

KF

SERIES T BALL VALVES



API 6D
ANSI B16.34
WCB
CS
CS
NYI
OKC, OK
SH-4x4 CL 600
MATING: 3480 MOP
SERIAL
DATE



KF Industries

A Division of CIRCOR International, Inc.

Engineering Solutions for the World's Flow Control Industry

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KF Industries was established in 1962 with a limited offering of high quality products. In 1976 KF began to focus engineering, manufacturing and marketing efforts on floating ball valves. As a result the KF floating ball valve line has become the most comprehensive and respected offering in the industry. KF's product line has expanded to include several styles and pressure classes of trunnion supported ball valves, complementing the already successful line of floating ball valves. Among these, the **Series T Ball Valve** has established itself as the leader among top-entry trunnion ball valves.



As with all KF products, the verification of **Series T Ball Valve** design and manufacture is assured through the application of control measures defined by a documented Quality System that is certified by audit to API Specification Q1. Furthermore, the Quality Program at KF Industries has been independently verified by **Lloyd's Register Quality Assurance Ltd.** (LRQA) as being in compliance with the exacting requirements of the **ISO 9001 Quality System Standard**.

For over thirty years, KF Industries has been dedicated to providing its customers with technically superior products oriented toward applications that can be exceptionally severe. Their broad range of valve designs and sizes, constructed of the highest quality materials, reliably service a diverse range of oil, gas and petrochemical markets.

- Floating Ball Valves
- Trunnion Supported Ball Valves
- Check Valves
- Needle Valves

Precision engineering and state-of-the-art manufacturing techniques, combined with outstanding customer service makes KF Industries **the** source for flow control solutions.

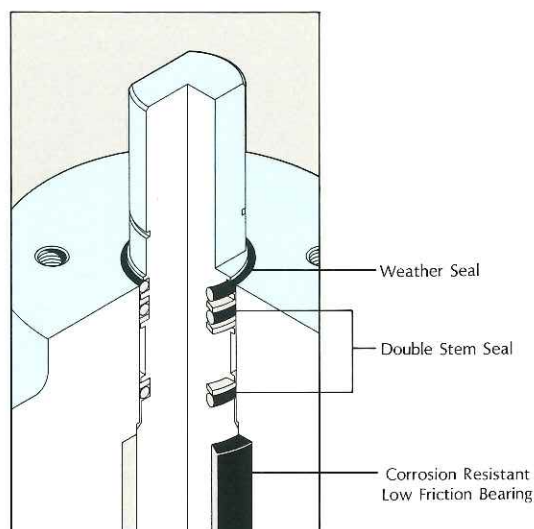
General Design Features

KF Series T Ball Valves conform to API 6A or API 6D and ANSI B16.34 requirements

The KF Series T Ball Valve is "state-of-the-art" in quarter turn valve design. The top entry trunnion supported concept provides upstream seat sealing, minimizing torque required to operate the valve. A heavy-duty one piece ball and stem unit assures precise ball positioning and is held rigidly in alignment with the seats by corrosion resistant, low-friction bearings in the body and bonnet. The standard tough nylon seats promote a low pressure seal, using wave spring force to load the metal seat carrier toward the ball. Pressure balanced, blow-out proof trunnions are double sealed with o-rings and back-up rings compatible with the flow media. Additionally, a surface mounted weather seal prevents potential stem/bonnet corrosion from harsh environmental elements.

Because sealing is effected at both ports when the valve is closed, the body cavity may be opened to atmosphere utilizing the provided bleed valve. This feature makes Series T assemblies particularly suitable for Double Block and Bleed applications. Standard valve assemblies include a grounding device for positive anti-static contact between the ball/stem and body. Additionally, the Series T Ball Valve line offers specialized trim, upon request, for the utmost in fire safety.

A manual handle, with precise "open" and "closed" stops, is provided for standard actuation on all 6" and smaller valves. Gear operators with handwheels are optionally available. Also, actuators for convenient local or remote valve control may be specified. All Series T Ball Valves have a large machined surface pad with drilled and tapped holes to provide for gear operator or actuator mounting in the field. An optional Locking Device is available on most sizes for those applications where security is a concern.



Serviceability is a key requirement in the Series T Ball Valve design. The top entry design and a unique patented seat retraction technique provide convenient inline service accessibility in the field. Also, sealant injection fittings are provided on all valves for emergency stem or seat sealing.

Finally, KF Series T Ball Valves offer a broad range of trim options. Some of these include: Sour Service NACE MR-01-75 conformance, Corrosion Resistant (Stainless Steel trim and All Stainless Steel construction), Low or High Temperature and Fire Safe (conforms to API Specifications 6FA and/or 607). These options, as well as the many exceptional standard design features, serve to assure that KF's Series T Ball valve will meet or exceed the demands of your specific application.

Availability and Maximum Pressure Ratings

ANSI B16.34 and API 6D ☐ Available ☐ Not Available

Class	MOP psi	Size (In)																	
		1 1/2"FP	2"RP	2"FP	3"RP	3"FP	4"RP	4"FP	6"RP	6"FP	8"RP	8"FP	10"RP	10"FP	12"RP	12"FP	14"FP	16"RP	20"RP
600 RF	1480																		
600 RTJ	1480																		
900 RF	2260																		
900 RTJ	2260																		
1500 RF	3705																		
1500 RTJ	3705																		
2500 RF	6170																		
2500 RTJ	6170																		

API 6A

Rated Working pressure	Size (In)							
	2 1/16 x 1 1/2	2 1/16 x 2 1/16	3 1/8 x 2 1/16	3 1/8 x 3 1/8	4 1/16 x 3 1/8	4 1/16 x 4 1/16	7 1/16 x 4 1/16	7 1/16 x 6
2000								
3000								
5000								

Assembly Part Numbers

Available Materials:

Body & Bonnet	CS (WCB), SS (CF8M), Low Temp. CS (LCC)
Ball/Stem.	CS (WCB or 1018), SS (CF8M or 316), Low Temp. CS (LCC)
Seats: Ring.	CS (WCB or 1018), SS (CF8M or 316), Low Temp. CS (LCC)
Insert	Nylon, Reinforced Teflon®, HT4 (PEEK), Devlon V
Seals	Buna N, Viton®, Peroxide Cured Buna N, EPDM, Aflas®, Nitrile for MTBE, Low Temp. Buna N

Standard Trim: "-111119X"

CS Body & Bonnet; CS Ball/Stem and Seat Rings (Electroless Nickel Plated); CS Bleed Valve and Lube Fittings; Nylon Seat Inserts; Buna N Seals; Handle, Gear Operator or Bare Stem.

Stainless Steel Trim: "-121119X"

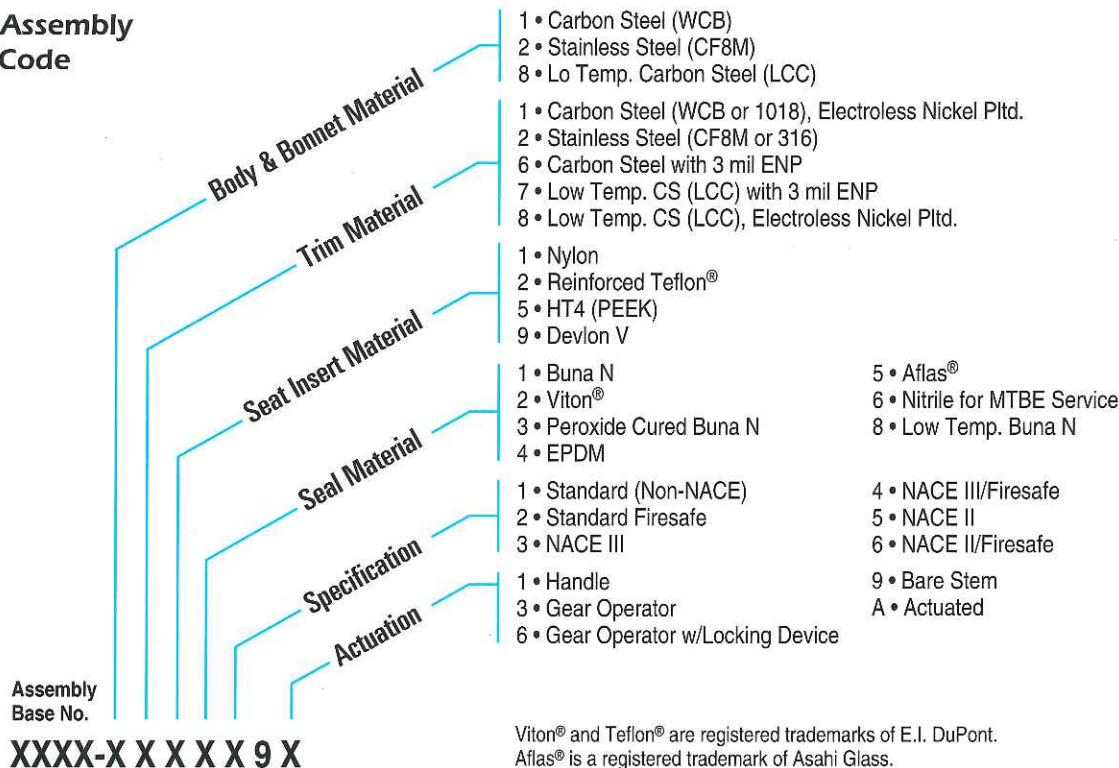
CS Body & Bonnet; SS Ball/Stem and Seat Rings; SS Bleed Valve and Lube Fittings; Nylon Seat Inserts; Buna N Seals; Handle, Gear Operator or Bare Stem.

Firesafe Trim: "-XXXX29X"

SS/Teflon® Bonnet Gasket; Graphite-treated pure Carbon Braid Stem and Seat Seals. Available with either CS, SS or NACE III (-XXXX49X) trim and Nylon, Teflon®, HT4 (PEEK), or Devlon V Seat inserts.

Other trim combinations available - See below.

API 6D Valve Assembly Part Number Code



Viton® and Teflon® are registered trademarks of E.I. DuPont.
Aflas® is a registered trademark of Asahi Glass.

Assembly Base Numbers, ANSI Class 600 RF & RTJ

Class	Size (In)										
	1 1/2"RP	2"RP	2"FP	3"RP	3"FP	4"RP	4"FP	6"RP	6"FP	8"RP	8"FP
600 RF	2463-	2464-	2486-	2487-	2488-	2489-	2490-	2491-	2492-	2493-	2494-
600 RTJ	2504-	2505-	2506-	2507-	2508-	2509-	2510-	2511-	2512-	2513-	2514-

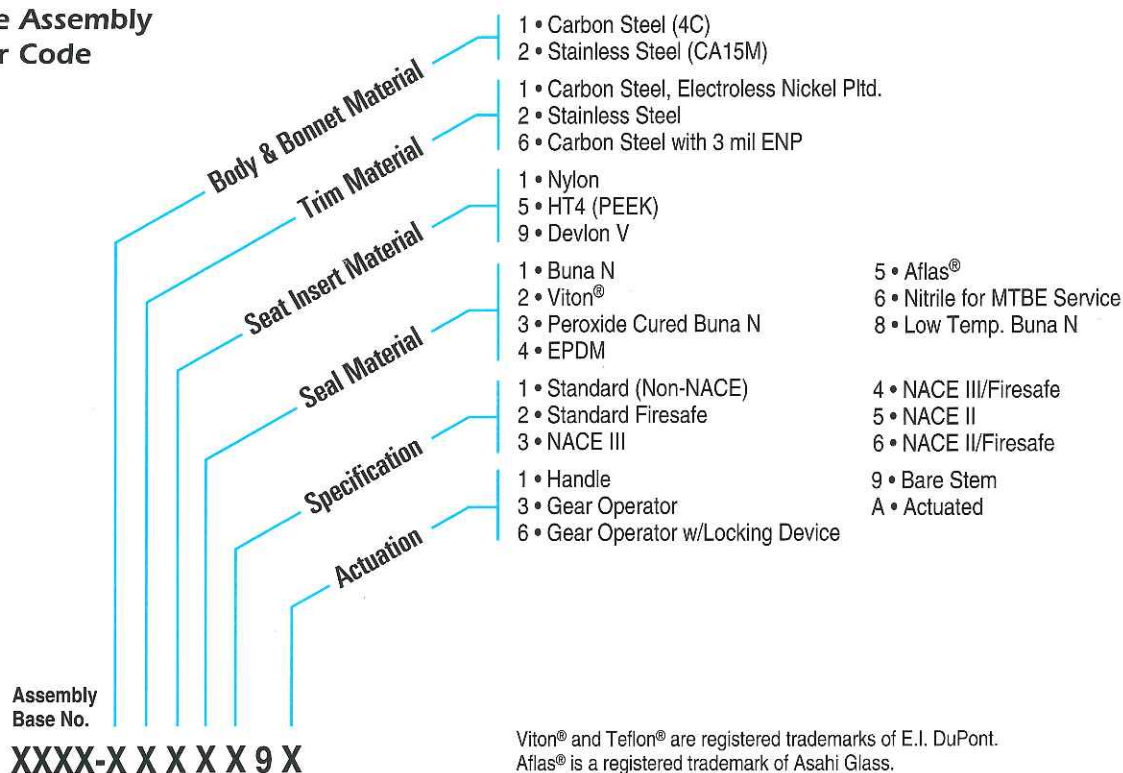
Class	Size (In)									
	10"RP	10"FP	12"RP	12"FP	14"FP	16"RP	16"FP	20"RP	20"FP	24"RP
600 RF	2495-	2496-	2497-	2498-	2500-	2501-	2502-	3725-	3726-	3727-
600 RTJ	2515-	2516-	2517-	2518-	2554-	2555-	2556-	3731-	3732-	3733-

Assembly Part Numbers

Assembly Base Numbers, ANSI Class 900, 1500 & 2500 RF & RTJ

Class	Size (In)														
	1½"FP	2"RP	2"FP	3"RP	3"FP	4"RP	4"FP	6"RP	6"FP	8"RP	8"FP	10"RP	10"FP	12"RP	12"FP
900 RF	2732-	NA	2734-	2735-	2736-	2737-	2738-	2739-	2740-	2741-	2742-	2743-	2744-	2745-	2746-
900 RTJ	2771-	NA	2773-	2774-	2775-	2776-	2777-	2778-	2779-	2780-	2781-	2782-	2783-	2784-	2785-
1500 RF	2858-	NA	2860-	2861-	2862-	2863-	2864-	2865-	2866-	2867-	2868-	2869-	2870-	2871-	2872-
1500 RTJ	2874-	NA	2876-	2877-	2878-	2879-	2880-	2881-	2882-	2883-	2884-	2885-	2886-	2887-	2888-
2500 RF	NA	NA	3087-	NA	3089-	3090-	3091-	3092-	3093-	3094-	3095-	3096-	3097-	3098-	3099-
2500 RTJ	NA	NA	3110-	NA	3112-	3113-	3114-	3115-	3116-	3117-	3118-	3119-	3120-	3121-	3122-

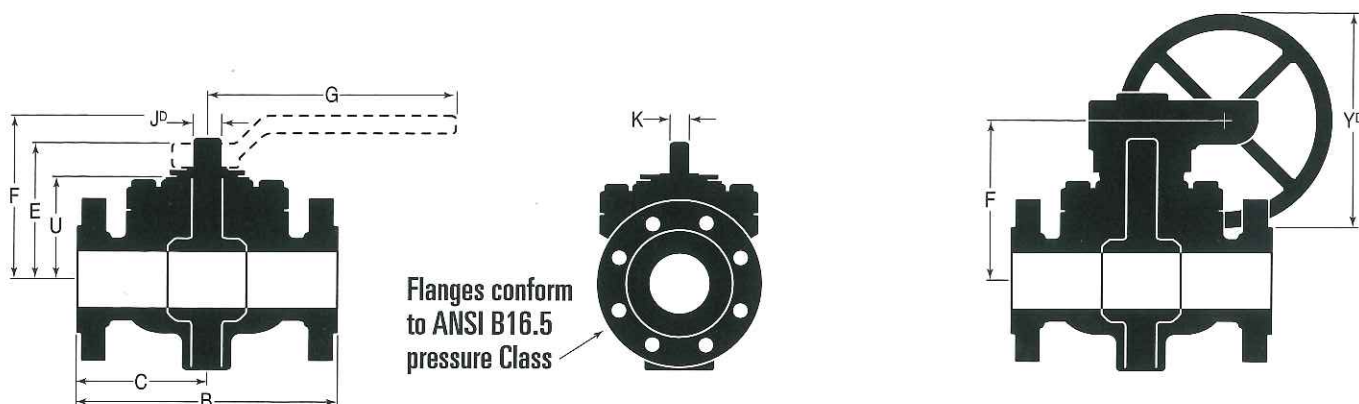
API 6A Valve Assembly Part Number Code



Assembly Base Numbers, API 6A

Rated Working Pressure	Size (In)							
	2½ x 1½	2½ x 2½	3½ x 2½	3½ x 3½	4½ x 3½	4½ x 4½	7½ x 4½	7½ x 6
2000 PSI	3313-	3314-	3315-	3316-	3317-	3318-	3319-	3320-
3000 PSI	—	3324-	3325-	3326-	3327-	3328-	3329-	3330-
5000 PSI	—	3432-	3433-	3434-	3435-	3436-	3437-	3438-

Dimensional Data



ANSI Class 600, 900 & 1500 RF & RTJ-API 6D

Dimension	Class	Size (In)									
		1 1/2"FP	2"RP	2"FP	3"RP	3"FP	4"RP	4"FP	6"RP	6"FP	8"RP
Weight LBS. Valve Only/w/Gear Op.	600	43/-	46/-	71/79	93/101	128/139	169/180	229/240	324/335	456/487	605/636
	900	70/-	90/-	116/124	129/137	160/171	216/227	272/283	360/371	540/571	675/706
	1500	63/-	83/-	118/124	164/172	202/213	299/310	385/398	475/486	-	-
A	600/900	1 1/2	1 1/2	2 1/16	2 1/16	3 1/8	3 1/8	4 1/16	4 1/16	6	6
	1500	1 1/2	1 1/2	2 1/16	2 1/16	3 1/8	3 1/8	4 1/16	4 1/16	-	-
B	600 RF	9 1/2	11 1/2	11 1/2	14	14	17	17	22	22	26
	600 RTJ	9 1/2	11 5/8	11 5/8	14 1/8	14 1/8	17 1/8	17 1/8	22 1/8	22 1/8	26 1/8
	900 RF	12	14 1/2	14 1/2	15	15	18	18	24	24	29
	900 RTJ	12	14 5/8	14 5/8	15 1/8	15 1/8	18 1/8	18 1/8	24 1/8	24 1/8	29 1/8
	1500 RF	12	14 1/2	14 1/2	18 1/2	18 1/2	21 1/2	21 1/2	27 3/4	-	-
	1500 RTJ	12	14 5/8	14 5/8	18 5/8	18 5/8	21 5/8	21 5/8	28	-	-
C	600 RF	4 3/4	5 3/4	5 3/4	7	7	8 1/2	8 1/2	11	11	13
	600 RTJ	4 3/4	5 13/16	5 13/16	7 1/16	7 1/16	8 9/16	8 9/16	11 1/16	11 1/16	13 1/16
	900 RF	6	7 1/4	7 1/4	7 1/2	7 1/2	9	9	12	12	14 1/2
	900 RTJ	6	7 5/16	7 5/16	7 9/16	7 9/16	9 1/16	9 1/16	12 1/16	12 1/16	14 9/16
	1500 RF	6	7 1/4	7 1/4	9 1/4	9 1/4	10 3/4	10 3/4	13 7/8	-	-
	1500 RTJ	6	7 5/16	7 5/16	9 5/16	9 5/16	10 13/16	10 13/16	14	-	-
D	600	6 1/8	6 1/2	6 1/2	8 1/4	8 1/4	10 3/4	10 3/4	14	14	16 1/2
	900	7	8 1/2	8 1/2	9 1/2	9 1/2	11 1/2	11 1/2	15	15	18 1/2
	1500	7	8 1/2	8 1/2	10 1/2	10 1/2	12 1/4	12 1/4	15 1/2	-	-
E	600/900	4 3/8	4 3/8	6 1/2	6 1/2	7 5/8	7 5/8	9 1/2	9 1/2	11 7/16	11 7/16
	1500	4 3/8	4 3/8	6 1/2	6 1/2	8 15/16	8 15/16	10 13/32	10 13/32	-	-
F To Top of Handle	600	6 1/16	6 1/16	7 19/32	7 19/32	8 19/32	8 19/32	10 19/32	10 19/32	12 7/16	12 7/16
	900	6 1/16	6 1/16	7 19/32	7 19/32	8 25/32	8 25/32	10 19/32	10 19/32	12 11/16	12 11/16
	1500	6 1/16	6 1/16	7 19/32	7 19/32	9 31/32	9 31/32	11 1/2	11 1/2	-	-

Dimension	Class	Size (In)							
		8"FP	10"RP	10"FP	12"RP	12"FP	14"RP	14"FP	16"RP
Weight LBS. Valve Only/w/Gear Op.	600	852/917	1024/1089	1433/1498	1546/1611	1963/2123	2250/2410	2610/2770	2725/2895
	900	833/910	1105/1182	1387/1492	1601/1706	2493/2598	-	-	-
A	600	8	8	10	10	12	12	13 9/16	13 9/16
	900	8	8	10	10	12	-	-	-
B	600 RF	26	31	31	33	33	35	35	39
	600 RTJ	26 1/8	31 1/8	31 1/8	33 1/8	33 1/8	35 1/8	35 1/8	39 1/8
	900 RF	29	33	33	38	38	-	-	-
	900 RTJ	29 1/8	33 1/8	33 1/8	38 1/8	38 1/8	-	-	-
C	600 RF	13	15 1/2	15 1/2	16 1/2	16 1/2	17 1/2	17 1/2	19 1/2
	600 RTJ	13 1/16	15 9/16	15 9/16	16 9/16	16 9/16	17 9/16	17 9/16	19 9/16
	900 RF	14 1/2	16 1/2	16 1/2	19	19	-	-	-
	900 RTJ	14 9/16	16 9/16	16 9/16	19 1/16	19 1/16	-	-	-
D	600	16 1/2	20	20	22	22	23 3/4	23 3/4	27
	900	18 1/2	21 1/2	21 1/2	24	24	-	-	-
E	600	14 3/8	14 3/8	16 5/8	16 5/8	19 3/8	19 3/8	19 5/8	20 3/4
	900	14 3/8	14 3/8	16 5/8	16 5/8	19 3/8	-	-	-

General Information and Specifications

Design Torques for Actuator Sizing-API 6D Valves-Torques indicated in inch pounds.

Δp	Size (In)									
	1½"FP	2"RP	2"FP	3"RP	3"FP	4"RP	4"FP	6"RP	6"FP	8"RP
1000 psi	619	619	660	660	1492	1492	3260	3260	6499	6499
1440 psi	770	770	845	845	1779	1779	3946	3946	8303	8303
2160 psi	1018	1018	1147	1147	2248	2248	5070	5070	11,254	11,254
3000 psi	1307	1307	1500	1500	2796	2796	6380	6380	14,697	14,697
3600 psi	1513	1513	1752	1752	3187	3187	7316	7316	17,156	17,156
6000 psi	—	—	2340	2340	4100	4100	9500	9500	43,500	43,500

Δp	Size (In)									
	8"FP	10"RP	10"FP	12"RP	12"FP	14"RP	14"FP	16"RP	16"FP	
1000 psi	10,770	10,770	22,047	22,047	32,828	32,828	45,108	45,108	60,541	
1440 psi	14,189	14,189	27,788	27,788	40,672	40,672	59,676	59,676	78,379	
2160 psi	24,000	24,000	37,182	37,182	53,508	53,508	—	—	—	
3000 psi	—	—	—	—	—	—	—	—	—	
3600 psi	44,000	44,000	55,969	55,969	79,181	79,181	—	—	—	
6000 psi	76,500	76,500	89,500	89,500	125,000	125,000	—	—	—	

Design Torques for Actuator Sizing-API 6A Valves

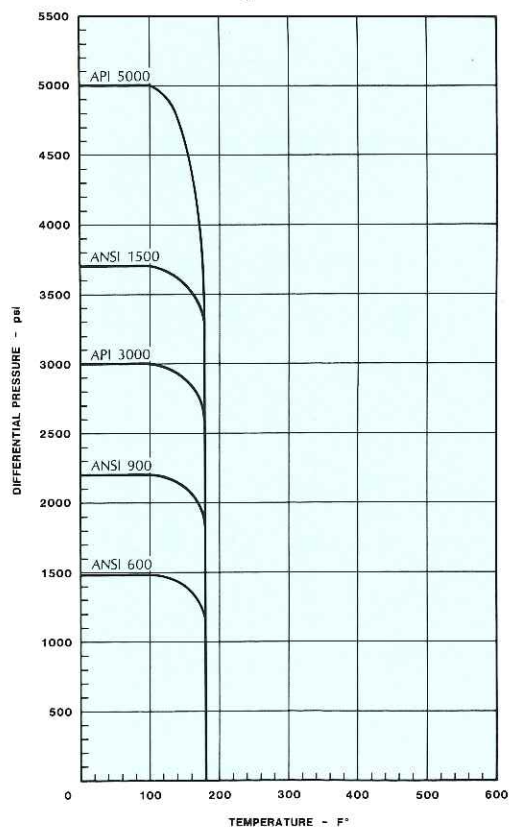
Δp	Size (In)									
	1½"FP	2"RP	2"FP	3"RP	3"FP	4"RP	4"FP	6"RP	6"FP	
2000 psi	—	963	1080	1080	2144	2144	4820	4820	10,598	
3000 psi	—	—	1500	1500	2800	2800	6600	6600	23,000	
5000 psi	—	—	2340	2340	4100	4100	9500	9500	26,000	

Actuators

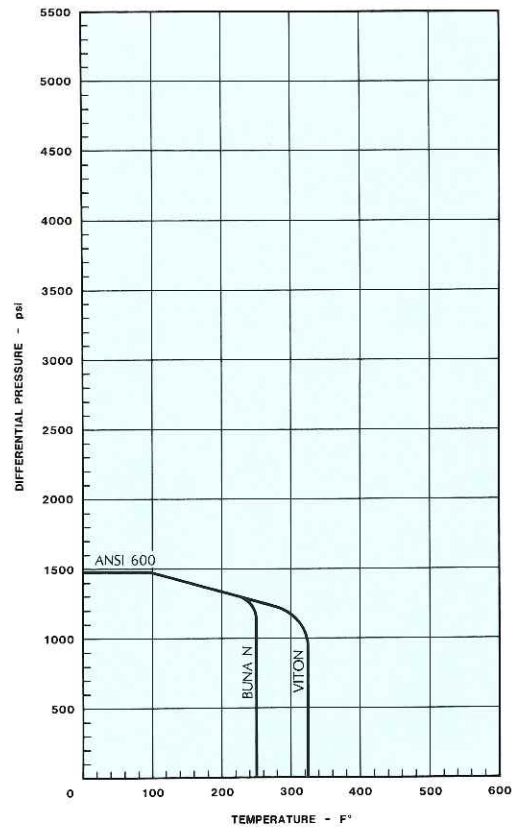
Pneumatic and electric actuators are available for mounting on KF Series T Ball Valves. Add minimum safety factor of 1.25 to the actual torque while sizing the power actuator. Consult factory for specific information.

Pressure Temperature Ratings

Nylon Seats

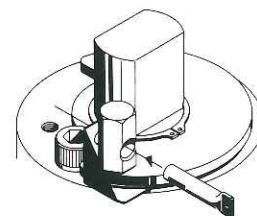
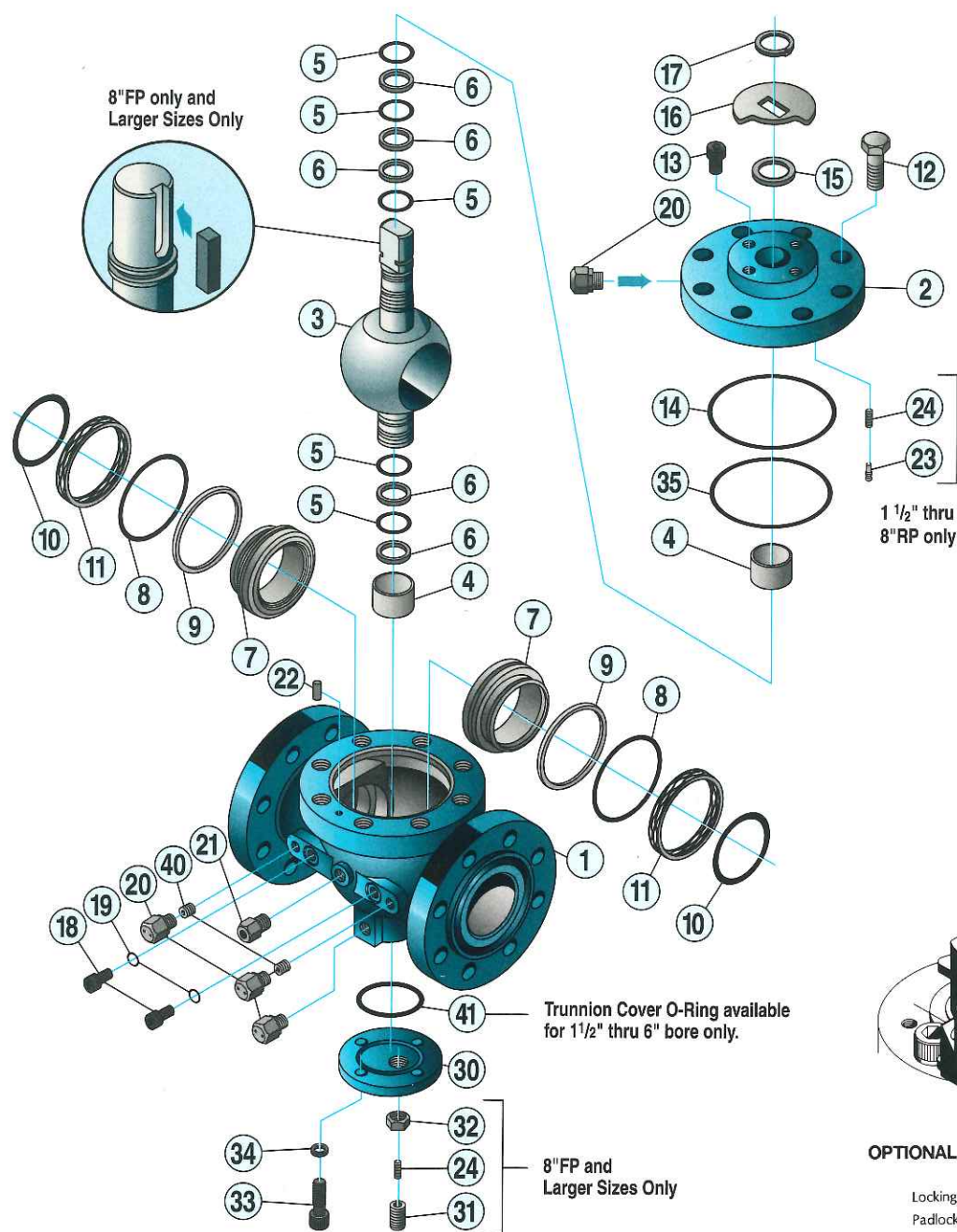


Teflon® Seats



Consult factory for information on sizes not shown.

Component Parts



OPTIONAL LOCKING DEVICE

Locking Device will accept Padlock or Ribbon Seal Pin, as illustrated.

Parts List

No.	Description
1	Body
2	Bonnet
3	Ball/Stem
4	Trunnion Bearing
5	Stem Seal
6	Stem Back-up Ring
7	Seat
8	Seat O-Ring
9	Seat Back-up Ring

No.	Description
10	Seat Sub Seal
11	Wave Spring
12	Bonnet Cap Screw
13*	Stop Screw
14	Bonnet Seal
15*	Stem Bearing
16*	Stop Plate
17*	Retainer
18	Retract. Port Screw

No.	Description
19	Retract. Port Seal
20	Injection Fitting
21	Bleed Valve
22	Bonnet Align. Pin
23*	Grounding Plunger
24	Grounding Spring
29	Key
30	Thrust Plate
31	Thrust Adjust. Screw

No.	Description
32	Jam Nut
33	Thrust Plate Bolt
34	Lock washer
35	Bonnet Primary Seal
40	Internal Ball Check
41	Trunnion Cover O-Ring

*Not used in 8"FP and larger assemblies.



KF Industries

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