



Steel Ball Valves

F14AZ / TDZ - F14A

Full Bore Floating Ball Valves



KITZ CORPORATION OF EUROPE S.A.

KITZ Steel Ball Valves

Floating Ball design

Contents

Pressure - Temperature Ratings	3
Design Features	5
Ball Seat Material	7
Class 150/300 Carbon Steel Ball Valves (F14AZ / TDZ)	8
Class 150/300 Stainless Steel Ball Valves (F14AZ / TDZ)	10
Class 150/300 Carbon Steel Ball Valves (F14A)	12
Class 150/300 Stainless Steel Ball Valves (F14A)	14
Class 600 Carbon Steel / Stainless Steel Ball Valves (F14A)	16
Dimension of Actuator Mounting Pad (TDZ / F14A)	18



KITZ Corporation Headquarter, Chiba, Japan



KITZ Corporation of Europe, S.A., Barcelona Plant, Spain

The products introduced in this catalog are all covered by ISO 9001 certification awarded KITZ Corporation, KITZ Corporation of Europe, S.A. and KITZ Corporation of Taiwan.

■ Pressure-Temperature Ratings

The pressure-temperature ratings of ball valves are determined, not only by valve shell materials, but more essentially by sealing materials, used for ball seats, gland packing and gaskets.

Sealing materials may be high molecule, or rubber, but the choice is limited by the characteristics of the service fluid, working temperatures, working pressures, velocity of fluid, and operational frequency of valves.

As it is very difficult to predetermine the exact pressure-temperature rating for all kinds of fluid under all imaginable conditions, we have prepared general rating charts for non-

shock fluid service here, based on our past experiences both in the field and in our laboratory.

In case of extraordinary service conditions as mentioned below, contact KITZ Corporation or its distributors for technical advice:

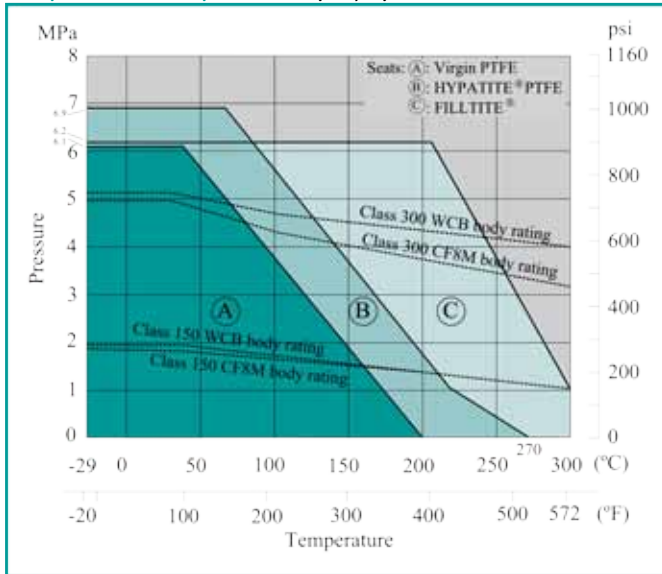
1. Valves shall be left fully closed for a long period of time under high temperature or high differential pressure.
2. Valves shall be frequently operated under high temperature or high differential pressure.
3. Frequent change of line pressure or temperature.

HYPATITE[®] PTFE is the standard seat material for TDZ Series KITZ ball valves. Specify virgin PTFE or carbon-filled PTFE when required. The body ratings shown here are for ASTM A216 Gr. WCB and A351 Gr. CF8M. For the pressure ratings of other valve shell materials, refer to the latest edition of ASME B16.34.

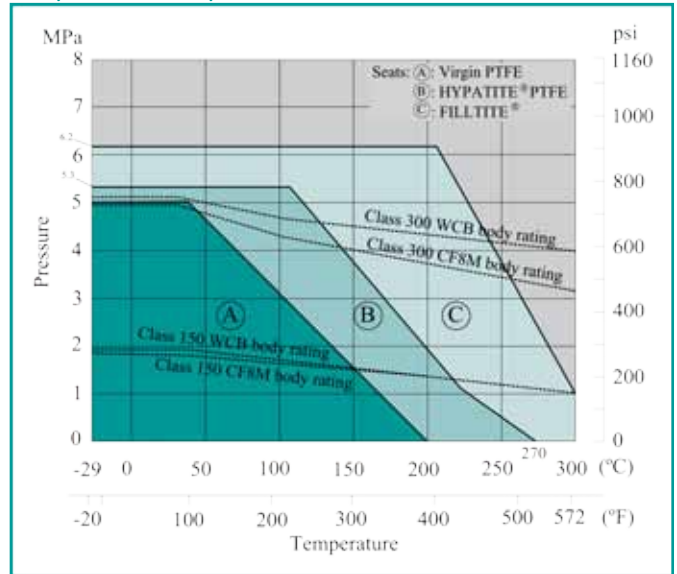
FILLTITE[®] is a specially reinforced ball seat, made by using carbon based fillers into PTFE at higher rate than conventional carbon filled PTFE, which greatly improves heat and abrasion resistance. The material shows excellent operability, durability, chemical resistance and sealing performance at a high temperature of 300°C. In addition, the ball seat is replaceable with the most of our conventional ball seats, so it also has the cost advantage.

Pressure-Temperature Ratings

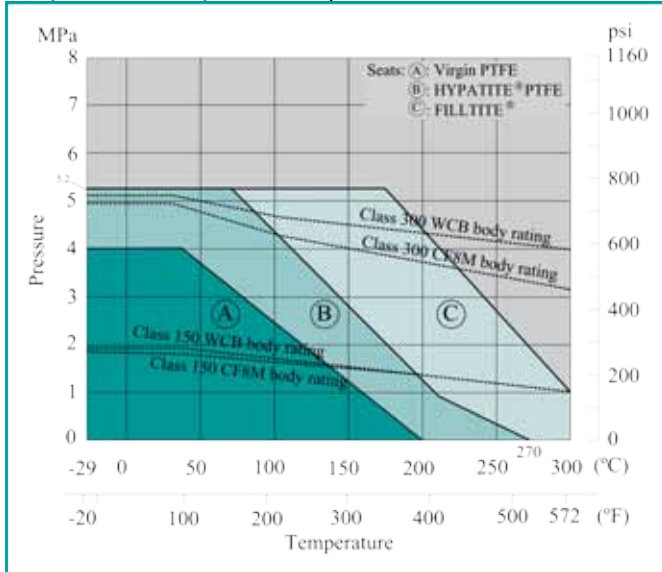
150/300 UTDZM/SCTDZ: 1/2", 3/4"



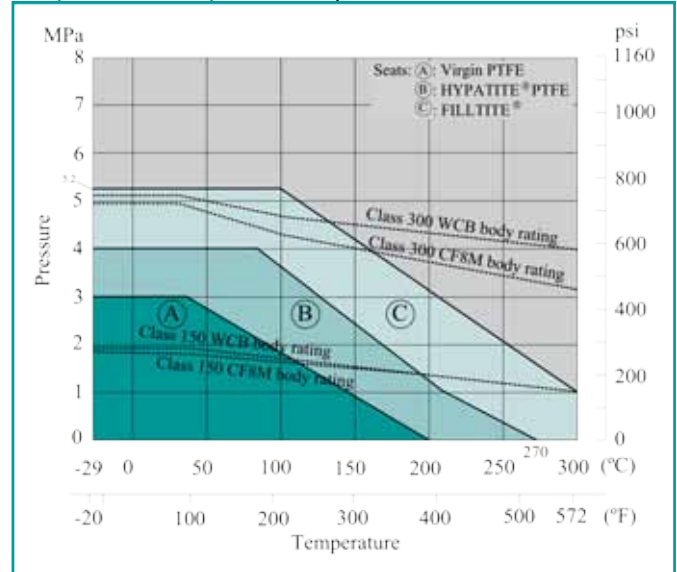
150/300 UTDZM/SCTDZ: 1" ~ 2 1/2"



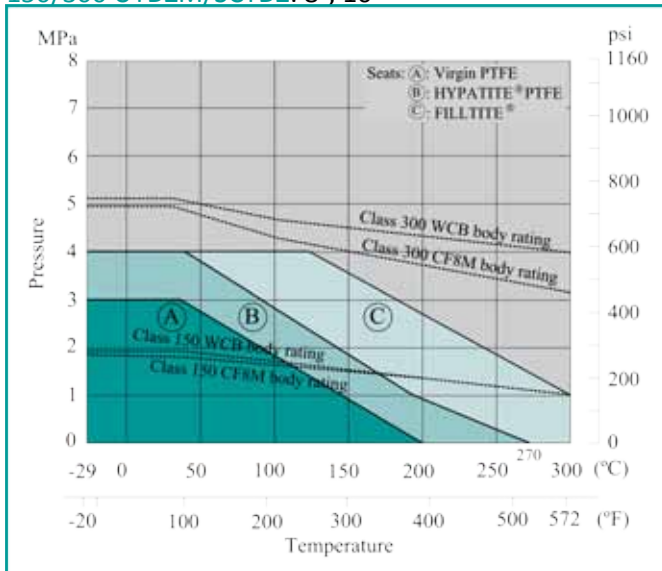
150/300 UTDZM/SCTDZ: 3", 4"



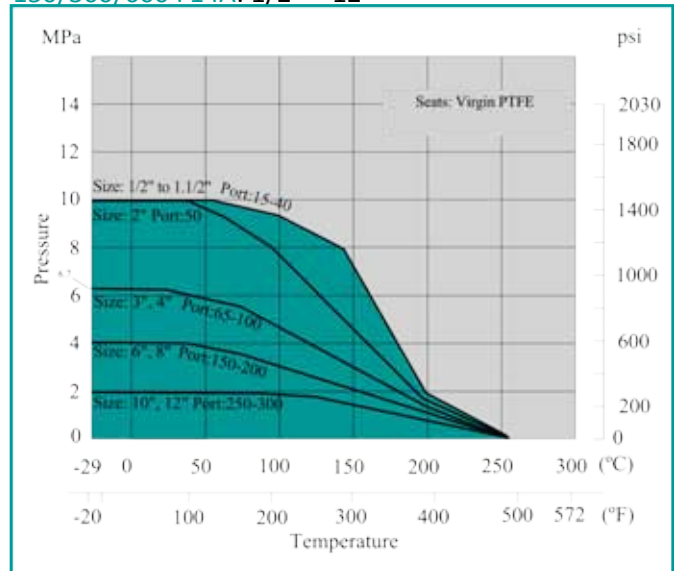
150/300 UTDZM/SCTDZ: 5", 6"



150/300 UTDZM/SCTDZ: 8", 10"



150/300/600 F14A: 1/2" ~ 12"



KITZ 150/300 SCTDZ/UTDZM Series Full Port, Split Body, Side Entry Ball Valves

This is an illustrated cross-section of a typical KITZ split body floating type full port ball valve to exhibit the basic design concept. The actual design of a valve may be slightly different from this illustration, depending on its size and pressure class.

Low emission
(ISO 15848/
EPA Method 21)
stem packing

Upper and lower
stem bearing

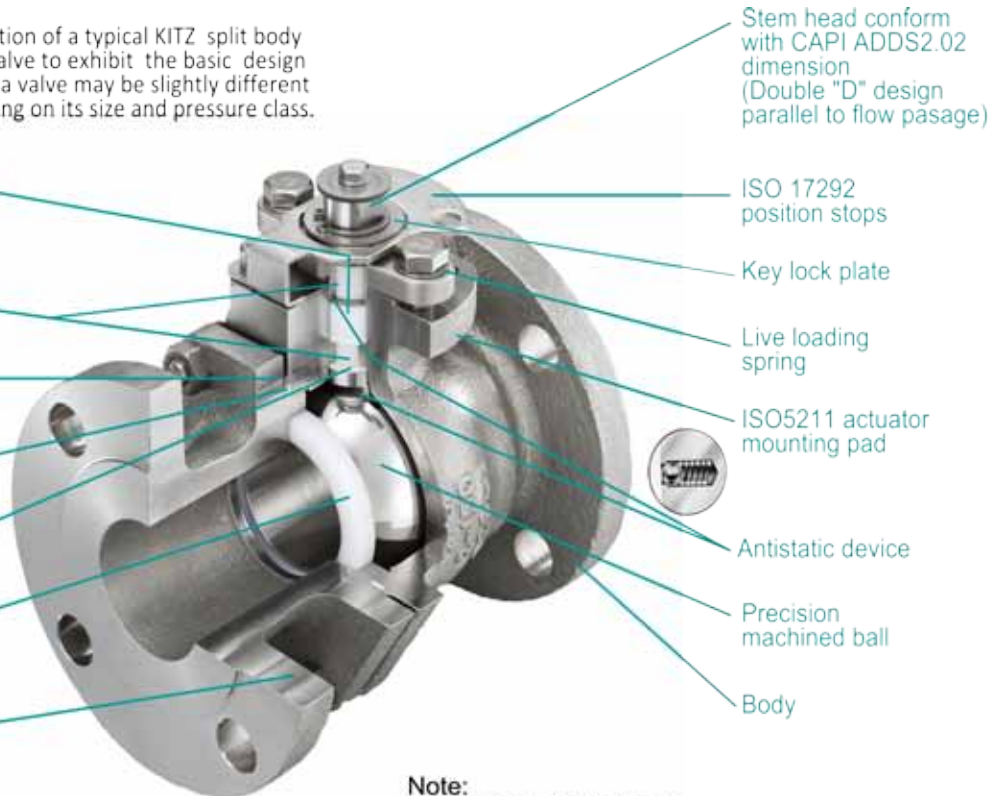
Metal-to-metal
contact for
fire safe

Low emission
body seal gasket

Thrust washer

HYPATITE®PTFE
ball seat with cavity
pressure relief provision

Body cap



Note:
Dimension of stem head are in accordance with CAPI ADDS 2.02, but the maximum specified dimension in CAPI ADDS 2.02 is "F14".
For NPS 8 and 10, mounting pads are F16/ ISO 5211.

Bubble-tight sealing performance with HYPATITE® PTFE ball seats

HYPATITE® PTFE ball seats, standard stem seals of KITZ ball valves, are made of denatured PTFE, a molecularly reinforced PTFE copolymer, and specifically engineered for high **bidirectional** sealing performance and prolonged service life of valves. Its resistance to high or low temperature, creep or compression, abrasion and corrosion is all outstanding. As an option, KITZ SWELLES® ball seats principally made of PFA are recommended specifically for monomer service. This epoch-making new seat maximizes resistance to the permeation of monomer into its molecular structure (generally known as a "swelling" problem) which causes seat deformation and seriously affects shut-off function of valves in styrene and butadiene monomer service.

Simplified actuator mounting

For 150/300 SCTDZ/UTDZM Series ball valves, ISO 5211 actuator mounting pad is integrally provided for uniformly simplified mounting of any actuators provided with valve mounting flanges designed to ISO 5211 dimensional requirement.

Easy maintenance

Split body design for KITZ SCTDZ/UTDZM Series provides the convenience of very easy maintenance critically required for process plants.

Extensive safety considerations

KITZ ball valves are designed with extensive safety considerations for users. Blow-out proof stems, provision of locking devices and prevention of misalignment of lever handles provide safe handling in the field and trouble-free operation in the plant. Antistatic devices, firesafe seal design and cavity pressure relief features all assure the economic benefits of smooth, steady plant operation. KITZ advancements in low emission design features contribute to the global battle against fugitive emissions while greatly reducing costs caused by product loss.

For sour service

Hardness of body, body cap, ball and stem material of KITZ Class 150/300 steel ball valves are controlled by appropriate heat treatment and conformed to the hardness requirements in NACE MR0103, as standard.

In addition to the above, following requirements are optionally available.

-Bolting for valves exposed to sour environment.

-NACE requirements for Class 600 and higher steel ball valves.

Please contact KITZ for those requirements.

Seven Safety Considerations for KITZ 150/300 SCTDZ/UTDZM Series Ball Valves

1. **Double “D” stem head design** provides mounting of the lever handle always in parallel to the flow passage. Misalignment of the handle is thus prevented. (Fig. 1)

2. The lower end of the stem is designed with an integral collar to be **blowout-proof**. It also functions as the backseat for assured stem sealing. (Fig. 2)

3. An **antistatic feature** is provided to ensure electrical continuity between ball, stem and body. (Fig. 2)

4. Facility for mounting a **locking device** for prevention of accidental valve operation is provided.

5. **Plant fires** are a serious concern for soft-seated ball valves because of possible fluid leakage and consequent increase of the fire magnitude caused by deterioration of resilient sealing materials.

KITZ ball valves are engineered for firesafety and successfully **fire tested** to minimize both external and internal fluid leakage after plant fires. They have **post-fire metal-to-metal contact** of all sealing areas such as:

- Contact between ball and valve shell (Fig. 3 & 4)
- Contact between stem and valve shell (Fig. 5 & 6)
- Valve shell coupling flanges of split body design (Fig. 7 & 8)

The problem of external fluid leakage is more serious than internal leakage through the valve bore because of the fear of fueling the fire. To prevent this, KITZ ball valves may be ordered with **flexible graphite packing** and **gaskets**, which are extremely heat resistant, and not affected by the fire.

6.- The surface of stem and stuffing box, and interface clearance of stem-to-gland, stem-to-body and gland-to-stuffing box are precision controlled on machining and assembly for **low emission service**. A Belleville spring washer is employed for live loading on gland packing rings, to minimize need of gland retightening for **low emission service**.

7.- A provision of **cavity pressure relief** is incorporated into precision engineered KITZ **HYPATITE®PTFE** ball seats for the ultimate safety. Refer to Page 7 for details.

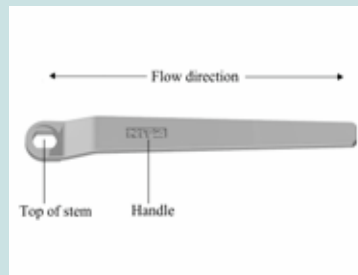


Fig. 1

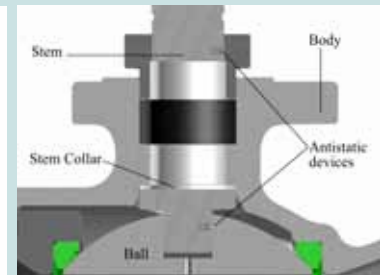


Fig. 2

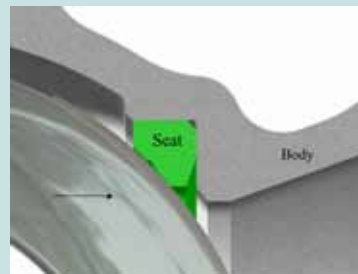


Fig. 3 (Before fire)



Fig. 4 (After fire)

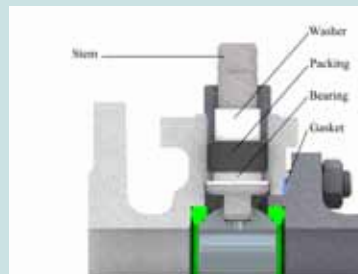


Fig. 5 (Before fire)

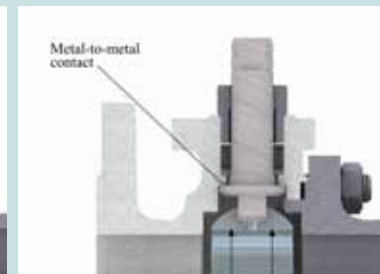


Fig. 6 (After fire)

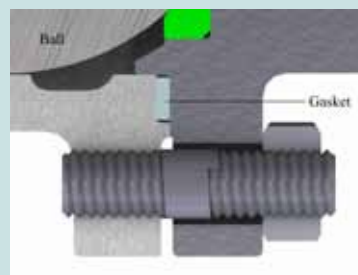


Fig. 7 (Before fire)

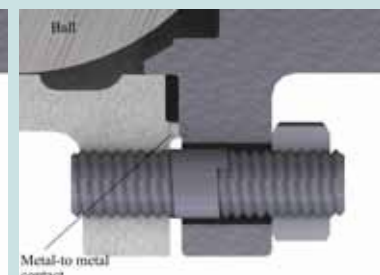


Fig. 8 (After fire)

As the primary body seal, emission free PTFE gasket is always provided. Flexible graphite gasket may be additionally employed as the secondary body seal for super-firesafe provision.

Integral Actuator Mounting Pads

KITZ 150/300 SCTDZ/UTDZM series ball valves are furnished with an integral actuator mounting pad designed and factory-drilled according to ISO 5211 specification. This easily and uniformly enable mounting of any actuators provided with ISO 5211 valve mounting flanges.

Mounting pad and stem head dimension also conforms to CAPI ADDS 2.02.

Note: Customers are requested to prepare mounting brackets and connectors for the actuators chosen for their valve automation, Actuators can be mounted on KITZ ball valves without disassembly of valve glands.

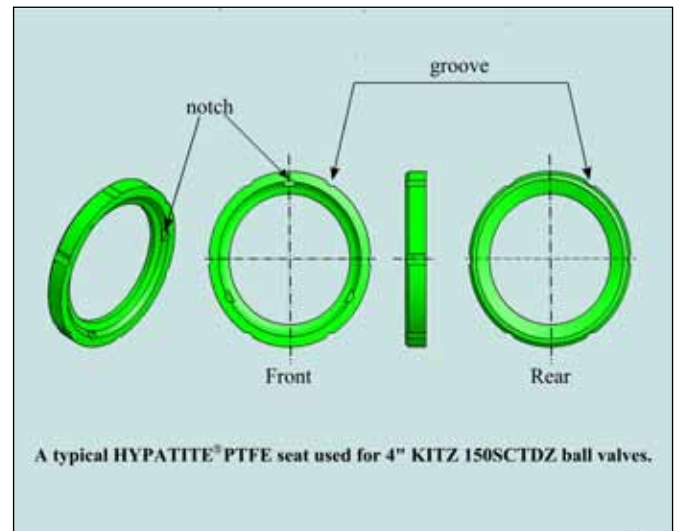
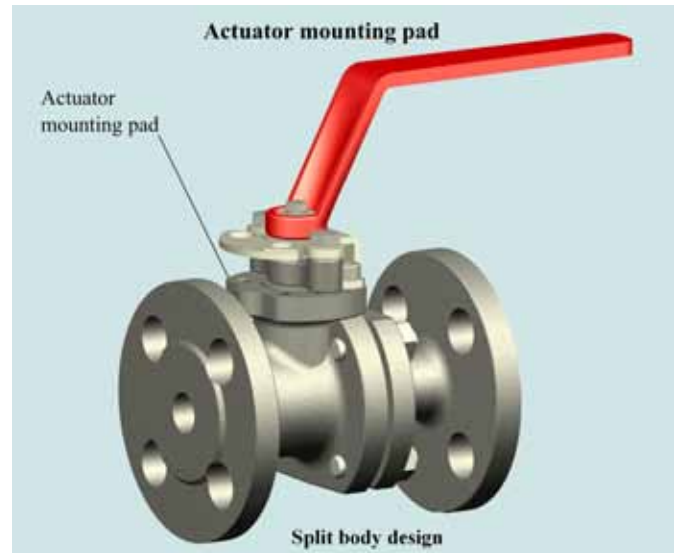
HYPATITE®PTFE Ball Seats

KITZ ball valves are furnished, as the manufacturer's standard, with **HYPATITE®PTFE** ball seats made of denatured PTFE, a molecularly reinforced PTFE copolymer, and specially engineered for high performance which include:

■ Wide service temperature range of -29°C (-20°F) through 270°C (518°F) SCTDZ/UTDZM.

This is for standard valve design and materials used for medium to high temperature services. The lower temperature range can be extended down to -196°C (-321°F) by means of extended bonnet design and special low temperature service materials.

- High chemical resistance is comparable to virgin PTFE
- Monomer permeability is lower than other PTFE materials.
- Resistance against compression and creeping (cold flow) is higher than other PTFE materials to guarantee long life cycle.
- Specific gravity and friction coefficient are equal to those of virgin PTFE for smooth valve operation.
- Purity of processed products is guaranteed as highly as virgin PTFE.
- Resiliency is as high as other PTFE materials for bubble-tight sealing performance.



Optional Ball Seats

In addition to the standard **HYPATITE®PTFE** ball seats, **SWELLES®** seats are recommended for monomer service. Also virgin PTFE and carbon filled PTFE seats are optionally available for versatility in service applications.

Cavity Pressure Relief

Some line fluid is usually left trapped inside the ball-body cavity. This fluid can expand under the influence of high ambient or line temperature. An abnormal increase of such cavity pressure may sometimes damage the valves seats or balls, unless the valve has an adequate cavity pressure relief provision. **Trunnion mounted ball valves generally provide perfect protection from this problem.** Refer to KITZ Cat. No. E-202 for technical details of KITZ trunnion mounted ball valves.

In case of floating ball, however, their rather simple seating principle requires some special protection from excessive cavity pressure rise **when highly volatile liquid in service is subject to frequent and large**

temperature variation, while the valve is not frequently operated. KITZ 150/300 SCTDZ/UTDZM Series ball valves offer **self-relieving of excessive cavity pressure** as a standard feature engineered in **HYPATITE®PTFE** ball seats.

Other general solutions for floating ball valves include employment of automatic pressure relief valves or drilling pressure equalization holes on the ball. If the requirement of automatic cavity pressure relief is as critical as in chlorine service, be sure to contact KITZ Corporation or its distributors for technical advice.

This capability is influenced by many variables including: fluid characteristics, variations in pressure, temperature and thermal cycles.

F14AZ / TDZ - Class 150/300 Carbon Steel Ball Valves

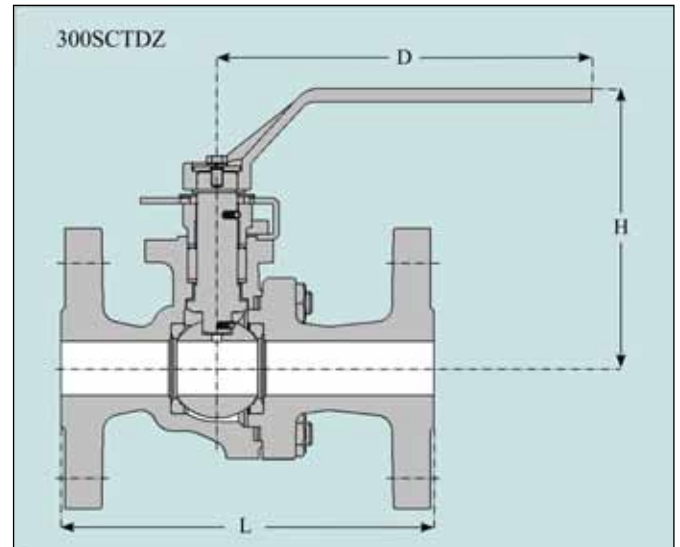
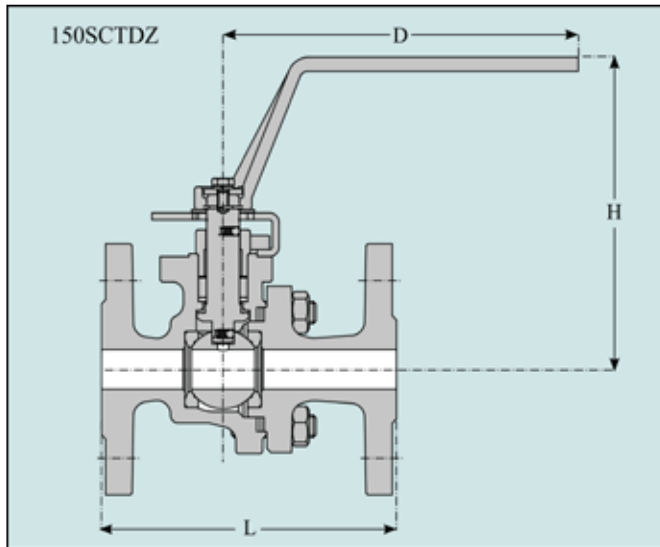
Full port, Split body, Side entry design

Features

- Antistatic device
- Blowout-proof stem
- Fire test certification ★ (API 607, ISO 10497)
- Stem head conform with CAPI ADDS2.02 dimensions
- High performance **HYPATITE®PTFE** ball seats

- Actuator mounting pad to ISO 5211

Page 4 for Pressure-Temperature Ratings
 Page 9 for Construction and Materials
 Page 18 for Dimension of Actuator Mounting Pad



Dimensions of 150SCTDZ

Unit: mm

Valve Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8	10
	mm	15	20	25	40	50	65	80	100	125	150	200	250
Ball Bore		14	19	24	38	50	64	76	100	123	151	202	
L		108	117	127	165	178	190	203	229	356	394	457	
H		108	111	124	134	143	179	189	224	240	315	406	<small>Gear operation</small>
D		130	130	160	230	230	400	400	460	460	1000	1500	<small>Gear operation</small>
ISO 5211 flange type		F03	F03	F05	F07	F07	F10	F10	F12	F12	F14	F16	F16

Valve Operator

- 1/2 ~ 8" : Lever operation
- 6" ~ 8" : Optional gear operation
- 10" : Standard gear operation

Options

- ★ Flexible graphite packing and gasket
(See Page 6 and 9)

- Ball and stem to CF8M (316)

Dimensions of 300SCTDZ

Unit: mm

Valve Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8
	mm	15	20	25	40	50	65	80	100	125	150	200
Ball Bore		14	19	24	38	50	64	76	100	123	151	202
L		140	152	165	190	216	241	283	305	381	403	502
H		108	111	124	134	143	179	189	251	267	315	406
D		130	130	160	230	230	400	400	750	750	1000	1500
ISO 5211 flange type		F03	F03	F05	F07	F07	F10	F10	F12	F12	F14	F16

Valve Operator

- 1/2" ~ 8" : Lever operation
- 6" ~ 8" : Optional gear operation

Options

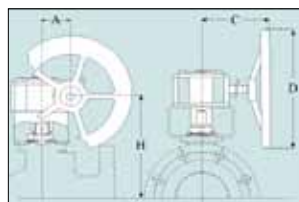
- ★ Flexible graphite packing and gasket
(See Page 6 and 9)

- Ball and stem to CF8M (316)

Gear Operation

Unit: mm

Class	150	300	Gear Operator							
			H		D		C		A	
			150	300	150	300	150	300	150	300
Valve Size (inch)	6	6	322	335	310	360	165	210	66.5	88.5
	8	8	412	412	360	360	210	210	88.5	88.5
	10		448	-	500	-	363	-	93.5	-



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

Construction and Materials

No.	Parts	Standard		Super-firesafe
		150SCTDZ 300SCTDZ		150SCTDZ-FS 300SCTDZ-FS
1	Body* ¹	A216 Gr.WCB		
2	Body cap* ¹	A216 Gr.WCB		
3	Stem* ²	A276 Type 316		
4	Ball* ²	A351 Gr.CF8M or A276 Type 316		
7	Gland	A351 Gr.CF8		
8	Gland packing	PTFE	Flexible graphite	
9	Handle* ³	Ductile iron		
9A	Handle bar* ³	Carbon steel		
9B	Handle head* ³	Ductile iron		
16	Name plate	A276 Type 304* ⁵		
19	Gasket	PTFE	Flexible graphite	
20	Packing washer* ⁴	A276 Type 316L* ⁶		
30	Ball seat	HYPATITE®PTFE		
33	Cap nut	A194 Gr.2H		
35	Cap bolt	A193 Gr.B7		
36	Gland bolt	Stainless steel		
40	Keylock plate	A276 Type 304* ⁵		
43	Handle-lock plate	A276 Type 304* ⁵		
48	Snap ring	A276 Type 304* ⁵		
49	Stopper	A276 Type 304* ⁵		
51	Stopper plate	A276 Type 304* ⁵		
57	Gland bush	Reinforced PTFE		
58	Gland washer	A276 Type 304* ⁵		
67	Stem bearing	Reinforced PTFE		
123A	Handle-lock plate bolt	Stainless steel		
123B	Handle bolt	Stainless steel		
124	Spring & pin	A313 & A276 Type 316		
126	Stopper plate bolt	Stainless steel		
145	Coned disc spring	Stainless steel		

■ Standard material configuration can be applied to sour service.

*1 A352 Gr. LCC low-temperature service materials are optionally available.

*2 A276 Type 304 or A351 Gr. CF8 is optionally available for balls & stems.

*3 Class 150: Bar type handle used for size 6" & 8".
Class 300: Bar type handle used for size 4" to 8".

*4 Up to size 1".

*5 A276 Type 304 or equal.

*6 A276 Type 316 or equal.

All part numbers are corresponding with those shown in valve assembly drawings.

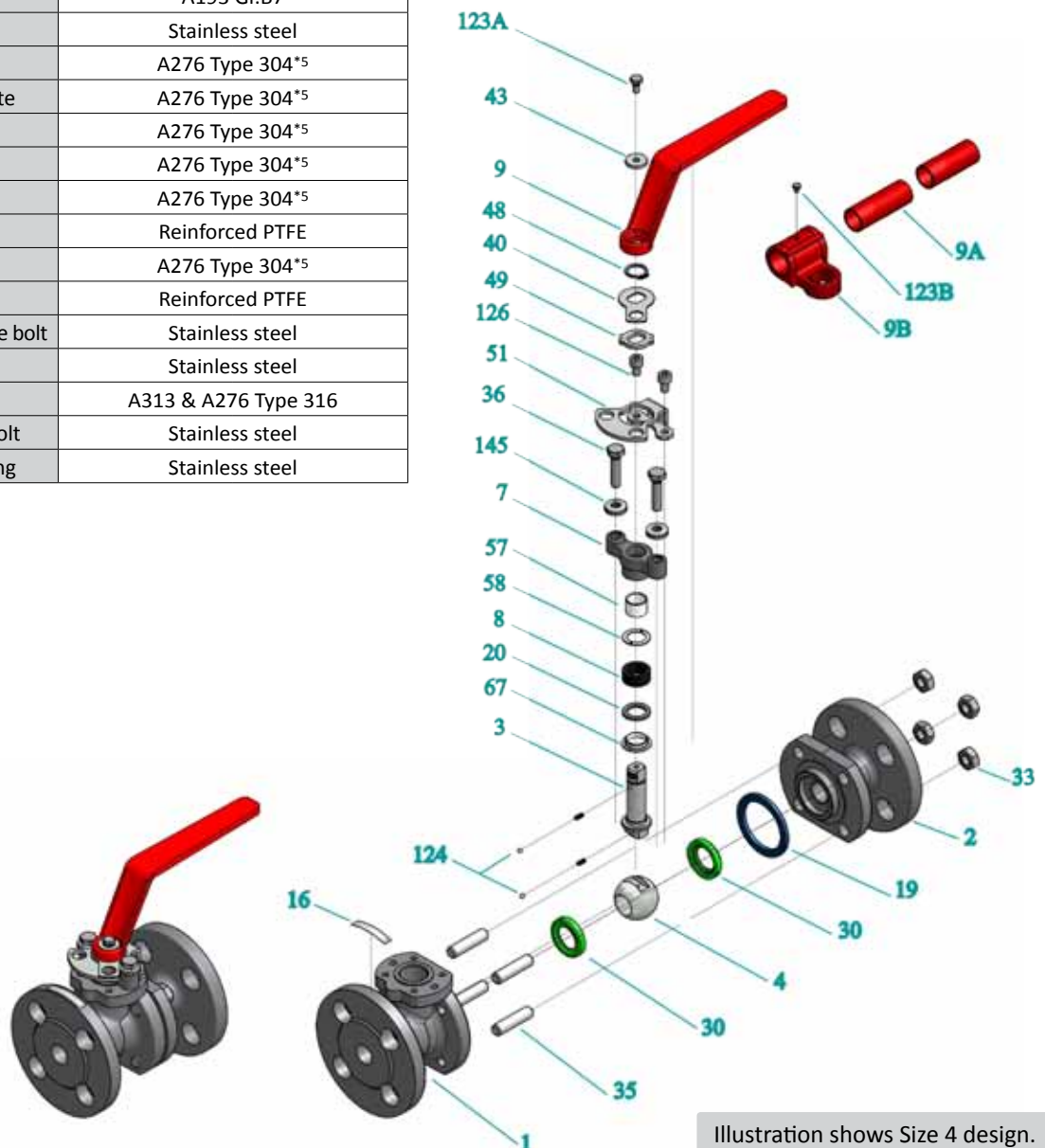


Illustration shows Size 4 design.

F14AZ / TDZ - Class 150/300 Stainless Steel Ball Valves

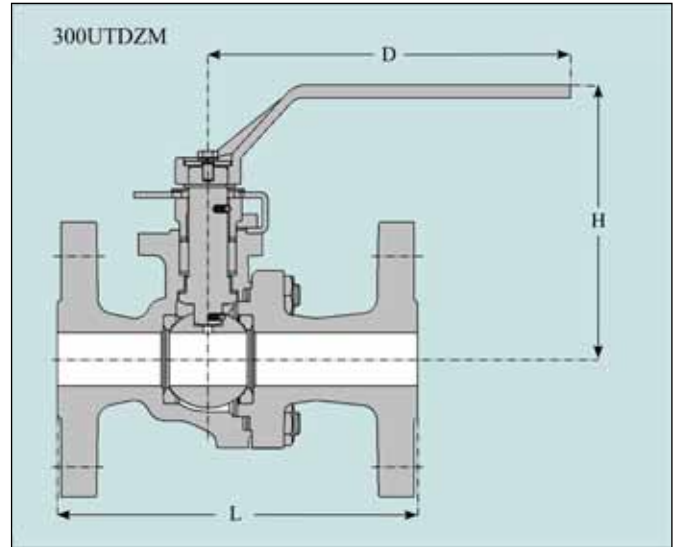
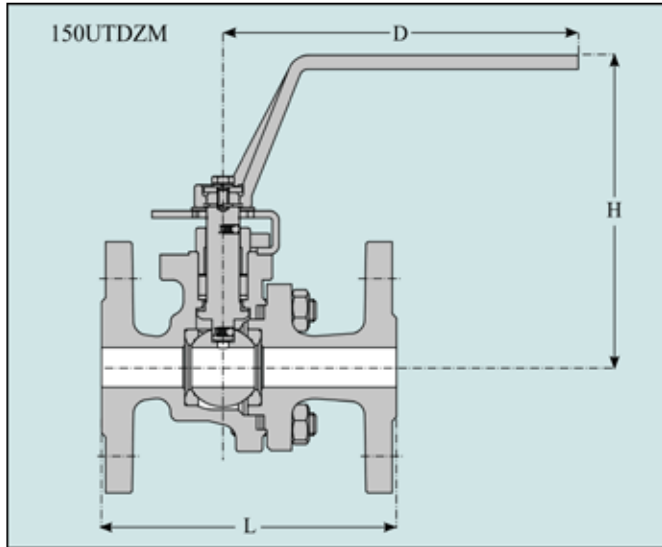
Full port, Split body, Side entry design

Features

- Antistatic device
- Blowout-proof stem
- Fire test certification ★ API 607, ISO 10497)
- Stem head conform with CAPI ADDS 2.02 dimensions
- High performance **HYPATITE®PTFE** ball seats

- Actuator mounting pad to ISO 5211

Page 4 for Pressure-Temperature Ratings
 Page 11 for Construction and Materials
 Page 18 for Dimension of Actuator Mounting Pad



Dimensions of 150UTDZM

Valve Size	in.	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10
	mm	15	20	25	32	40	50	65	80	100	125	150	200	250
Ball Bore		14	19	24	32	38	50	64	76	100	123	151	202	
L		108	117	127	140	165	178	190	203	229	356	394	457	
H		108	111	124	128	134	143	179	189	224	240	315	406	<small>Gear operation</small>
D		130	130	160	160	230	230	400	400	460	460	1000	1500	<small>Gear operation</small>
ISO 5211 flange type		F03	F03	F05	F05	F07	F07	F10	F10	F12	F12	F14	F16	F16

Unit: mm

Valve Operator

- 1/2" ~ 8" : Lever operation
- 5" ~ 8" : Optional gear operation
- 10" : Standard gear operation

Options

- ★ Flexible graphite packing and gasket
(See Page 6 and 11)

Dimensions of 300UTDZM

Valve Size	in.	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8
	mm	15	20	25	32	40	50	65	80	100	125	150	200
Ball Bore		14	19	24	32	38	50	64	76	100	123	151	202
L		140	152	165	178	190	216	241	283	305	381	403	502
H		108	111	124	128	134	143	179	189	251	267	315	406
D		130	130	160	160	230	230	400	400	750	750	1000	1500
ISO 5211 flange type		F03	F03	F05	F05	F07	F07	F10	F10	F12	F12	F14	F16

Unit: mm

Valve Operator

- 1/2" ~ 8" : Lever operation
- 6" ~ 8" : Optional gear operation

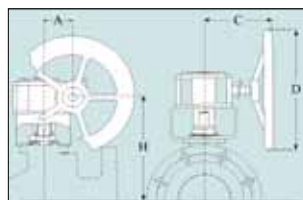
Options

- ★ Flexible graphite packing and gasket
(See Page 6 and 11)

Gear Operation

Unit: mm

Class	150	300	Gear Operator							
			H		D		C		A	
			150	300	150	300	150	300	150	300
Valve Size (inch)	6	6	322	335	310	360	165	210	66.5	88.5
	8	8	412	412	360	360	210	210	88.5	88.5
	10		448	-	500	-	363	-	93.5	-



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

Construction and Materials

No.	Parts	Standard	
		150UTDZM 300UTDZM	Super-firesafe 150UTDZM-FS 300UTDZM-FS
1	Body* ¹	A351 Gr.CF8M	
2	Body cap* ¹	A351 Gr.CF8M	
3	Stem* ²	A276 Type 316	
4	Ball* ²	A351 Gr.CF8M or A276 Type 316	
7	Gland	A351 Gr.CF8	
8	Gland packing	PTFE	Flexible graphite
9	Handle* ³	Ductile iron	
9A	Handle bar* ³	Carbon steel	
9B	Handle head* ³	Ductile iron	
16	Name plate	A276 Type 304* ⁵	
19	Gasket	PTFE	Flexible graphite
20	Packing washer* ⁴	A276 Type 316L* ⁶	
30	Ball seat	HYPATITE®PTFE	
33	Cap nut	A194 Gr.8	
35	Cap bolt	A193 Gr.B8	
36	Gland bolt	Stainless steel	
40	Keylock plate	A276 Type 304* ⁵	
43	Handle-lock plate	A276 Type 304* ⁵	
48	Snap ring	A276 Type 304* ⁵	
49	Stopper	A276 Type 304* ⁵	
51	Stopper plate	A276 Type 304* ⁵	
57	Gland bush	Reinforced PTFE	
58	Gland washer	A276 Type 304* ⁵	
67	Stem bearing	Reinforced PTFE	
123A	Handle-lock plate bolt	Stainless steel	
123B	Handle bolt	Stainless steel	
124	Spring & pin	A313 & A276 Type 316	
126	Stopper plate bolt	Stainless steel	
145	Coned disc spring	Stainless steel	

■ Standard material configuration can be applied to sour service.

*1 A351 Gr.CF8 is optionally available.

*2 A276 Type 304 or A351 Gr. CF8 is optionally available for balls & stems.

*3 Class 150: Bar type handle used for size 6" & 8".
Class 300: Bar type handle used for size 4" to 8".

*4 Up to size 1 1/4".

*5 A276 Type 304 or equal.

*6 A276 Type 316 or equal.

All part numbers are corresponding with those shown in valve assembly drawings.

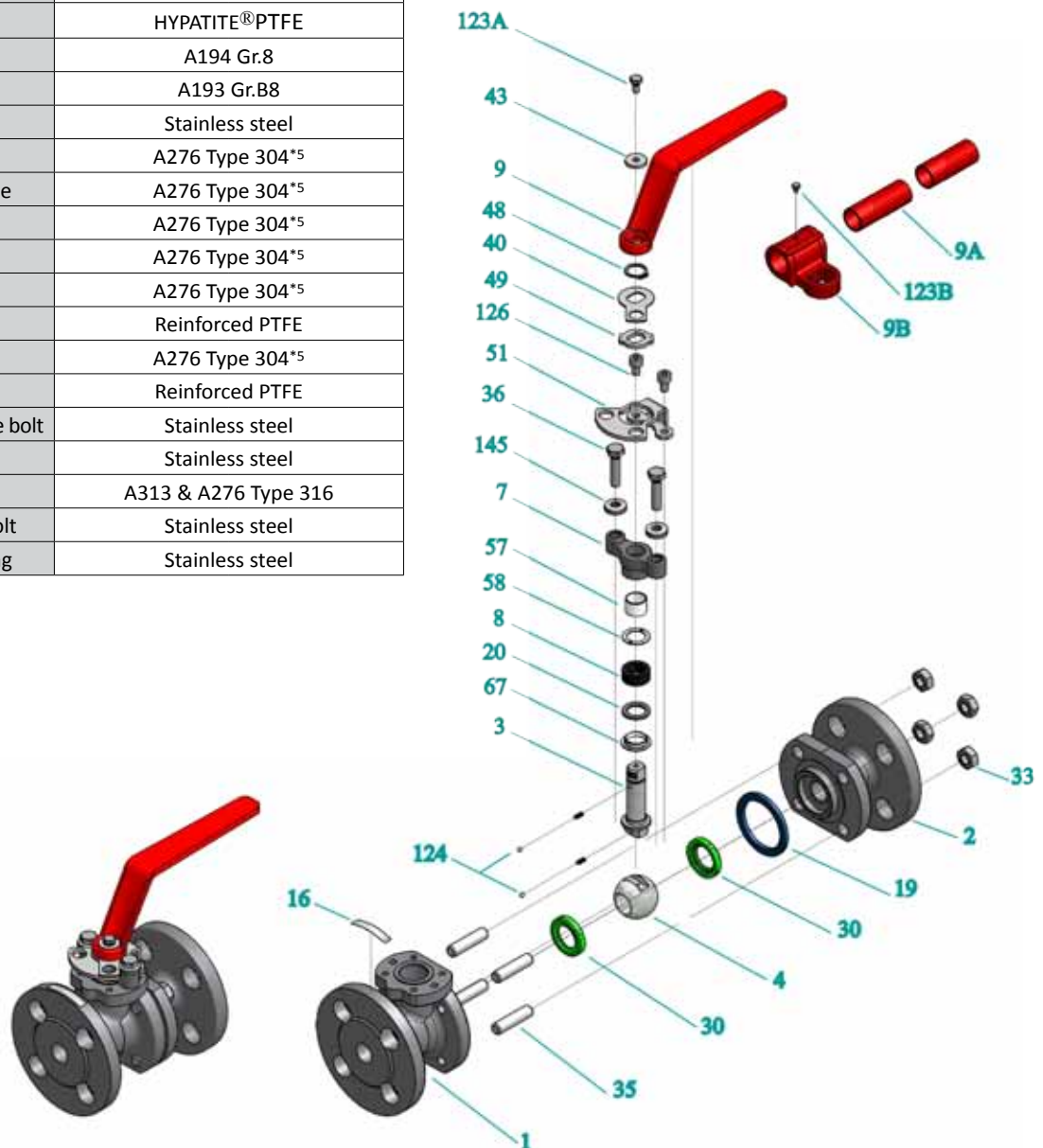


Illustration shows Size 4 design.

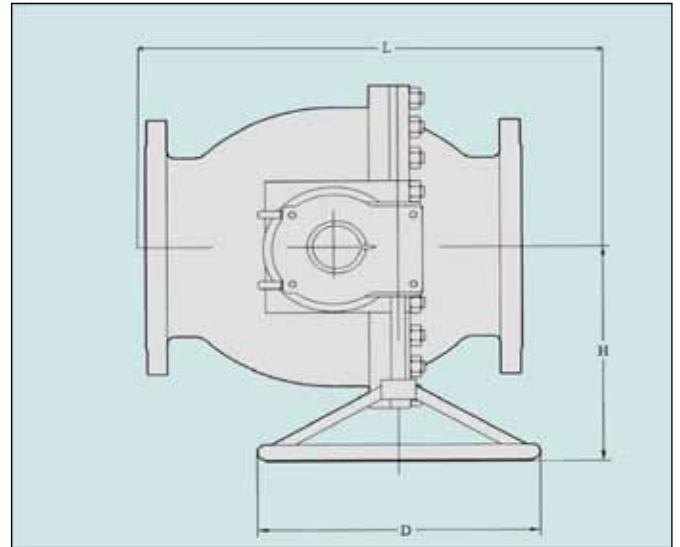
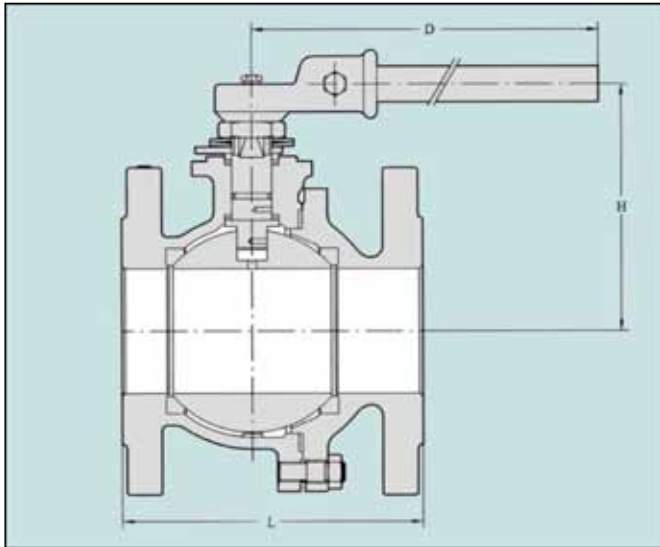
F14A - Class 150/300 Carbon Steel Ball Valves

Full port, Split body, Side entry design

Features

- Antistatic device
- Blowout-proof stem
- Fire test certification ★ (API 607)
- High performance PTFE ball seats
- Actuator mounting pad to ISO 5211

Page 4 for Pressure-Temperature Ratings
 Page 13 for Construction and Materials
 Page 19 for Dimension of Actuator Mounting Pad



Dimensions of 150 F14A Unit: mm

Valve Size	in.	3	4	6	8	10	12
	mm	80	100	150	200	250	305
Ball Bore		76	102	152	203	254	305
L - Short		203	229	267	457	533	610
L - Large		241	305	394	-	-	-
H		148	196	223	Gear operation	Gear operation	Gear operation
D		250	500	750	-	-	-
ISO 5211 flange type		F07	F10	F10	F14	F16	F16

Dimensions of 300 F14A Unit: mm

Valve Size	in.	3	4	6	8	10	12
	mm	80	100	150	200	250	305
Ball Bore		76	102	152	203	254	305
L		283	305	403	502	568	648
H		148	196	223	Gear operation	Gear operation	Gear operation
D		350	500	1000	-	-	-
ISO 5211 flange type		F07	F10	F10	F14	F16	F16

Valve Operator

- 3" ~ 6" : Lever operation
- 4" ~ 6" : Optional gear operation
- 8" ~ 12" : Standard gear operation

Options

- ★ Flexible graphite packing and gasket (See Page 13)

Valve Operator

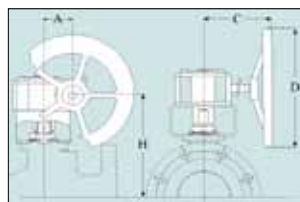
- 3" ~ 6" : Lever operation
- 4" ~ 6" : Optional gear operation
- 8" ~ 12" : Standard gear operation

Options

- ★ Flexible graphite packing and gasket (See Page 13)

Gear Operation Unit: mm

Class	150 300	Gear Operator							
		H		D		C		A	
		150	300	150	300	150	300	150	300
Valve Size (inch)	4	-	-	300	300	282	282	71	71
	6	-	-	300	300	282	282	71	71
	8	342	342	400	400	340	340	86	86
	10	378	378	500	500	365	365	130	130
	12	440	440	500	500	365	365	130	130



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

Construction and Materials

No.	Parts	Standard	
		150F14A 300F14A	Super-firesafe 150F14A-FS 300F14A-FS
1	Body	ASTM A216 WCC*1	
2	Body cap	ASTM A216 WCC*1	
3	Stem*2	ASTM A479 Type 410	
4	Ball*3	ASTM A217/A743 Gr. CA15	
8	Gland Packing	PTFE	Graphite
9A	Handle bar	GGG40	
9B	Handle head	GGG40	
19	Gasket	316L+ Flexite®	316L+Graphite
26	Stem Seal	PTFE	
30	Ball seat	PTFE	
33	Cap nut	ASTM A193/A194 B7M/2HM blued	
34A	Nut	DIN 267/3 C8.8 blued	
35	Cap bolt	ASTM A193 -A194 B7M/2HM blued	
40	Stop Pin	Steel	
43	Handle-lock plate	Steel	
51	Stopper plate	Steel zinc plated	
57	Gland bush	ASTM A479 Type 316	
58	Gland washer	Blued steel	
67	Stem O'ring	FKM	
123A	Handle-lock plate bolt	Steel	
123B	Handle bolt	Steel coated	

■ **Standard material configuration can be applied to sour service.**

*1 WCC = WCB (0,25% C Max.)

*2 DN < 10": ASTM A479 Type 316 (Optional)

DN ≥ 10": ASTM A479 Type 316

*3 DN < 10": ASTM A479 Type 316 (Optional)

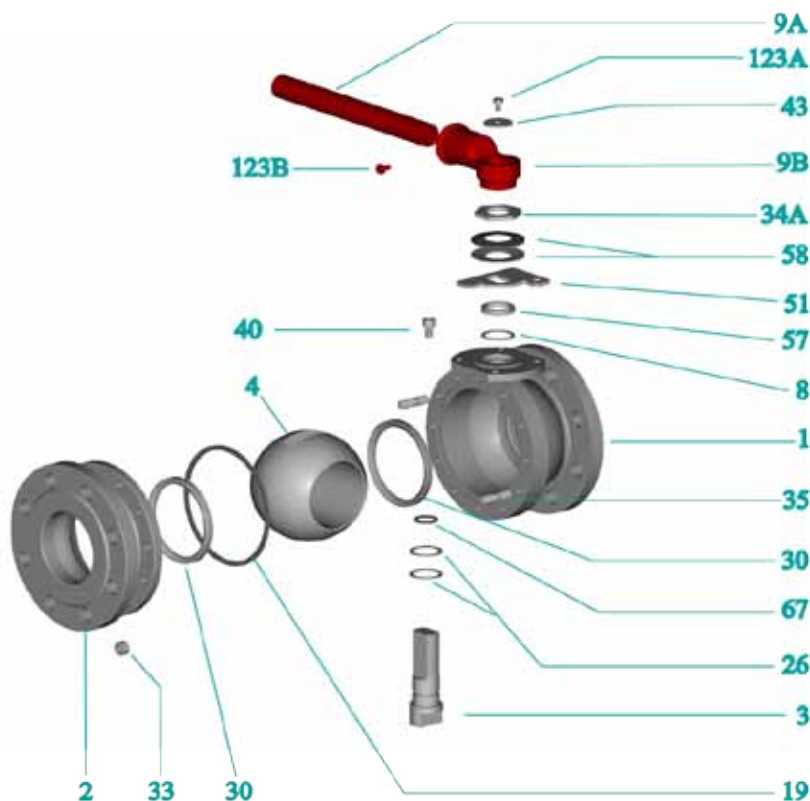
DN ≥ 10": ASTM A479 Type 316

Valve finish: DN ≤ 6": phosphate and oil dipped.

DN ≥ 8": base priming 40 μ min.

Operation group: DN ≤ 6": by wrench. DN ≥ 8": by gear box.

All part numbers are corresponding with those shown in valve assembly drawings.



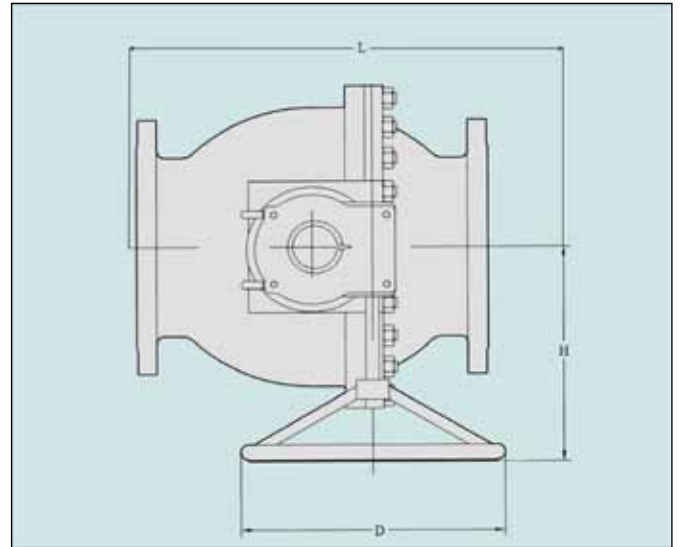
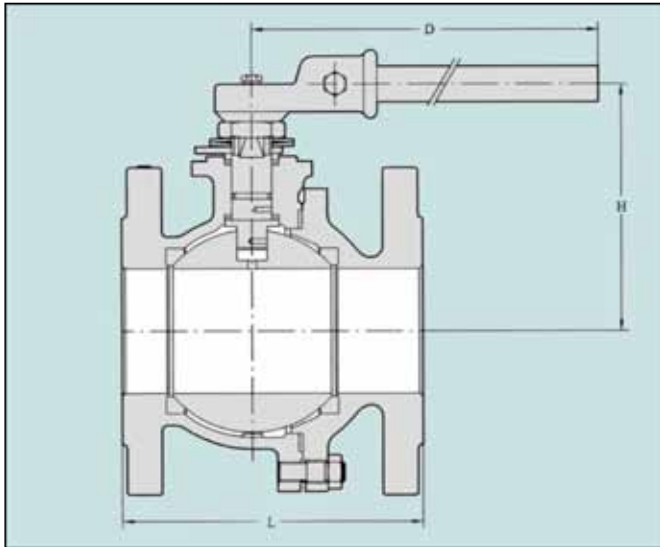
F14A - Class 150/300 Stainless Steel Ball Valves

Full port, Split body, Side entry design

Features

- Antistatic device
- Blowout-proof stem
- Fire test certification ★ (API 607)
- High performance PTFE ball seats
- Actuator mounting pad to ISO 5211

Page 4 for Pressure-Temperature Ratings
 Page 15 for Construction and Materials
 Page 19 for Dimension of Actuator Mounting Pad



Dimensions of 150 F14A Unit: mm

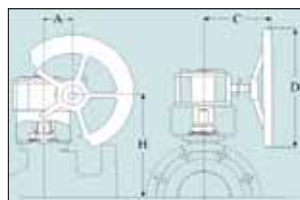
Valve Size	in.	3	4	6	8	10	12
	mm	80	100	150	200	250	305
Ball Bore		76	102	152	203	254	305
L - Short		203	229	267	457	533	610
L - Large		241	305	394	-	-	-
H		148	196	223	<small>Gear operation</small>	<small>Gear operation</small>	<small>Gear operation</small>
D		250	500	750	-	-	-
ISO 5211 flange type		F07	F10	F10	F14	F16	F16

Dimensions of 300 F14A Unit: mm

Valve Size	in.	3	4	6	8	10	12
	mm	80	100	150	200	250	305
Ball Bore		76	102	152	203	254	305
L		283	305	403	502	568	648
H		148	196	223	<small>Gear operation</small>	<small>Gear operation</small>	<small>Gear operation</small>
D		350	500	1000	-	-	-
ISO 5211 flange type		F07	F10	F10	F14	F16	F16

Gear Operation Unit: mm

Class	150 300	Gear Operator							
		H		D		C		A	
		150	300	150	300	150	300	150	300
Valve Size (inch)	4	-	-	300	300	282	282	71	71
	6	-	-	300	300	282	282	71	71
	8	342	342	400	400	340	340	86	86
	10	378	378	500	500	365	365	130	130
	12	440	440	500	500	365	365	130	130



Valve Operator

3" ~ 6" : Lever operation
 4" ~ 6" : Optional gear operation
 8" ~ 12" : Standard gear operation

Options

★ Flexible graphite packing and gasket
 (See Page 15)

Valve Operator

3" ~ 6" : Lever operation
 4" ~ 6" : Optional gear operation
 8" ~ 12" : Standard gear operation

Options

★ Flexible graphite packing and gasket
 (See Page 15)

Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

Construction and Materials

No.	Parts	Standard	Super-firesafe
		150F14A 300F14A	150F14A-FS 300F14A-FS
1	Body	ASTM A351 CF8M	
2	Body cap	ASTM A351 CF8M	
3	Stem	ASTM A479 Type 316	
4	Ball	DIN 1.4408 (CF8M)	
8	Gland Packing	PTFE	Graphite
9A	Handle bar	GGG40	
9B	Handle head	GGG40	
19	Gasket	316L+ Flexite®	316L+Graphite
26	Stem Seal	PTFE	
30	Ball seat	PTFE	
33	Cap nut *1	DIN 267/11 or A193/194	
34A	Nut	Stainless steel (DIN 267/11 A2-70)	
35	Cap bolt*1	DIN 267/11 or A193/194	
40	Stop Pin	Stainless steel (DIN 267/11 A2-70)	
43	Handle-lock plate	Steel	
51	Stopper plate	Steel nickel plated	
57	Gland bush	ASTM A479 Type 316	
58	Gland washer	Stainless steel 304 CSP	
67	Stem O'ring	FKM	
123A	Handle-lock plate bolt	Steel	
123B	Handle bolt	Steel coated	

■ **Standard material configuration can be applied to sour service.**

***1 ANSI 150**

DN ≤ 8" : DIN 267/11 A2-70

DN ≤ 8" + Nace : ASTM A193/A194 B7M/2HM deltatone coat.

DN ≥ 10" : ASTM A193/A194 B7M/2HM deltatone coated

ANSI 300

DN ≤ 4" : DIN 267/11 A2-70

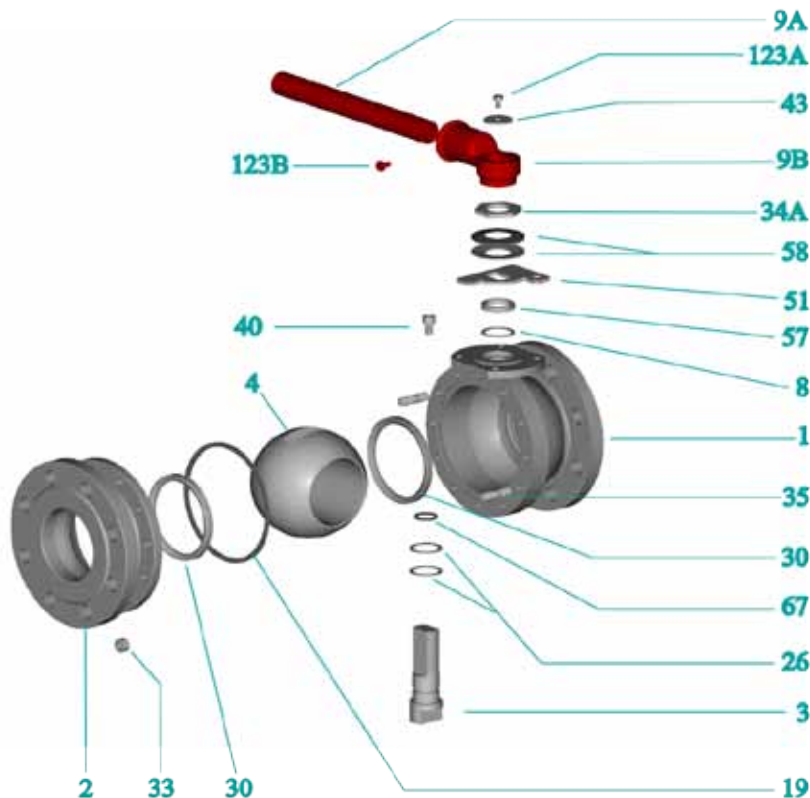
DN ≤ 4" + Nace : ASTM A193/A194 B7M/2HM deltatone coat.

DN ≥ 6" : ASTM A193/A194 B7M/2HM deltatone coated

Valve finish: (SS) Natural

Operation group: DN ≤ 6" : by wrench. DN ≥ 8" : by gear box.

All part numbers are corresponding with those shown in valve assembly drawings.



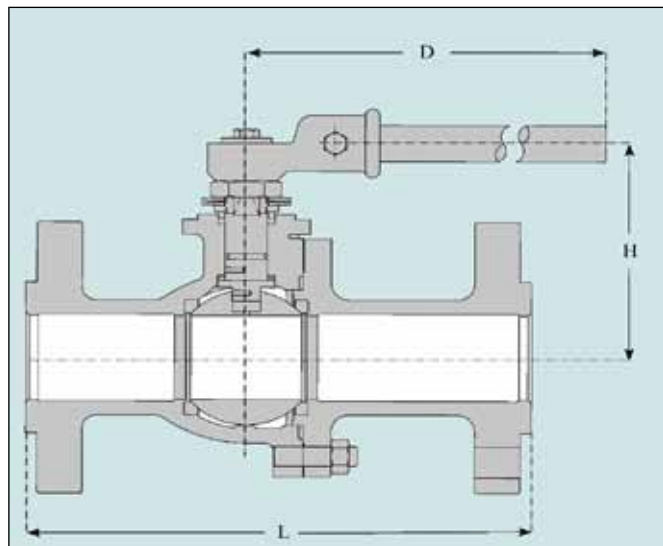
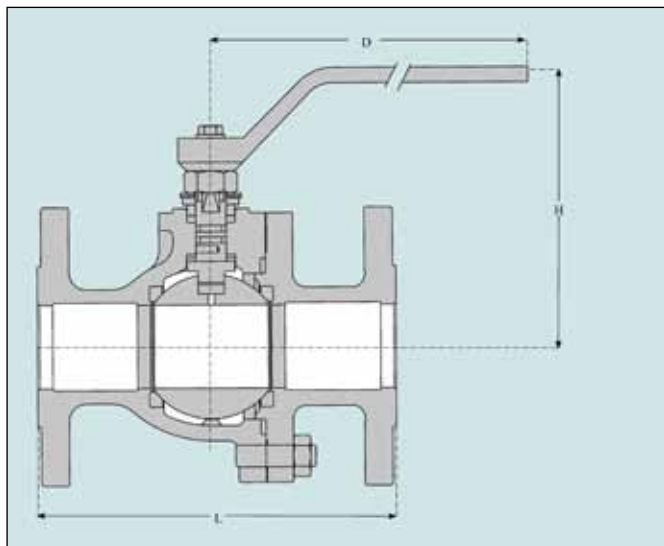
F14A - Class 600 Carbon Steel / Stainless Steel Ball Valves

Full port, Split body, Side entry design

Features

- Antistatic device
- Blowout-proof stem
- Fire test certification ★ (API 607)
- High performance PTFE ball seats
- Actuator mounting pad to ISO 5211

Page 4 for Pressure-Temperature Ratings
 Page 17 for Construction and Materials
 Page 19 for Dimension of Actuator Mounting Pad



Dimensions of 600 F14A

Unit: mm

Valve Size	in.	1/2	3/4	1	1 1/2	2	3	4 (1)	6 (2)
	mm	15	20	25	40	50	80	100	150
Ball Bore		14	19	25	38	51	76	102	111
L		165	190	216	241	292	356	432	559
H		85	90	104	125	128	148	196	254
D		150	150	200	200	350	350	500	1000
ISO 5211 flange type		F03	F03	F05	F05	F07	F07	F10	F10

Valve Operator

- 1/2" ~ 6" : Lever operation
- 4" ~ 6" : Optional gear operation

Options

- ★ Flexible graphite packing and gasket (See Page 17)

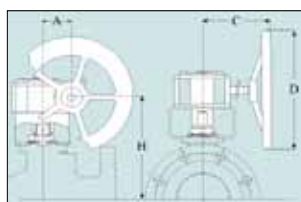
Note

- (1): Also available RB
- (2): Only available RB

Gear Operation

Unit: mm

Class	600	Gear Operator			
		H	D	C	A
Valve Size (inch)	4	196	300	282	71
	6	254	300	282	71



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

Construction and Materials

No.	Parts	Carbon Steel	Stainless Steel
		600F14A-FS	600F14A-FS
1	Body*	ASTM A216WCC ^{*1}	ASTM A351CF8M
2	Body cap*	ASTM A216WCC ^{*1}	ASTM A351CF8M
3	Stem* ²	316 or A479 410	A479 Type 316
4	Ball* ³	316 or CA15	316 or CF8M
8	Gland Packing	Graphite	
9	Handle	Steel coated	SS + Plastic
9A	Handle bar	GGG40	
9B	Handle head	GGG40	
19	Gasket	316L+Graphite	
26	Stem Seal* ⁴	PTFE+C+Gr. or PTFE	
30	Ball seat	PTFE	
33	Cap nut * ⁵	DIN A193/194 or 267/11	
34A	Nut*	DIN267/3C88blued	Stainless Steel* ⁶
35	Cap bolt* ⁵	DIN A193/194 or 267/11	
40	Stop Pin*	Steel	Stainless Steel* ⁶
43	Handle-lock plate	Steel	
51	Stopper plate	Steel zinc plated	Steel nickel plated
57	Gland bush	A479 Type 316	
58	Gland washer	Blued steel	StainlessSteel304CSP
67	Stem O'ring	FKM	
123A	Handle-lock plate bolt	Steel	
123B	Handle bolt	Steel coated	

■ Standard material configuration can be applied to sour service.

*1 WCC = WCB (0,25% C Max.)

*2 Material CS

DN ≤ 2" : ASTM A479 Type 316

DN ≥ 3" : ASTM A479 Type 410

Material SS

ASTM A479 Type 316

*3 Material CS

DN ≤ 2" : ASTM A479 Type 316

DN ≥ 3" : ASTM A217/A743 Gr. CA15

Material SS

DN ≤ 2" : ASTM A479 Type 316

DN ≥ 3" : DIN 1.4408 (CF8M)

*4 DN ≤ 1" : PTFE+C+Graphite

DN ≥ 1 1/2" : PTFE

*5 Material CS

ASTM A193/A194 B7M/2HM blued

Material SS

DN ≤ 2" : DIN 267/11 A2-70

DN ≤ 2" + Nace : ASTM A193/A194 B7M/2HM deltatone coat.

DN ≥ 3" : ASTM A193/A194 B7M/2HM deltatone coated

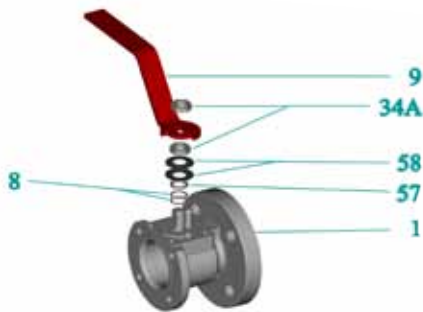
*6 Stainless Steel (DIN 267/11 A2-70)

Valve finish: (CS) DN ≤ 6" : phosphate and oil dipped.

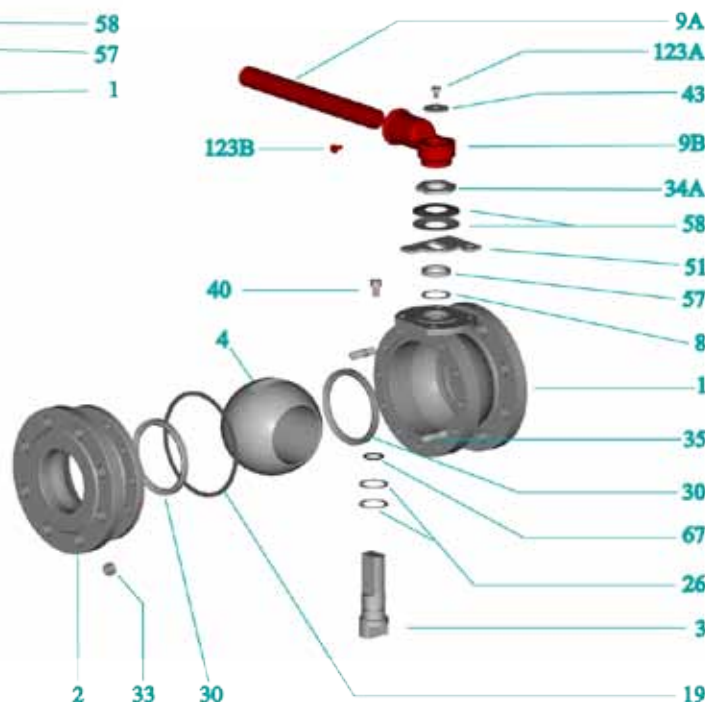
DN ≥ 8" : base priming 40 μ min.

(SS) Natural

Operation group: DN ≤ 6" : by wrench. DN ≥ 8" : by gear box.



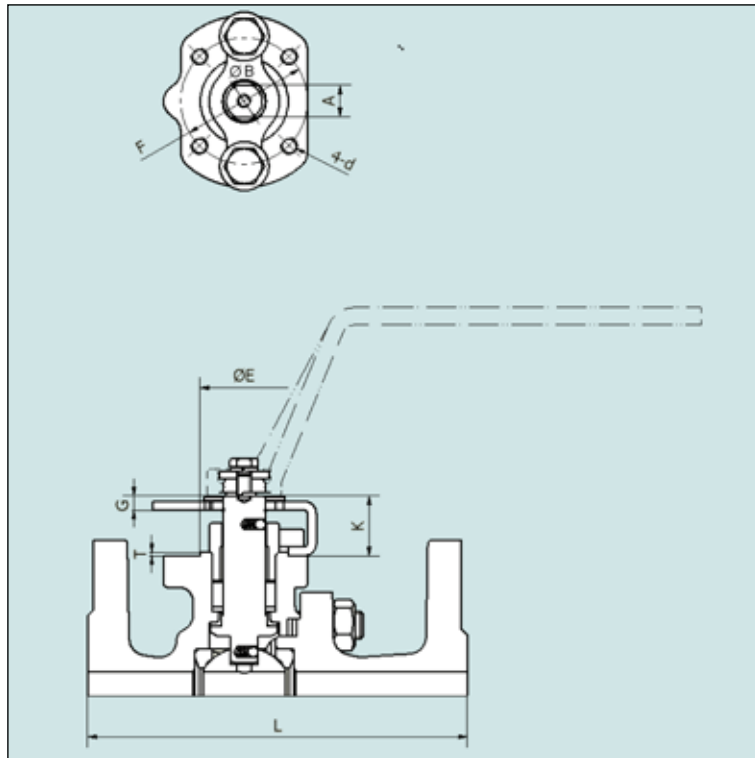
NPS ≤ 1"



All part numbers are corresponding with those shown in valve assembly drawings.

KITZ Steel Ball Valves, Floating Ball Design

TDZ - Dimensions of ISO 5211 Actuator Mounting Pad for Class 150/300 Full Port, Split Body, Side Entry Design Ball Valves



Dimensions

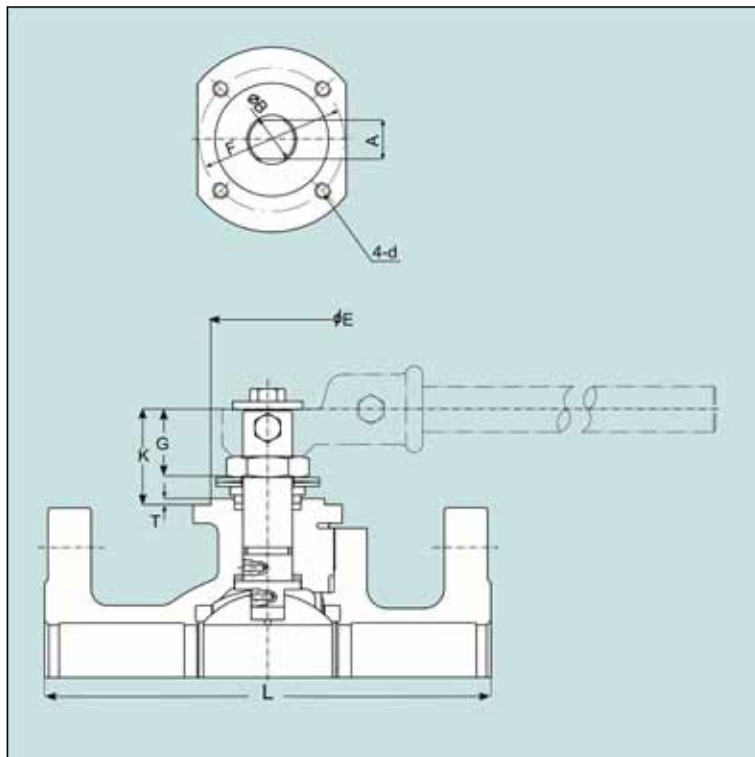
Unit: mm

Class	Nominal size (in.)	-0.05 -0.10 A	-0.1 -0.2 ø B	-0.1 -0.2 ø E	±0.2 ø F	G	K	L	d	T	ISO 5211 Flange Type
									M thread		
150	1/2	9	12	25	36	9	22	108	M5	1	F03
	3/4	9	12	25	36	9	22	117	M5	1	F03
	1	14	18	35	50	14	30	127	M6	1.5	F05
	1 1/4	14	18	35	50	14	30	140	M6	1.5	F05
	1 1/2	17	22	55	70	17	34	165	M8	1.5	F07
	2	17	22	55	70	17	34	178	M8	1.5	F07
	2 1/2	22	28	70	102	22	45	190	M10	2	F10
	3	22	28	70	102	22	45	203	M10	2	F10
	4	27	36	85	125	27	52	229	M12	2	F12
	5	27	36	85	125	27	52	356	M12	2	F12
	6	36	48	100	140	36	63	394	M16	2	F14
	8	46	60	130	165	46	79	457	M20	2	F16
300	10	46	60	130	165	46	79	533	M20	2	F16
	1/2	9	12	25	36	9	22	140	M5	1	F03
	3/4	9	12	25	36	9	22	152	M5	1	F03
	1	14	18	35	50	14	30	165	M6	1.5	F05
	1 1/2	17	22	55	70	17	34	190	M8	1.5	F07
	2	17	22	55	70	17	34	216	M8	1.5	F07
	2 1/2	22	28	70	102	22	45	241	M10	2	F10
	3	22	28	70	102	22	45	283	M10	2	F10
4	27	36	85	125	27	52	305	M12	2	F12	
6	36	48	100	140	36	63	403	M16	2	F14	
8	46	60	130	165	46	79	502	M20	2	F16	

KITZ product codes:
150UTDZ 300UTDZ
150SCTDZ 300SCTDZ

Note: Dimensions of stem head are in accordance with CAPI ADDS 2.02 but the maximum specified dimension in CAPI ADDS 2.02 is "F14".
For NPS 8 and 10, mounting pads are F16/ISO 5211.

F14A - Dimensions of ISO 5211 Actuator Mounting Pad for Class 150/300/600 Full Port, Split Body, Side Entry Design Ball Valves



Dimensions

Unit: mm

Class	Nominal size (in.)	-0.05 -0.10 A	-0.1 -0.2 ø B	-0.1 -0.2 ø E	±0.2 ø F	G	K	L	d	T	ISO 5211 Flange Type
									M thread		
150	3	19	55	90	70	25.5	46	203	M8	3	F07
	4	22	70	125	102	40.5	66	229	M10	3	F10
	6	22	70	125	102	40.5	66	267	M10	3	F10
	8	30	100	175	140	42	64.5	457	M16	3	F14
	10	18	130	210	165	171.5	174.5	533	M20	3	F16
	12	18	130	210	165	171.5	174.5	610	M20	3	F16
300	3	19	55	90	70	25.5	46	283	M8	3	F07
	4	22	70	125	102	40.5	66	305	M10	3	F10
	6	22	70	125	102	40.5	66	403	M10	3	F10
	8	30	100	175	140	42	64.5	502	M16	3	F14
	10	18	130	210	165	171.5	174.5	568	M20	3	F16
	12	18	130	210	165	171.5	174.5	648	M20	3	F16
600	1/2	6	25	40	36	8	16.5	165	M5	1.5	F03
	3/4	6	25	40	36	8	16.5	190	M5	1.5	F03
	1	9	35	52	50	14	30	216	M6	3	F05
	1 1/2	9	35	65	50	14.5	29	241	M6	2	F05
	2	19	55	90	70	25.5	46	292	M8	3	F07
	3	19	55	90	70	25.5	46	356	M8	3	F07
	4	22	70	125	102	40.5	66	432	M10	3	F10
	6	22	70	125	102	40.5	66	559	M10	3	F10

KITZ ISO product codes:

150F14A
300F14A
600F14A

CAUTION

Pressure-temperature ratings and other performance data published in this catalog have been developed from our design calculation, in-house testing, field reports provided by our customers and/or published official standards or specifications. They are good only to cover typical applications as a general guideline to users of KITZ products introduced in this catalog.

For any specific application, users are kindly requested to contact KITZ Corporation for technical advice, or to carry out their own study and evaluation for proving suitability of these products to such an application. Failure to follow this request could result in property damage and/or personal injury, for which we shall not be liable.

While this catalog has been compiled with the utmost care, we assume no responsibility for errors, impropriety or inadequacy. Any information provided in this catalog is subject to from time-to-time change without notice for error rectification, product discontinuation, design modification, new product introduction or any other cause that KITZ Corporation considers necessary. This edition cancels all previous issues.



Kitz Corporation of Europe S.A.
Ramón Viñas, 8
08930 Sant Adrià de Besòs
Barcelona
Spain - España
Ph. +34 93 462 14 08
Fax. +34 93 462 03 49
www.kitzeurope.com