99	0.20	5.08	1.42	36.07	M5	0.55	0.25
3/8	0.49	12.45	2.32	58.93	0.37	9.40	2.13	54.10	5.31	134.9	0.31	7.87	0.59	14.99	0.20	5.08	1.42	36.07	M5	0.55	0.25
1/2	0.59	14.99	2.44	61.98	0.47	11.94	2.24	56.90	5.31	134.9	0.31	7.87	0.69	17.53	0.20	5.08	1.42	36.07	M5	0.66	0.30
3/4	0.79	20.07	2.87	72.90	0.53	13.46	2.46	62.48	5.31	134.9	0.39	9.91	0.79	20.07	0.20	5.08	1.42	36.07	M5	1.13	0.51
1	1.00	25.40	3.35	85.09	0.71	18.03	2.70	68.58	6.50	165.1	0.47	11.94	0.93	23.62	0.31	7.87	1.65	41.91	M5	2.00	0.91
1 1/2	1.50	38.10	4.53	115.1	0.71	18.03	3.56	90.42	6.89	175.0	0.55	13.97	1.06	26.92	0.31	7.87	1.97	50.04	M5	4.25	1.93
2	1.97	50.04	5.28	134.1	0.71	18.03	3.92	99.57	6.89	175.0	0.55	13.97	1.06	26.92	0.31	7.87	1.97	50.04	M6	6.88	3.12

Note: Handle weight included on all valve weights.

KF Commodity Ball Valves

Series HB-600 Two-Piece Dimensional Data (in., mm)

Size (in.)	Dimension (in., mm)								Weight	
	A		B		F		G		(lbs.)	(kg)
	in.	mm	in.	mm	in.	mm	in.	mm		
1/4	0.38	9.65	2.06	52.32	1.88	47.75	4.06	103.1	0.58	0.26
3/8	0.38	9.65	2.06	52.32	1.88	47.75	4.06	103.1	0.60	0.27
1/2	0.50	12.70	2.25	57.15	1.94	49.28	4.06	103.1	0.63	0.29
3/4	0.69	17.53	2.81	71.37	2.25	57.15	4.19	106.4	1.19	0.54
1	0.88	22.35	3.44	87.38	2.75	69.85	5.75	146.1	1.70	0.77
1 1/4	1.00	25.40	3.88	98.55	2.88	73.15	5.75	146.1	3.25	1.47
1 1/2	1.25	31.75	4.25	108.0	3.25	82.55	5.75	146.1	4.13	1.87
2*	1.50	38.10	4.81	122.2	3.63	92.20	8.13	206.5	6.38	2.89
2F	1.50	38.10	4.75	120.7	3.63	92.20	8.13	206.5	6.00	2.72
2 1/2	2.00	50.80	6.50	165.1	4.09	103.9	8.13	206.5	12.75	5.78
3	2.50	63.50	6.81	173.0	4.38	111.3	8.13	206.5	17.75	8.05
4	3.00	76.20	7.69	195.3	5.00	127.0	11.00	279.4	25.00	11.34



* Also dimensions for 2" 2M lightweight pattern design.

Materials of Construction

Description	HC-710/HS-810 Unibody
Body	A216 WCB/A105
Retainer	CS 12L14 or 316 Stainless Steel
Seat	Reinforced PTFE
Ball	316 Stainless Steel
Stem	316 Stainless Steel
Thrust Washer	PTFE
Stem Packing	Graphite
Packing Nut	Carbon Steel 12L14 or 316 Stainless Steel
Handle	Carbon Steel, Zinc Plated & Vinyl Dipped
Handle Nut	Carbon Steel, Zinc Plated
HC-730 Unibody	
Body	CS 12L14 (1/2"-1" HC-730, 1 1/2"-2" HXC-730) or A216 WCB (1 1/2"-2" HC-730)
Retainer	Carbon Steel 12L14
Ball	CS 12L14 Chrome Plated or 316SS
Stem	CS 12L14 or 316 Stainless Steel
Thrust Washer	Reinforced PTFE
Stem Packing	Reinforced PTFE
Packing Nut	304 Stainless Steel
Spring Washer	Carbon Steel, Zinc Plated
Nuts	Carbon Steel, Zinc Plated
Handle	Carbon Steel, Zinc Plated & Vinyl Dipped
Seats	Reinforced PTFE
HC-740 Two-Piece	
Body	Steel C12L14 (1/4"-1" HXC-740) or A216 WCB (1 1/4"-2" HC-740), Zinc Phosphate Coating
Stem	Steel C12L14, Nickel Plate or 316SS
Thrust Washer	Reinforced PTFE
Stem Packing	Reinforced PTFE
Packing Nut	304 Stainless Steel
Spring Washer	Steel, Zinc Plate
Nut	Steel, Zinc Plate
Handle	Steel, Zinc Plate
Handle Cover	Vinyl
Ball Seat	Reinforced PTFE
Ball	Steel C12L14, Chrome Plate or 316SS
End Cap Seal	Reinforced PTFE
End Cap	Steel C12L14, Zinc Phosphate Coating

Description	HS-820 Two-Piece
Body	A351, CF8M, Seal Welded
Ball	A351, CF8M
Stem	316 Stainless Steel
Body Cap	A351, CF8M Stainless Steel
Seat	Reinforced PTFE
Stem Seal	Reinforced PTFE
Stem Packing	PTFE
Packing Nut	316 Stainless Steel
Handle (Locking)	304 Stainless Steel, Vinyl Dipped
Spring Washer	304 Stainless Steel
Lock Nut	304 Stainless Steel
W Two-Piece	
Body	ASTM A216 Gr. WCB or A351 CF8M
Adapter	C12L14 CS or 316 Stainless Steel
Stem	316 Stainless Steel
Ball	316 Stainless Steel
Body Seal	Teflon®
Seat	Uniseal™
Thrust Washer	PTFE
Packing	Glass Reinforced Teflon®
Handle	304 Stainless Steel
Handle Nut	304 Stainless Steel
Packing Nut	316 Stainless Steel
HB-600 Two-Piece	
Body	Brass (B584 C84400)
Ball	Hard Chrome Plated Brass or 316SS
Seats	Durafil (1/4"-3"), Virgin PTFE (4")
Adapter	Brass
Body Seal	PTFE (1 1/4"-4" only)
Stem	Brass or 316 Stainless Steel
Stem Packing	Glass reinforced PTFE
Packing Nut	Brass
Thrust Washer	Glass reinforced PTFE
Handle	Carbon Steel, Plated & Vinyl Dipped
Handle Nut	Carbon Steel Plated

Engineering Data

Specification Conformance

The following list contains the most important applicable standards for ball valves. KF valves may be designed, manufactured and tested in accordance with other international standards on request.

ANSI - American National Standard Institute

B 1.20.1

Pipe threads, general purpose

API - American Petroleum Institute

6A Wellhead equipment specifications

Q1 Quality Program

5B EUE

External upset tubing threads

ISO - International Organization for Standardization

ISO 9001:2000

Quality systems model for quality assurance in design, development, production, installation and servicing.

ISO 15156

Materials for use in H₂S containing environments in oil and gas production.

MSS - Manufacturers Standardization Society

SP 25

Standard marking system for valves, fittings, flanges and unions.

SP 55

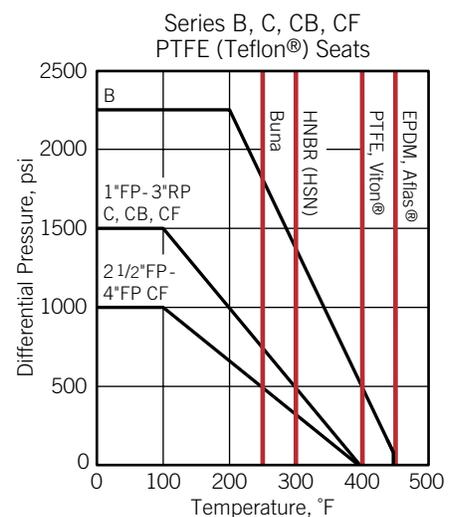
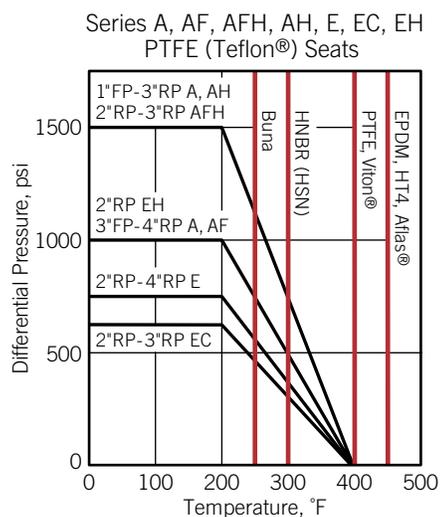
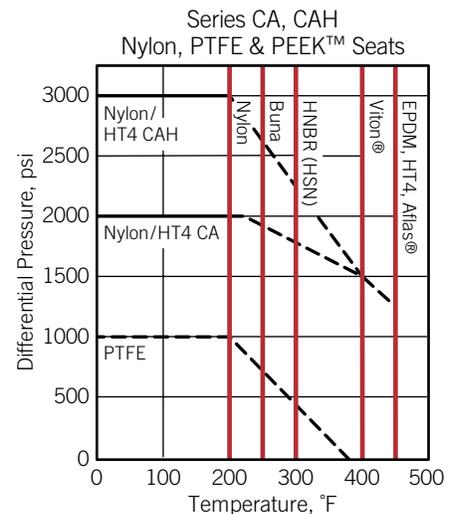
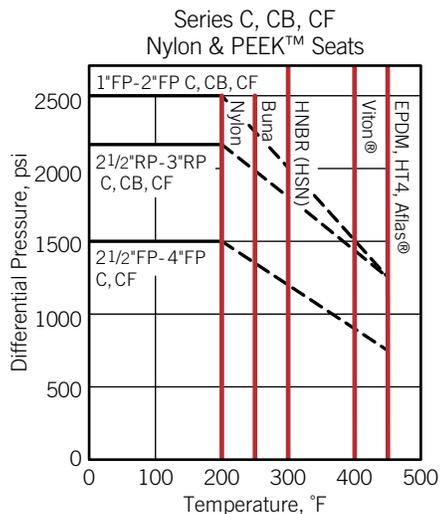
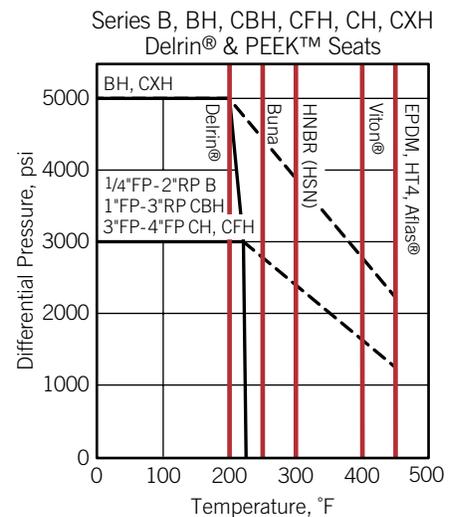
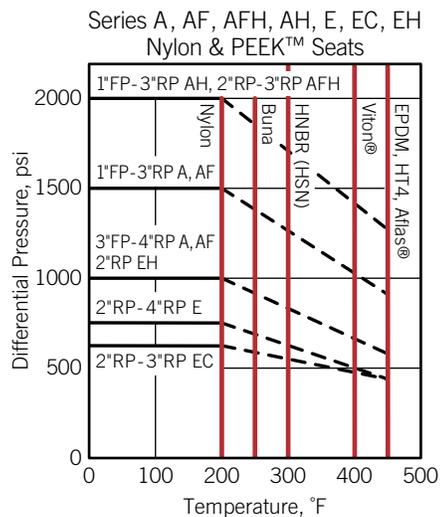
Quality standard for steel castings - visual method.

NACE - National Association of Corrosion Engineers

MR0175

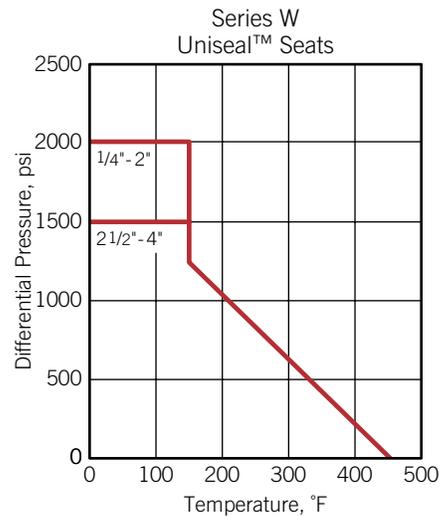
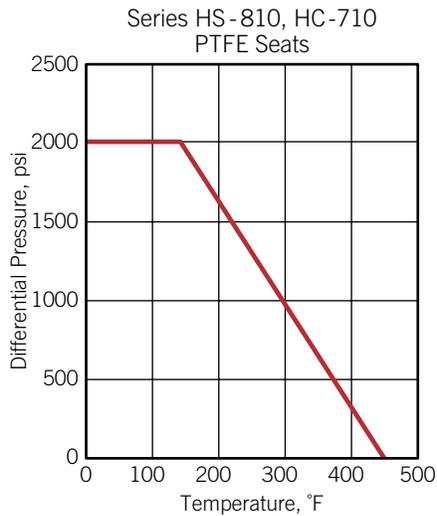
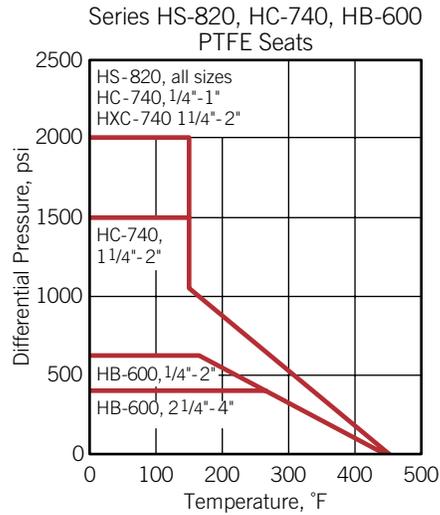
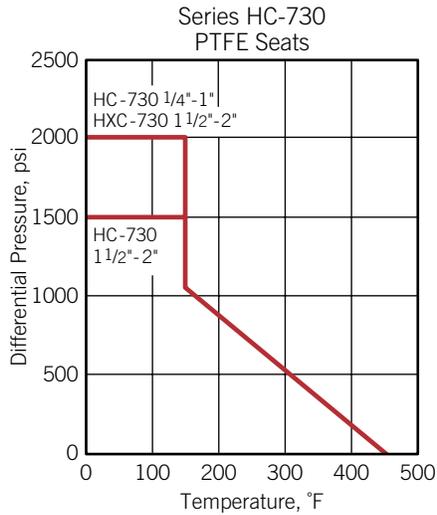
Sulfide stress cracking resistant metallic materials for oilfield equipment.

Pressure Temperature



Engineering Data

Pressure Temperature



Low Temperature Limits

Body Material	°F
WCB	-20°F
LCC	-50°F
CF8M	-50°F
Aluminum Bronze	-50°F
Carbon Steel	-20°F
Stainless Steel	-50°F

Seat Material	°F
Nylon/Delrin®	-50°F
Teflon®	-50°F
PEEK™	-50°F

Seal Material	°F
Buna N	-30°F
Low Temp Buna N	-50°F
Viton®	-20°F
Aflas®	+32°F
EPDM	-50°F
HSN	-25°F

Valve Identification Colors

Valve Series	Valve Paint Color
A/AF	Blue
AH/AFH	Green
C/CF	Orange
CH/CFH	Brown
CXH/CFXH	Red

Engineering Data

Method of Calculating Flow

The Flow Coefficient “C_v” of a valve is the flow rate of water (gallons/minute) through a fully opened valve, with a pressure drop of 1 psi across the valve. To find the flow of liquid through valve from the C_v, use the following formulas:

Liquid Flow

QL = Flow rate of liquid (gal./min.)
 ΔP = Differential pressure across the valve (psi)
 G = Specific gravity of liquid (for water, G=1)

$$QL = C_v \sqrt{\frac{\Delta P}{G}}$$

Gas Flow

Qg = Flow rate of gas (CFH at STP)
 P2 = Outlet pressure (psia)
 g = Specific gravity of gas (for air, g=1.000)

$$Qg = 61C_v \sqrt{\frac{P_2 \Delta P}{g}}$$

For non-critical flow

$$\left\{ \frac{\Delta P}{P_2} < 1.0 \right\}$$

Actuation

Pneumatic and electric actuators are optionally available for mounting on KF ball valves. Four tapped actuator mounting holes in the stem boss surface are standard with all series B, BH ball valves. Consult factory for specific information. For torque requirements of seats made of Teflon®, multiply chart torque by 0.7.

Flow Coefficients (C_v)

Series	Size (in.)																
	1/4	3/8	1/2	3/4	1 RP	1 FP	1 1/4	1 1/2 RP	1 1/2 FP	2 RP	2 FP	2 1/2 RP	2 1/2 FP	3 RP	3 FP	4 RP	4 FP
A	—	—	—	—	—	185	—	—	308	140	500	220	—	220	1390	630	—
AH	—	—	—	—	—	185	—	—	308	—	—	220	—	—	—	—	—
B	6	—	15	30	30	60	—	—	130	110	—	—	—	—	—	—	—
BH	6	—	15	30	30	—	—	—	—	—	—	—	—	—	—	—	—
C	—	—	—	—	—	185	—	—	308	140	500	220	890	220	1390	630	2160
CA	—	—	—	—	—	—	—	—	—	—	531	—	935	—	—	—	—
CB	—	—	—	—	—	185	—	—	—	140	500	—	—	—	—	—	—
CBH	—	—	—	—	—	185	—	—	—	140	500	—	—	—	—	—	—
CH	—	—	—	—	—	185	—	—	308	140	500	—	—	—	—	—	—
CXH	—	—	—	—	—	185	—	—	308	140	—	—	—	—	—	—	—
E	—	—	—	—	—	—	—	—	—	140	—	—	—	220	—	630	—
EC	—	—	—	—	—	—	—	—	—	140	—	—	—	—	—	—	—
EH	—	—	—	—	—	—	—	—	—	140	—	—	—	—	—	—	—
W	7	8	15	35	60	—	105	150	—	300	—	—	—	—	—	—	—
HB-600	6.3	6.3	15	25	40	—	50	75	—	110	450	260	—	400	—	800	—
HC-730	—	—	7	12	25	—	38	52	—	95	—	—	—	—	—	—	—
HC-740	6	12	15	23	36	—	44	64	—	114	—	—	—	—	—	—	—
HS-810	4	4	4	7.5	14	—	19.5	33	—	50	—	—	—	—	—	—	—
HS-820	4.8	4.8	8	12	29	—	50	60	—	110	—	—	—	—	—	—	—

Maximum Operating Torque, Series A, AH, C, CB and CH

Size (in.)	Series A, AF		Series AH, AFH		Series C, CF		Series CB		Series CH, CFH	
	Maximum Pressure	Torque (in.-lbs.)								
1	1500	600	2000	730	2500	860	2500	860	3000	1000
1 1/2 FP, 2 RP, 2 FP	1500	900	2000	1200	2500	1450	2500	1450	3000	1690
2 1/2 RP, 3 RP	1500	1200	2000	1625	2160	1750	2160	1750	3000	2310
2 1/2 FP	—	—	—	—	1500	1950	—	—	—	—
3 FP, 4 RP	1000	1200	—	—	1500	2700	—	—	3000	???
4 FP	—	—	—	—	1500	???	—	—	3000	???

Engineering Data

Maximum Operating Torque, Series B, BH, CBH and CXH

Size (in.)	Series B		Series BH		Series CBH		Series CXH	
	Maximum Pressure	Torque (in.-lbs.)						
1/4 FP	3000	170	5000	210	—	—	—	—
3/8 FP	3000	170	5000	210	—	—	—	—
1/2 FP, 3/4 RP	3000	200	5000	210	—	—	—	—
3/4 FP, 1 RP	3000	200	5000	260	—	—	—	—
1 FP	3000	320	5000	300	3000	1000	5000	1420
1 1/2 FP, 2 RP	3000	850	—	—	3000	1670	5000	2425
2 FP	—	—	—	—	3000	2310	—	—

Maximum Operating Torque, Series CA

Size (in.)	Series CA	
	Maximum Pressure	Torque (in.-lbs.)
2 1/16	2000	1625
2 9/16	2000	2650

Maximum Operating Torque, Series E, EC and EH

Size (in.)	Series E		Series EC		Series EH	
	Maximum Pressure	Torque (in.-lbs.)	Maximum Pressure	Torque (in.-lbs.)	Maximum Pressure	Torque (in.-lbs.)
1 1/2	750	720	600	665	1000	785
2	750	960	600	850	—	—
3	750	2160	—	—	—	—

Flow Coefficient (C_v) & Maximum Operating Torque, Series W

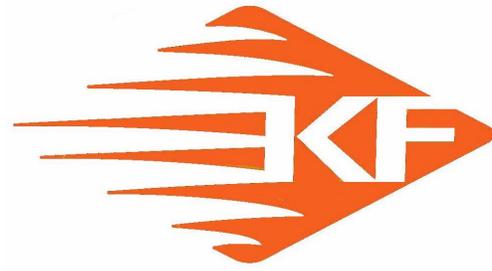
Size (in.)	Series W	
	C _v Rating	Torque (in.-lbs.)
1/4	7	60
3/8	8	60
1/2	15	80
3/4	35	90
1	60	150
1 1/4	105	230
1 1/2	150	250
2	300	400
2 1/2	480	600
3	750	1050
4	900	1500

Maximum Operating Torque, Series HB-600, HS-810 and HS-820

Size (in.)	Series HB-600		Series HS-810		Series HS-820	
	Maximum Pressure	Torque (in.-lbs.)	Maximum Pressure	Torque (in.-lbs.)	Maximum Pressure	Torque (in.-lbs.)
1/4	600	60	2000	40	2000	30
3/8	600	60	2000	40	2000	30
1/2	600	60	2000	40	2000	45
3/4	600	90	2000	50	2000	90
1	600	150	2000	115	2000	170
1 1/4	600	200	2000	180	2000	200
1 1/2	600	250	2000	230	2000	230
2, 2M	600	320	2000	315	2000	320
2F	600	500	—	—	—	—
2 1/2	400	500	—	—	—	—
3	400	600	—	—	—	—
4	400	800	—	—	—	—

Maximum Operating Torque, Series HC-730 and HC-740

Size (in.)	Series HC-730		Series HC-740	
	Maximum Pressure	Torque (in.-lbs.)	Maximum Pressure	Torque (in.-lbs.)
1/4	—	—	2000	42
3/8	—	—	2000	42
1/2	2000	42	2000	100
3/4	2000	100	2000	125
1	2000	125	2000	200
1 1/4	1500	164	1500	225
1 1/2	1500	210	1500	283
2	1500	270	1500	410



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