

KITZ

Graphite and Metal Seated Steel Ball Valves

Service Temperature: up to 932°F
Unconditional Firesafe Provision

- Metal seated ball valves rated ASME Class 150/300/600 for highly abrasive control and throttling service.
- Hard graphite seated ball valves rated ASME Class 150/300 for low abrasive fluid control service.



KITZ CORPORATION

KITZ Graphite and Metal Seated Ball Valves

Production Range

Trim	ASME Class	Material	Ball Seat	Design	Port	Product Code	Size	in.	1½	¾	1	1½	2	2½	3	4	6	8	10	12	14	Page	
							mm	15	20	25	40	50	65	80	100	150	200	250	300	350			
3H	150	Carbon Steel	Carbon+Stainless Steel	Floating	Full	150SCTBZ3HM	●	●	●	●	●	●	●	●	●							4	
		G-150SCTBZ3HM													●	●					5		
		150UTBZ3HM				●	●	●	●	●	●	●	●	●							6		
		G-150UTBZ3HM													●	●					7		
	300	Carbon Steel				300SCTBZ3HM	●	●	●	●	●	●	●	●								8	
		G-300SCTBZ3HM													●	●	●					9	
		Stainless Steel				300UTBZ3HM	●	●	●	●	●	●	●									10	
G-300UTBZ3HM										●	●	●					11						
5H	150	Carbon Steel	A276 Type316+Ni-Cr Alloy	Floating	Full	150SCTBZ5HM	●	●	●	●	●	●	●	●	●						12		
		G-150SCTBZ5HM													●	●					13		
		150UTBZ5HM				●	●	●	●	●	●	●	●	●							14		
		G-150UTBZ5HM													●	●					15		
	300	Carbon Steel				300SCTBZ5HM	●	●	●	●	●	●	●									16	
		G-300SCTBZ5HM													●	●	●					17	
		Stainless Steel				300UTBZ5HM	●	●	●	●	●	●	●									18	
G-300UTBZ5HM										●	●	●					19						
6H	150	Carbon Steel	A276 Type316+Ni-Cr Alloy	Floating	Full	150SCTBZ6HM	●	●	●	●	●	●	●	●	●						20		
		G-150SCTBZ6HM													●	●					21		
		150UTBZ6HM				●	●	●	●	●	●	●	●	●							22		
		G-150UTBZ6HM													●	●					23		
	300	Carbon Steel				300SCTBZ6HM	●	●	●	●	●	●	●									24	
		G-300SCTBZ6HM													●	●	●					25	
		Stainless Steel				300UTBZ6HM	●	●	●	●	●	●	●									26	
	G-300UTBZ6HM										●	●	●					27					
	150	Carbon Steel	A276 Type316+Ni-Cr Alloy	Trunnion Mounted	Full	G-150SCTC6HM												●	●	●	28		
	300					G-300SCTC6HM										●	●	●	●	●	29		
	600					600SCTC6HM					●		●								30		
	G-600SCTC6HM														●	●	●	●	●	31			
	150	Stainless Steel				G-150UTC6HM														●	●	●	32
	300					G-300UTC6HM											●	●	●	●	●	33	
	600					600UTC6HM					●		●									34	
G-600UTC6HM											●	●	●	●	●	●	35						

KITZ Product Coding

Example: Gear operated ASME Class 150 metal seated ball valve, CF8M shell material, metal seated

G-150 U T BZ 6H M

1

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1 Valve operational measure

None Lever handle
G Worm gear

2 Valve pressure class

150 ASME Class 150
300 ASME Class 300
600 ASME Class 600

3 Shell materials

U Stainless steel
SC Carbon steel

4 Symbol for ball valve

5 Valve design

BZ Full port floating ball design ISO5211 mounting pad
CAPI compliance
C Trunnion mounted

6 Trim symbol

3H Hard graphite seats for low abrasion service, 932°F
5H Metal seats for abrasive service, 572°F
6H Metal seats for high abrasion service, 932°F

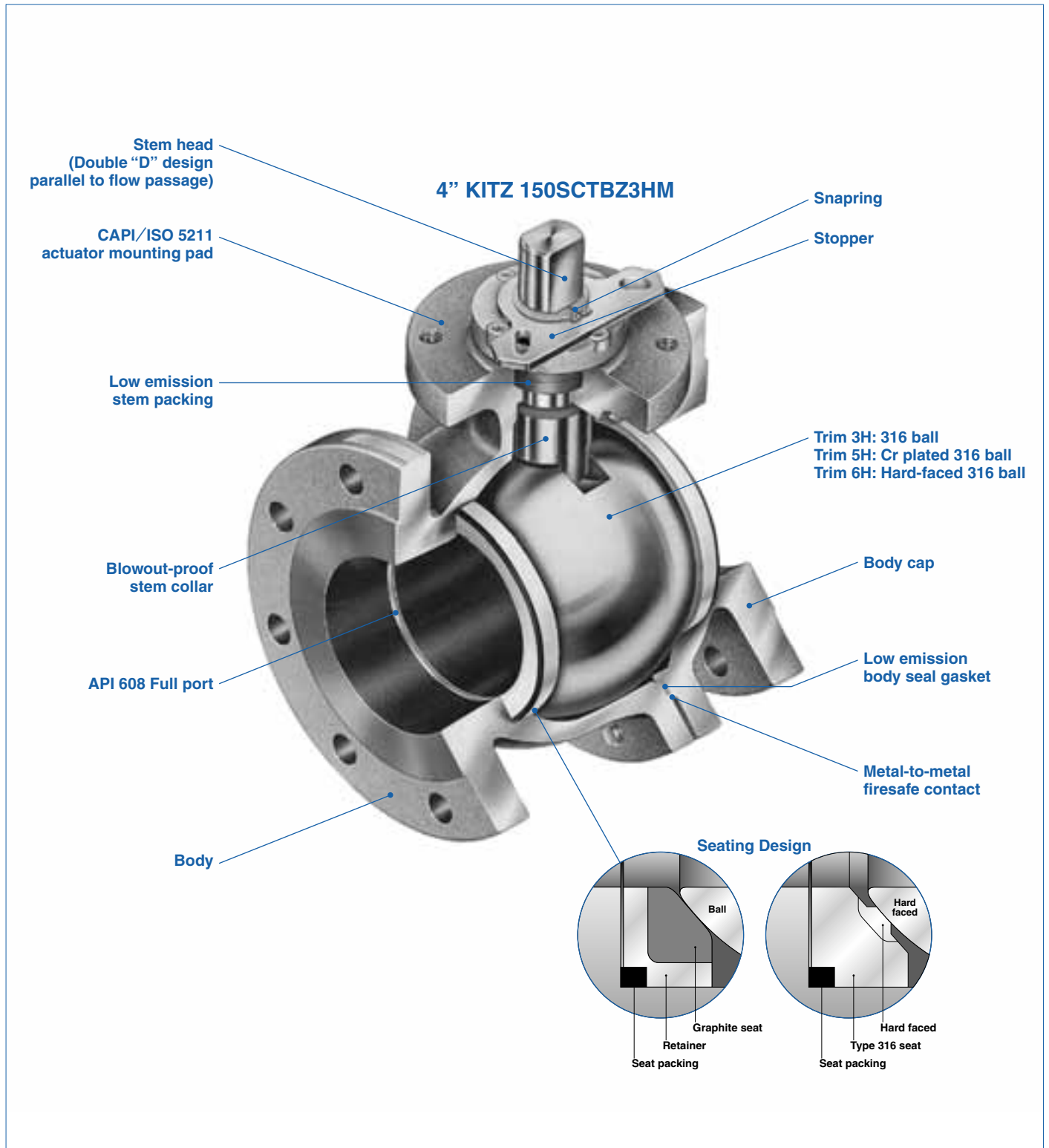
7 Trim material or Shell material

Carbon steel material Trim: A351 Gr. CF8M or A276 Type 316
Stainless steel material Shell: A351 Gr. CF8M

Design Features

Split Body, Side Entry, Full Port Design

This is an illustrated cross-section of a typical graphite and metal seated ball valve



Technical Data

1. Choice of trim for heated abrasive service

Metal seated ball valves are guaranteed for a maximum service temperature of 572°F (Trim symbol 5H) and 932°F (Trim symbol 6H). For hard graphite seated ball valves, a maximum service temperature of 932°F is also guaranteed (Trim symbol 3H). Heat resistant sealing and trim materials qualify these valves for heated abrasive service which cannot be properly handled by conventional soft seated ball valves due to the limited heat resistant characteristics and mechanical properties of their soft seats.

2. Unconditional firesafe provision

While metal or hard graphite seats are extremely heat resistant, other sealing components such as gland packing and flange gaskets are made of flexible graphite, another heat resistant material, so that no part of the valve will be affected by extraordinarily heated environments. Also the provision of an anti-static device is not required because of inter-component electric conductivity.

3. Maintenance ease

Split body construction of the valve body provides the convenience of easy maintenance, a critical requirement for handling slurries and other viscous fluids.

4. Valve automation

Quarter-turn valve drive mechanism makes mounting of valve automation measures such as electric and pneumatic actuators technically easier. KITZ ball valves employ integral actuator mounting pads, complying with ISO 5211 and CAPI, for easy, safe and assured on-the-spot actuator mounting without disassembly of valve glands.

5. High flow efficiency

Full port design provides maximized and linearized flow characteristic with minimal pressure loss as the line flow travels through the valve bore. This is a necessary design requirement particularly for trouble-free service of slurries and other viscous fluids.

6. Metal seated ball valves (Trim 5H/6H)

Rigid construction with full metallic contact between the ball and seats, and high durability of trim materials make KITZ metal seated ball valves ideally suited to highly abrasive services handling slurries and other viscous fluids..

● Trim materials

Parts	Temp.	572°F service	932°F service
	Trim symbol	5H	6H
Ball		Cr. plated ASTM 276 Type 316 or A351 Gr. CF8M	ASTM 276 Type 316 or A351 Gr. CF8M + Ni-Cr Alloy
Seat		ASTM 276 Type 316 + Ni-Cr Alloy	ASTM 276 Type 316 + Ni-Cr Alloy
Stem		* JIS SUS 630	* JIS SUS 630

* Equivalent to ASTM A564 Type 630

- Durable metal seat design and material also provides fully guaranteed throttling service performance, which makes KITZ metal seated ball valves function as a reliable control valve.
- Bi-directional pressurizing.

Caution:

- Use a gear operator or valve actuator to fix the valve position when used for throttling service.

7. Hard graphite seated ball valves (Trim 3H)

- Bi-directional pressurizing direction.
- Recommended for low abrasion service.

Parts	Temp.	932°F service
	Trim symbol	3H
Ball		ASTM 276 Type 316 or A351 Gr. CF8M
Seat		Carbon + Stainless steel
Stem		ASTM A276 Type 316

Caution:

- Not recommended for throttling service.
- Not recommended for high abrasion service.
- Leakage may increase when the valves are excessively exposed to oxidized service at higher temperature than 842°F.

Technical Data

Design Standards

Valve body design	Split body · side entry · RF-flanged · full port with floating ball design
Wall Thickness	ASME B16.34 Class 150/300
F-F Dimensions	ASME B16.10 Class 150/300
End Connection	RF-flanged to ASME B16.5 Class 150/300
P-T Rating	ASME B16.34 Class 150/300

Pressure Test

● Metal seated ball valves (Trim 5H/6H)

Maximum allowable seat leakage*:
ANSI/FCI 70-2 Class VI

Test pressure

Unit: psig

Class	ASME 150	ASME 300
Shell test	SS*: 425 CS*: 450	SS*: 1100 CS*: 1125
Seat test	50 Air	

*SS: Stainless steel

CS: Carbon steel

*Contact KITZ in case of oil-free requirement.

● Hard graphite seated ball valves (Trim 3H)

Maximum allowable seat leakage*:
ANSI/FCI 70-2 Class VI

Test pressure

Unit: psig

Class	ASME 150	ASME 300
Shell test	SS*: 425 CS*: 450	SS*: 1100 CS*: 1125
Seat test	50 Air	

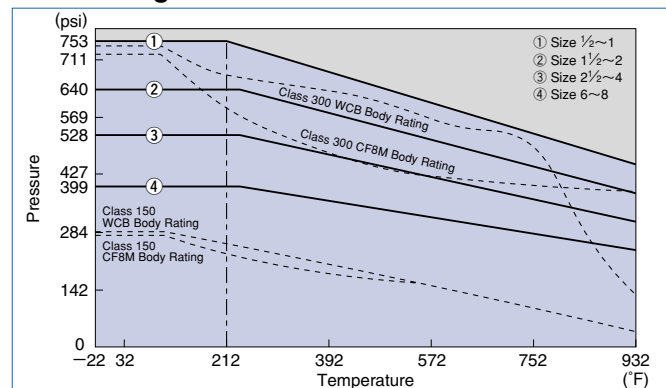
*SS: Stainless steel

CS: Carbon steel

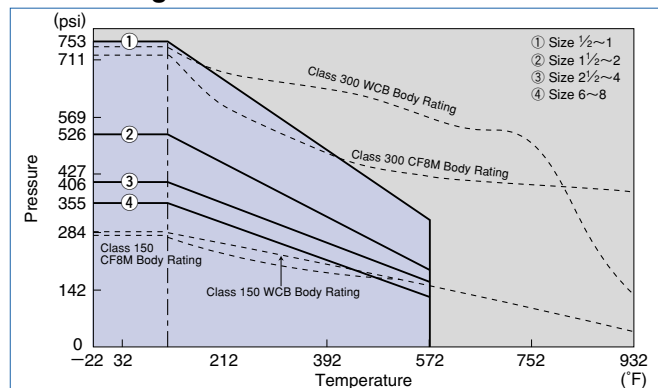
*Contact KITZ in case of oil-free requirement.

Pressure-Temperature Rating

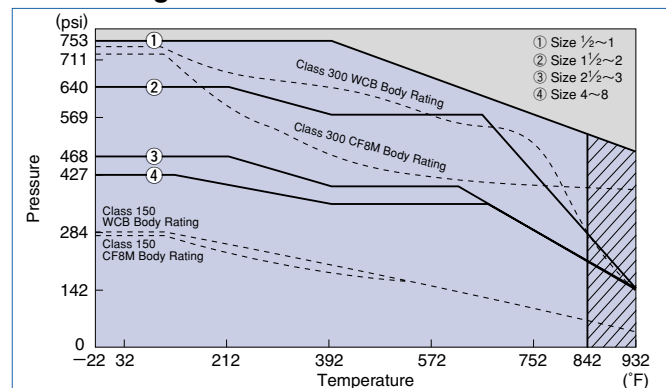
● P-T Rating: SC/UTBZ6HM



● P-T Rating: SC/UTBZ5HM



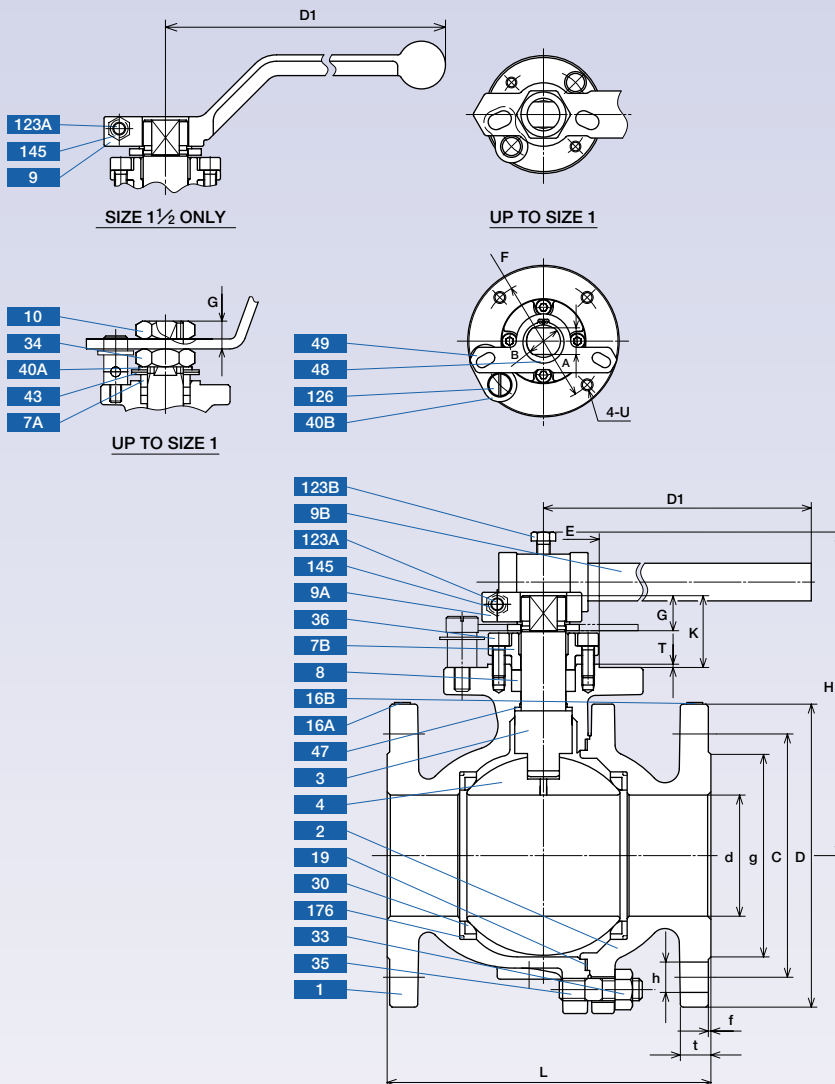
● P-T Rating: SC/UTBZ3HM



Note: 3H leakage may increase when the valves are exposed to an oxidized service at a higher temperature than 842°F for extended periods.

● Hard graphite seated ball valve (Trim 3H)

150SCTBZ3HM



Construction and materials

No.	Parts	Specifications
		150SCTBZ3HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	A276 Type 316
4	Ball	A351 Gr. CF8M or A276 Type 316
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1½ & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1) Ductile iron (size 1½ & over)
9A	Handle bar	Carbon steel (size 2 & over)
9B	Handle head	Ductile Iron (size 2 & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	Carbon + Stainless steel (2)
33	Cup nut	A194 Gr. 2HM
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Alloy steel (size 1½ & over)
49	Stopper	Stainless steel (size 1½ & over)
123A	Handle bolt	Stainless steel (size 1½ & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1½ & over)
176	Seat gasket	Flexible graphite

Dimensions

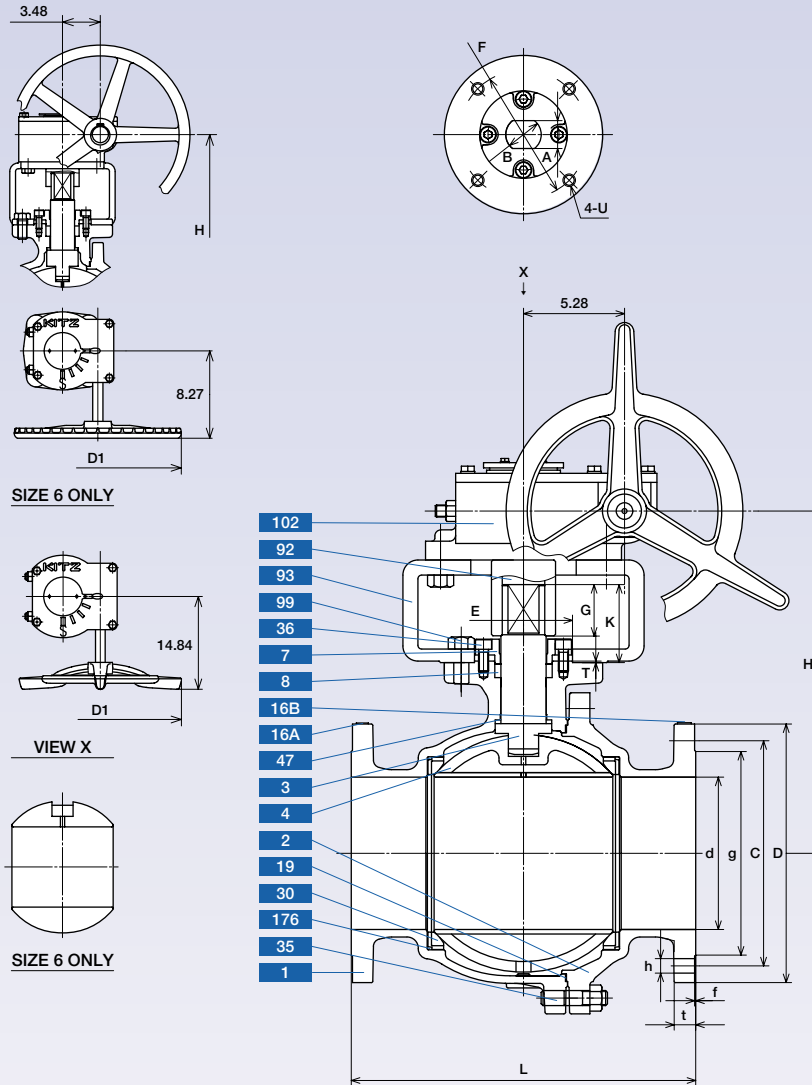
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	4.25	3.50	2.38	4	0.62	1/2	1.38	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	4.62	3.88	2.75	4	0.62	1/2	1.69	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	5.00	4.25	3.12	4	0.62	1/2	2.00	0.44	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1½	40	1.50	5.63	9.06	6.00	5.00	3.88	4	0.62	1/2	2.88	0.56	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	11.81	7.00	6.00	4.75	4	0.75	5/8	3.62	0.62	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2½	65	2.52	8.78	23.62	7.50	7.00	5.50	4	0.75	5/8	4.12	0.69	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	26.62	8.00	7.50	6.00	4	0.75	5/8	5.00	0.75	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
4	100	3.94	10.08	39.37	9.00	9.00	7.50	8	0.75	5/8	6.19	0.94	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to AISI Type 329

● Hard graphite seated ball valve (Trim 3H)

G-150SCTBZ3HM



Construction and materials

No.	Parts	Specifications
		G-150SCTBZ3HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	A276 Type 316
4	Ball	A351 Gr. CF8M or A276 Type 316
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	Carbon + Stainless steel (2)
33	Cup nut	A194 Gr. 2HM
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

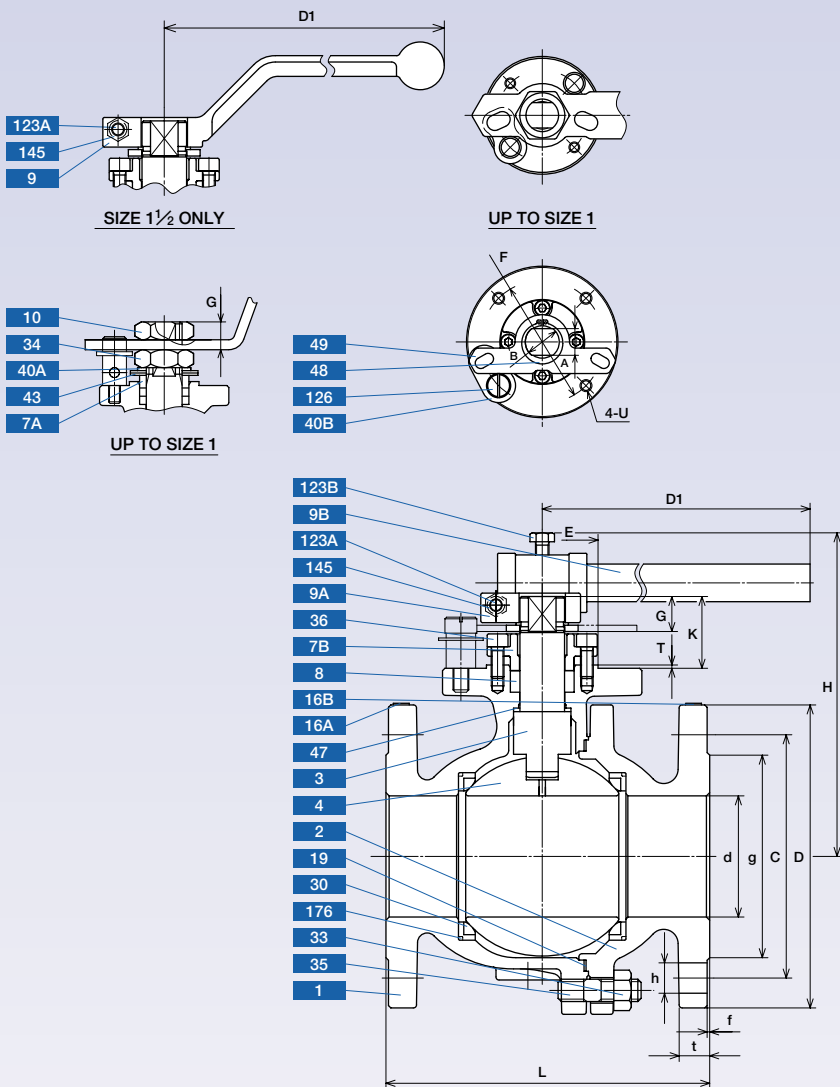
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
6	150	5.95	15.16	14.17	15.50	11.00	9.50	8	0.88	3/4	8.50	1.00	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	18.00	13.50	11.75	8	0.88	3/4	10.62	1.12	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to AISI Type 329

● Hard graphite seated ball valve (Trim 3H)

150UTBZ3HM



Construction and materials

No.	Parts	Specifications
		150UTBZ3HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	A276 Type 316
4	Ball	A351 Gr.CF8M or A276 Type 316
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1½ & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1) Ductile iron (size 1½ & over)
9A	Handle bar	Carbon steel (size 2 & over)
9B	Handle head	Ductile Iron (size 2 & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	Carbon + Stainless steel (2)
33	Cup nut	A194 Gr. 8M
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Stainless steel (size 1½ & over)
49	Stopper	Stainless steel (size 1½ & over)
123A	Handle bolt	Stainless steel (size 1½ & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1½ & over)
176	Seat gasket	Flexible graphite

Dimensions

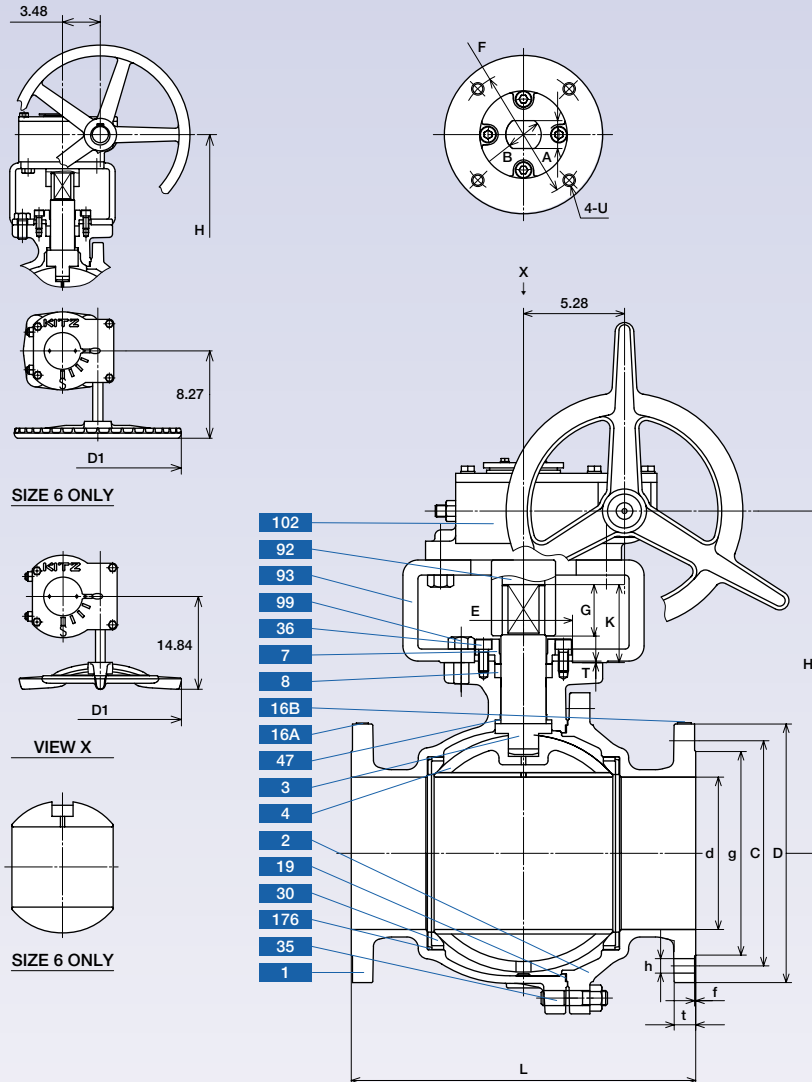
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	4.25	3.50	2.38	4	0.62	1/2	1.38	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	4.62	3.88	2.75	4	0.62	1/2	1.69	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	5.00	4.25	3.12	4	0.62	1/2	2.00	0.44	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1½	40	1.50	5.63	9.06	6.00	5.00	3.88	4	0.62	1/2	2.88	0.56	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	11.81	7.00	6.00	4.75	4	0.75	5/8	3.62	0.62	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2½	65	2.52	8.78	23.62	7.50	7.00	5.50	4	0.75	5/8	4.12	0.69	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	26.62	8.00	7.50	6.00	4	0.75	5/8	5.00	0.75	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
4	100	3.94	10.08	39.37	9.00	9.00	7.50	8	0.75	5/8	6.19	0.94	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to AISI Type 329

● Hard graphite seated ball valve (Trim 3H)

G-150UTBZ3HM



Construction and materials

No.	Parts	Specifications
		G-150UTBZ3HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	A276 Type 316
4	Ball	A351 Gr. CF8M or A276 Type 316
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	Carbon + Stainless steel (2)
33	Cup nut	A194 Gr. 8M
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

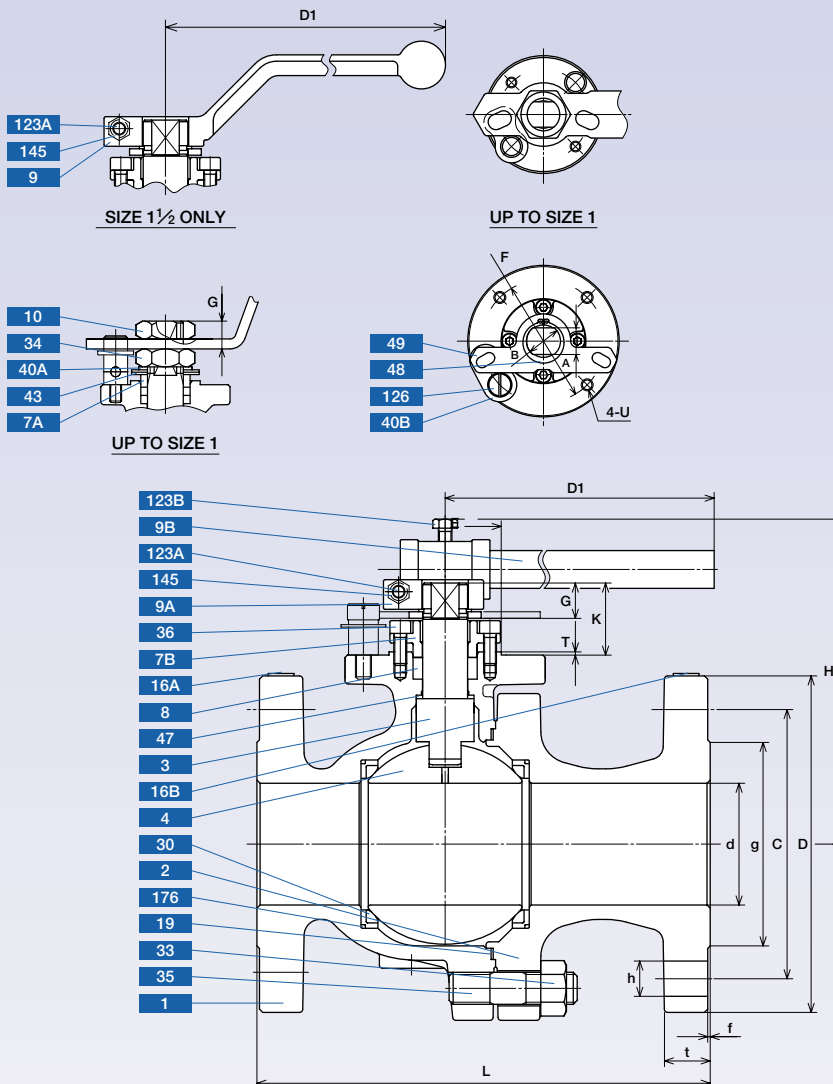
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
6	150	5.95	15.16	14.17	15.50	11.00	9.50	8	0.88	3/4	8.50	1.00	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	18.00	13.50	11.75	8	0.88	3/4	10.62	1.12	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to AISI Type 329

● Hard graphite seated ball valve (Trim 3H)

300SCTBZ3HM



Construction and materials

No.	Parts	Specifications
		300SCTBZ3HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	A276 Type 316
4	Ball	A351 Gr.CF8M or A276 Type 316
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1½ & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1)
9A	Handle bar	Carbon steel (size 1½ & over)
9B	Handle head	Ductile Iron (size 1½ & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	Carbon + Stainless steel (2)
33	Cup nut	A194 Gr. 2HM
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Alloy steel (size 1½ & over)
49	Stopper	Stainless steel (size 1½ & over)
123A	Handle bolt	Stainless steel (size 1½ & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1½ & over)
176	Seat gasket	Flexible graphite

Dimensions

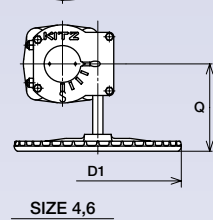
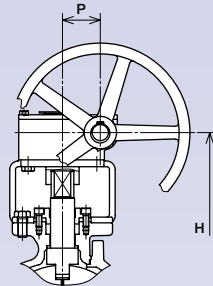
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	5.50	3.75	2.62	4	0.62	1/2	1.38	0.56	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	6.00	4.62	3.25	4	0.75	5/8	1.69	0.62	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	6.50	4.88	3.50	4	0.75	5/8	2.00	0.69	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1½	40	1.50	5.63	23.62	7.50	6.14	4.50	4	0.88	3/4	2.88	0.81	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	23.62	8.50	6.50	5.00	8	0.75	5/8	3.62	0.88	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2½	65	2.52	8.78	39.37	9.50	7.50	5.88	8	0.88	3/4	4.12	1.00	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	39.37	11.12	8.25	6.62	8	0.88	3/4	5.00	1.12	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10

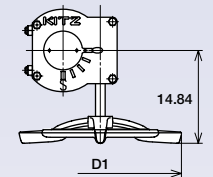
Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to AISI Type 329

● Hard graphite seated ball valve (Trim 3H)

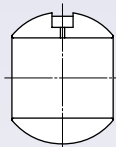
G-300SCTBZ3HM



SIZE 4,6

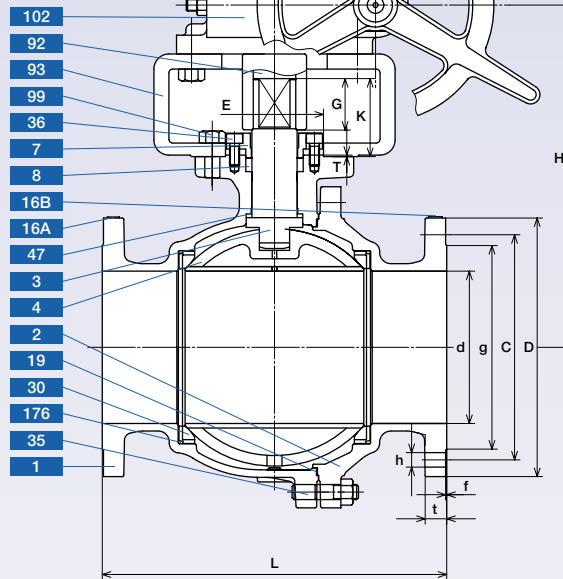
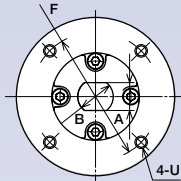


VIEW X



SIZE 4,6

Nominal size		P	Q
in.	mm		
4	100	2.58	6.50
6	150	3.48	8.27



Construction and materials

No.	Parts	Specifications
		G-300SCTBZ3HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	A276 Type 316
4	Ball	A351 Gr. CF8M or A276 Type 316
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	Carbon + Stainless steel (2)
33	Cup nut	A194 Gr. 2HM
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

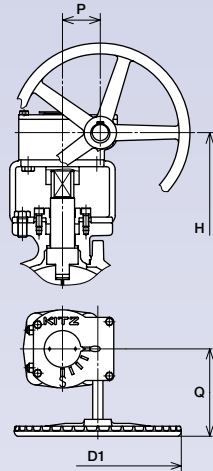
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
4	100	3.94	11.54	12.20	12.00	10.00	7.88	8	0.88	3/4	6.19	1.25	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12
6	150	5.95	15.16	14.17	15.88	12.50	10.62	12	0.88	3/4	8.50	1.44	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	19.75	15.00	13.00	12	1.00	7/8	10.62	1.62	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

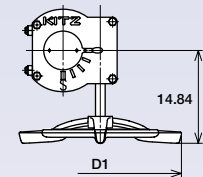
Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to AISI Type 329

● Hard graphite seated ball valve (Trim 3H)

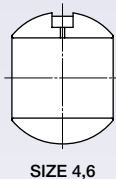
G-300UTBZ3HM



SIZE 4,6

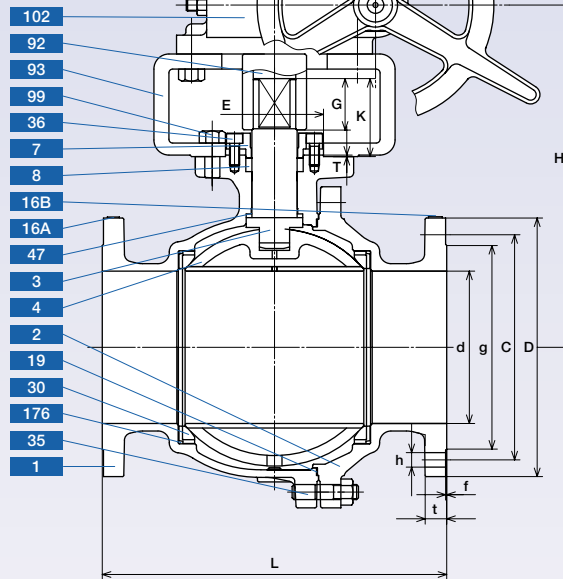


VIEW X



SIZE 4,6

Nominal size		P	Q
in.	mm		
4	100	2.58	6.50
6	150	3.48	8.27



Construction and materials

No.	Parts	Specifications
		G-300UTBZ3HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	A276 Type 316
4	Ball	A351 Gr. CF8M or A276 Type 316
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	Carbon + Stainless steel (2)
33	Cup nut	A194 Gr. 8M
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

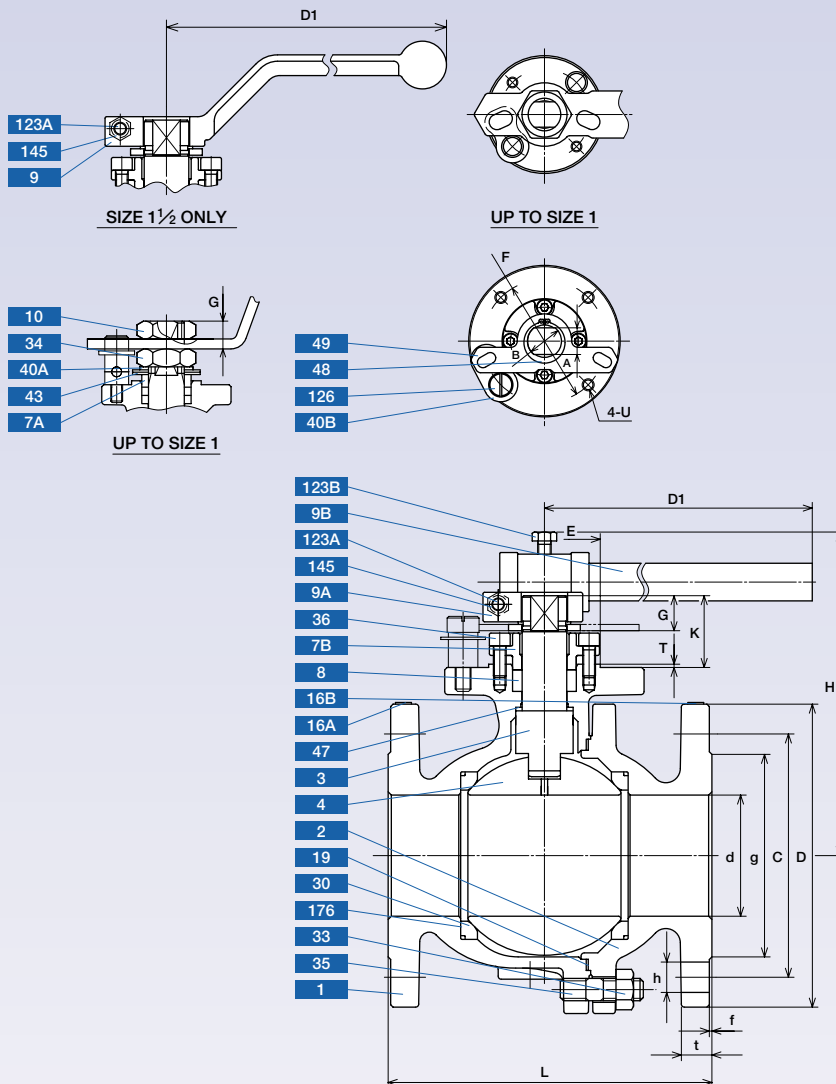
Unit: inch

Nominal size		d	H	D1	L	End flange								Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type	
in.	mm	C	No.	h																			
4	100	3.94	11.54	12.20	12.00	10.00	7.88	8	0.88	3/4	6.19	1.25	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12	
6	150	5.95	15.16	14.17	15.88	12.50	10.62	12	0.88	3/4	8.50	1.44	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14	
8	200	7.95	17.87	19.69	19.75	15.00	13.00	12	1.00	7/8	10.62	1.62	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16	

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to AISI Type 329

● Metal seated ball valve (Trim 5H)

150SCTBZ5HM



Construction and materials

No.	Parts	Specifications
		150SCTBZ5HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stern	JIS SUS630 (3)
4	Ball	A351 Gr.CF8M (2) or A276 Type 316 (2)
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1 1/2 & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1) Ductile iron (size 1 1/2)
9A	Handle bar	Carbon steel (size 2 & over)
9B	Handle head	Ductile iron (size 2 & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 2HM
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Alloy steel (size 1 1/2 & over)
49	Stopper	Stainless steel (size 1 1/2 & over)
123A	Handle bolt	Stainless steel (size 1 1/2 & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1 1/2 & over)
176	Seat gasket	Flexible graphite

Dimensions

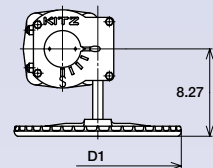
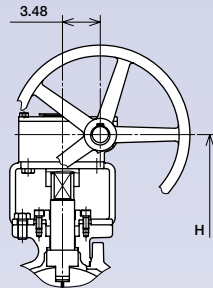
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	4.25	3.50	2.38	4	0.62	1/2	1.38	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	4.62	3.88	2.75	4	0.62	1/2	1.69	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	5.00	4.25	3.12	4	0.62	1/2	2.00	0.44	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1 1/2	40	1.50	5.63	9.06	6.00	5.00	3.88	4	0.62	1/2	2.88	0.56	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	11.81	7.00	6.00	4.75	4	0.75	5/8	3.62	0.62	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2 1/2	65	2.52	8.78	23.62	7.50	7.00	5.50	4	0.75	5/8	4.12	0.69	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	26.62	8.00	7.50	6.00	4	0.75	5/8	5.00	0.75	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
4	100	3.94	10.08	39.37	9.00	9.00	7.50	8	0.75	5/8	6.19	0.94	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12

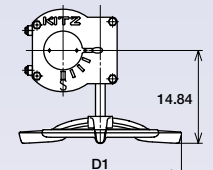
Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Cr. Plating. (3) Equivalent to ASTM A564 Type 630.

● Metal seated ball valves (Trim 5H)

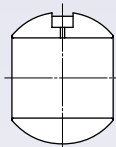
G-150SCTBZ5HM



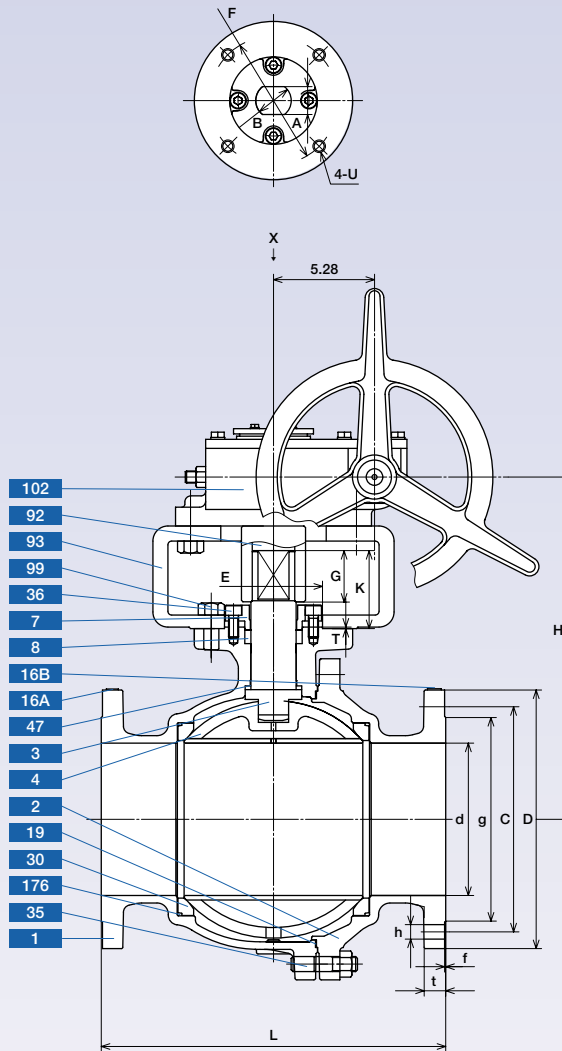
SIZE 6 ONLY



VIEW X



SIZE 6 ONLY



Construction and materials

No.	Parts	Specifications
		G-150SCTBZ5HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (3)
4	Ball	A351 Gr. CF8M (2) or A276 Type 316 (2)
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 2HM
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

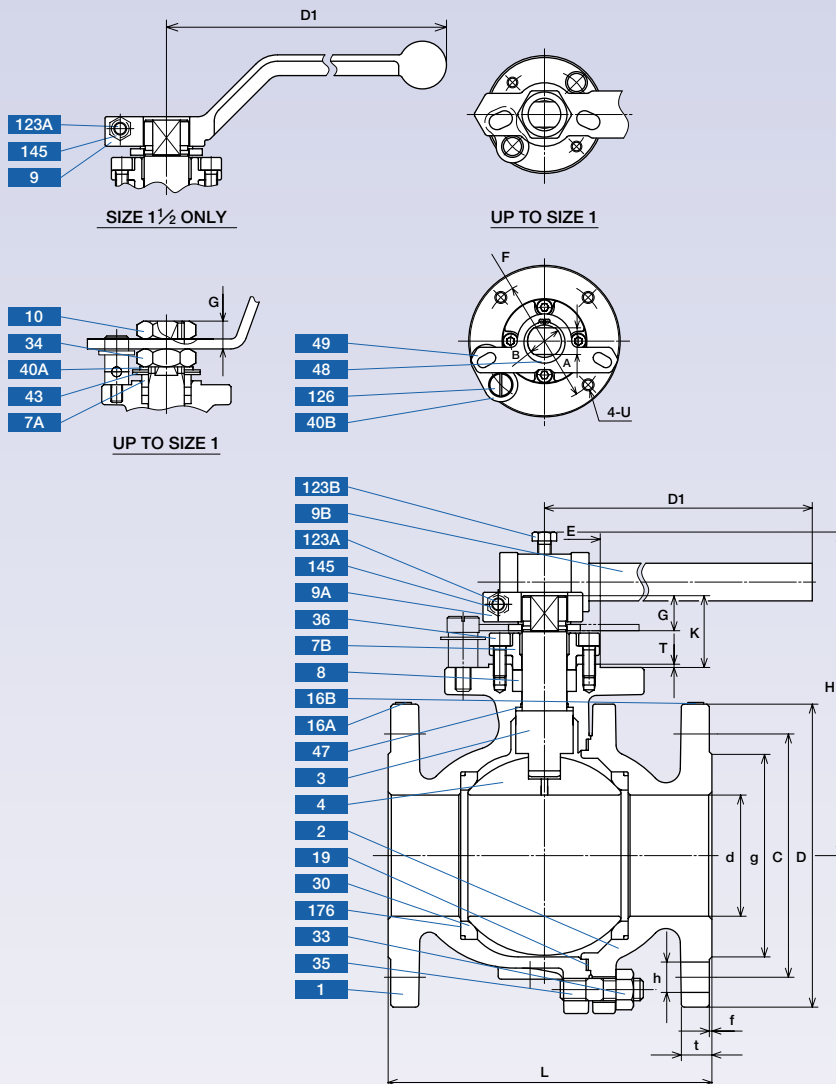
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
6	150	5.95	15.16	14.17	15.50	11.00	9.50	8	0.88	3/4	8.50	1.00	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	18.00	13.50	11.75	8	0.88	3/4	10.62	1.12	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Cr. Plating. (3) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 5H)

150UTBZ5HM



Construction and materials

No.	Parts	Specifications
		150UTBZ5HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	JIS SUS630 (3)
4	Ball	A351 Gr.CF8M (2) or A276 Type 316 (2)
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1½ & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1) Ductile iron (size 1½)
9A	Handle bar	Carbon steel (size 2 & over)
9B	Handle head	Ductile iron (size 2 & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 8M
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Stainless steel (size 1½ & over)
49	Stopper	Stainless steel (size 1½ & over)
123A	Handle bolt	Stainless steel (size 1½ & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1½ & over)
176	Seat gasket	Flexible graphite

Dimensions

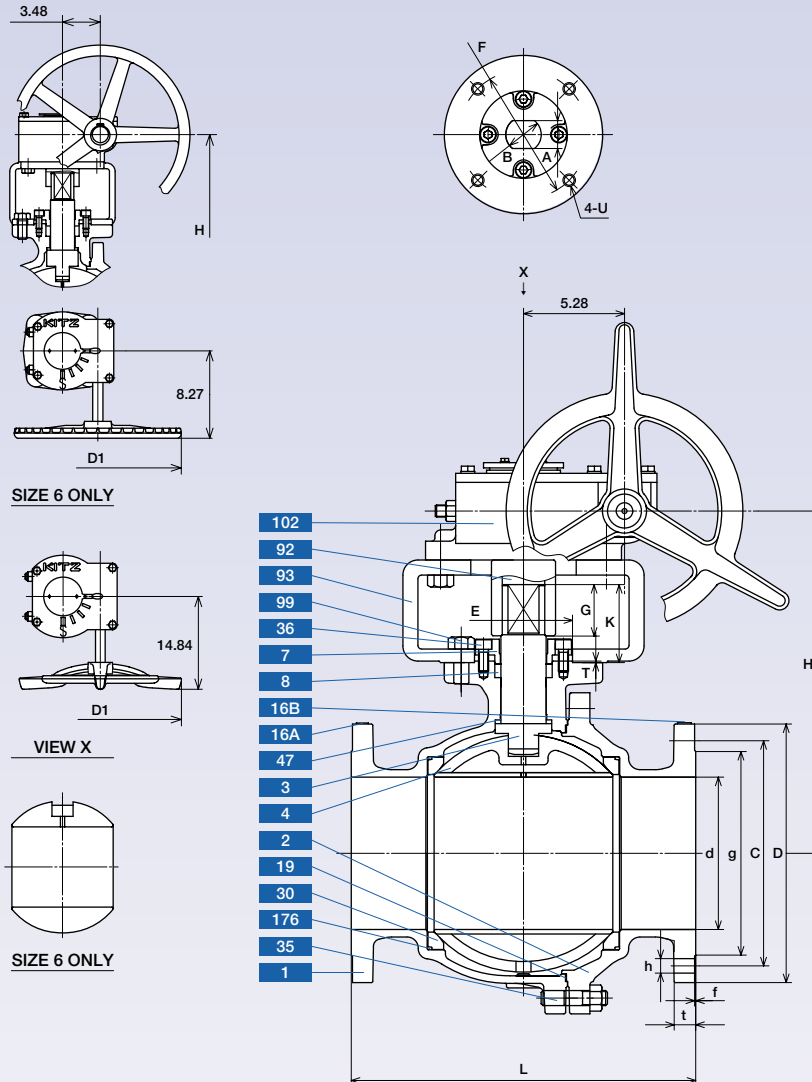
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	4.25	3.50	2.38	4	0.62	1/2	1.38	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	4.62	3.88	2.75	4	0.62	1/2	1.69	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	5.00	4.25	3.12	4	0.62	1/2	2.00	0.44	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1½	40	1.50	5.63	9.06	6.00	5.00	3.88	4	0.62	1/2	2.88	0.56	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	11.81	7.00	6.00	4.75	4	0.75	5/8	3.62	0.62	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2½	65	2.52	8.78	23.62	7.50	7.00	5.50	4	0.75	5/8	4.12	0.69	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	26.62	8.00	7.50	6.00	4	0.75	5/8	5.00	0.75	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
4	100	3.94	10.08	39.37	9.00	9.00	7.50	8	0.75	5/8	6.19	0.94	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Cr. Plating. (3) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 5H)

G-150UTBZ5HM



Construction and materials

No.	Parts	Specifications
		G-150UTBZ5HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	JIS SUS630 (3)
4	Ball	A351 Gr. CF8M (2) or A276 Type 316 (2)
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 8M
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

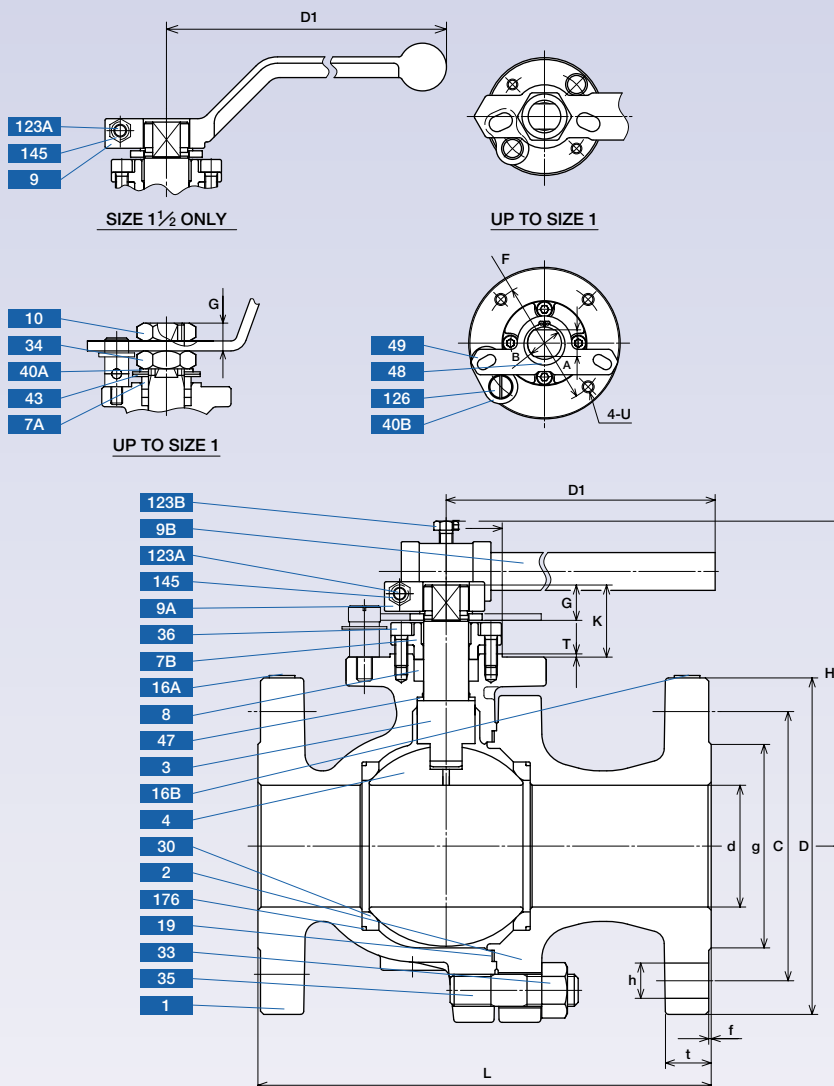
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
6	150	5.95	15.16	14.17	15.50	11.00	9.50	8	0.88	3/4	8.50	1.00	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	18.00	13.50	11.75	8	0.88	3/4	10.62	1.12	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Cr. Plating. (3) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 5H)

300SCTBZ5HM



Construction and materials

No.	Parts	Specifications
		300SCTBZ5HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (3)
4	Ball	A351 Gr. CF8M (2) or A276 Type 316 (2)
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1½ & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1)
9A	Handle bar	Carbon steel (size 1½ & over)
9B	Handle head	Ductile iron (size 1½ & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 2HM
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Alloy steel (size 1½ & over)
49	Stopper	Stainless steel (size 1½ & over)
123A	Handle bolt	Stainless steel (size 1½ & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1½ & over)
176	Seat gasket	Flexible graphite

Dimensions

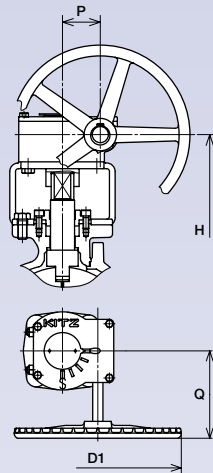
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	5.50	3.75	2.62	4	0.62	1/2	1.38	0.56	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	6.00	4.62	3.25	4	0.75	5/8	1.69	0.62	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	6.50	4.88	3.50	4	0.75	5/8	2.00	0.69	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1½	40	1.50	5.63	23.62	7.50	6.14	4.50	4	0.88	3/4	2.88	0.81	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	23.62	8.50	6.50	5.00	8	0.75	5/8	3.62	0.88	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2½	65	2.52	8.78	39.37	9.50	7.50	5.88	8	0.88	3/4	4.12	1.00	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	39.37	11.12	8.25	6.62	8	0.88	3/4	5.00	1.12	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10

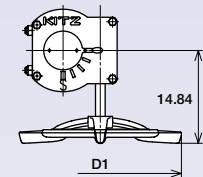
Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Cr. Plating. (3) Equivalent to ASTM A564 Type 630.

● Metal seated ball valves (Trim 5H)

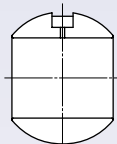
G-300SCTBZ5HM



SIZE 4,6

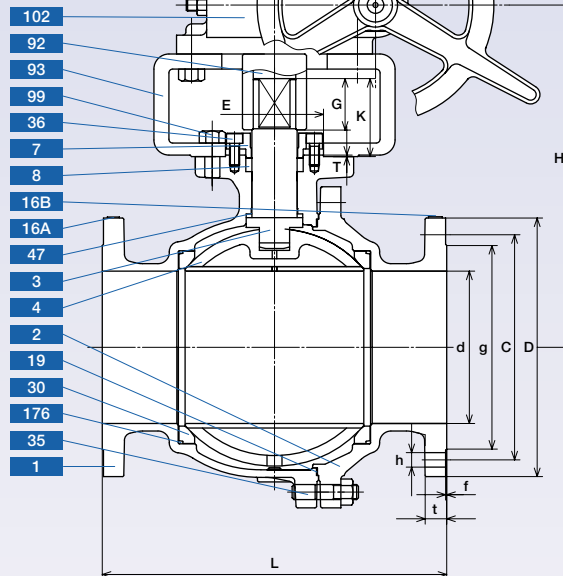


VIEW X



SIZE 4,6

Nominal size		P	Q
in.	mm		
4	100	2.58	6.50
6	150	3.48	8.27



Construction and materials

No.	Parts	Specifications
		G-300SCTBZ5HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (3)
4	Ball	A351 Gr. CF8M (2) or A276 Type 316 (2)
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 2HM
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

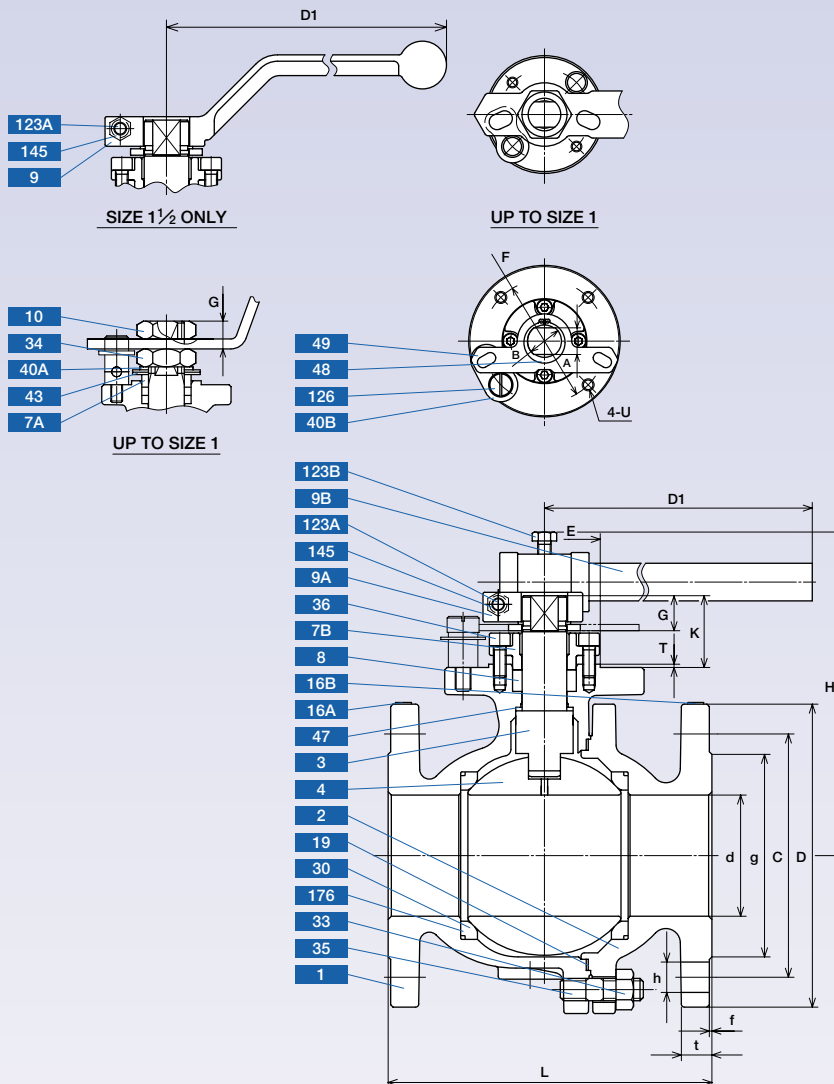
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
4	100	3.94	11.54	12.20	12.00	10.00	7.88	8	0.88	3/4	6.19	1.25	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12
6	150	5.95	15.16	14.17	15.88	12.50	10.62	12	0.88	3/4	8.50	1.44	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	19.75	15.00	13.00	12	1.00	7/8	10.62	1.62	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Cr. Plating. (3) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 6H)

150SCTBZ6HM



Construction and materials

No.	Parts	Specifications
		150SCTBZ6HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (2)
4	Ball	A351 Gr. CF8M or A276 Type 316 + Ni-Cr Alloy
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1½ & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1) Ductile iron (size 1½)
9A	Handle bar	Carbon steel (size 2 & over)
9B	Handle head	Ductile iron (size 2 & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 2HM
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Alloy steel (size 1½ & over)
49	Stopper	Stainless steel (size 1½ & over)
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
123A	Handle bolt	Stainless steel (size 1½ & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1½ & over)
176	Seat gasket	Flexible graphite

Dimensions

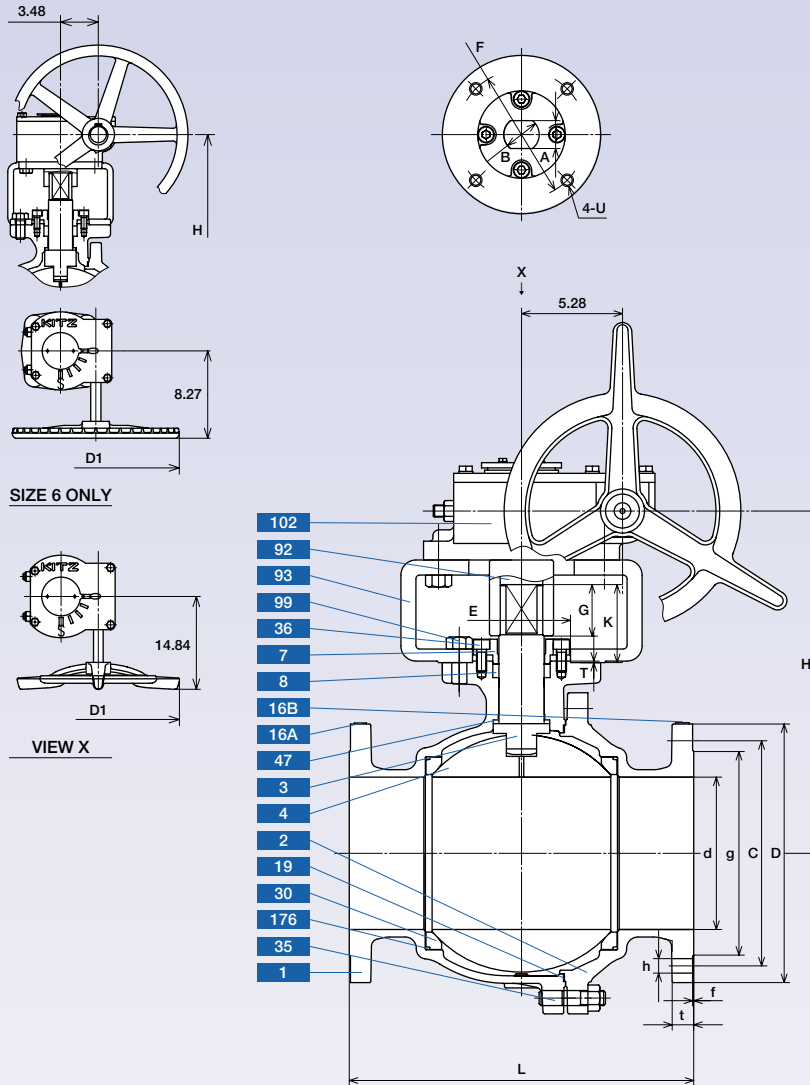
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	4.25	3.50	2.38	4	0.62	1/2	1.38	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	4.62	3.88	2.75	4	0.62	1/2	1.69	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	5.00	4.25	3.12	4	0.62	1/2	2.00	0.44	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1½	40	1.50	5.63	9.06	6.00	5.00	3.88	4	0.62	1/2	2.88	0.56	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	11.81	7.00	6.00	4.75	4	0.75	5/8	3.62	0.62	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2½	65	2.52	8.78	23.62	7.50	7.00	5.50	4	0.75	5/8	4.12	0.69	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	26.62	8.00	7.50	6.00	4	0.75	5/8	5.00	0.75	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
4	100	3.94	10.08	39.37	9.00	9.00	7.50	8	0.75	5/8	6.19	0.94	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 6H)

G-150SCTBZ6HM



Construction and materials

No.	Parts	Specifications
		G-150SCTBZ6HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (2)
4	Ball	A351 Gr. CF8M + Ni-Cr Alloy or A276 Type 316 + Ni-Cr Alloy
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 2HM
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

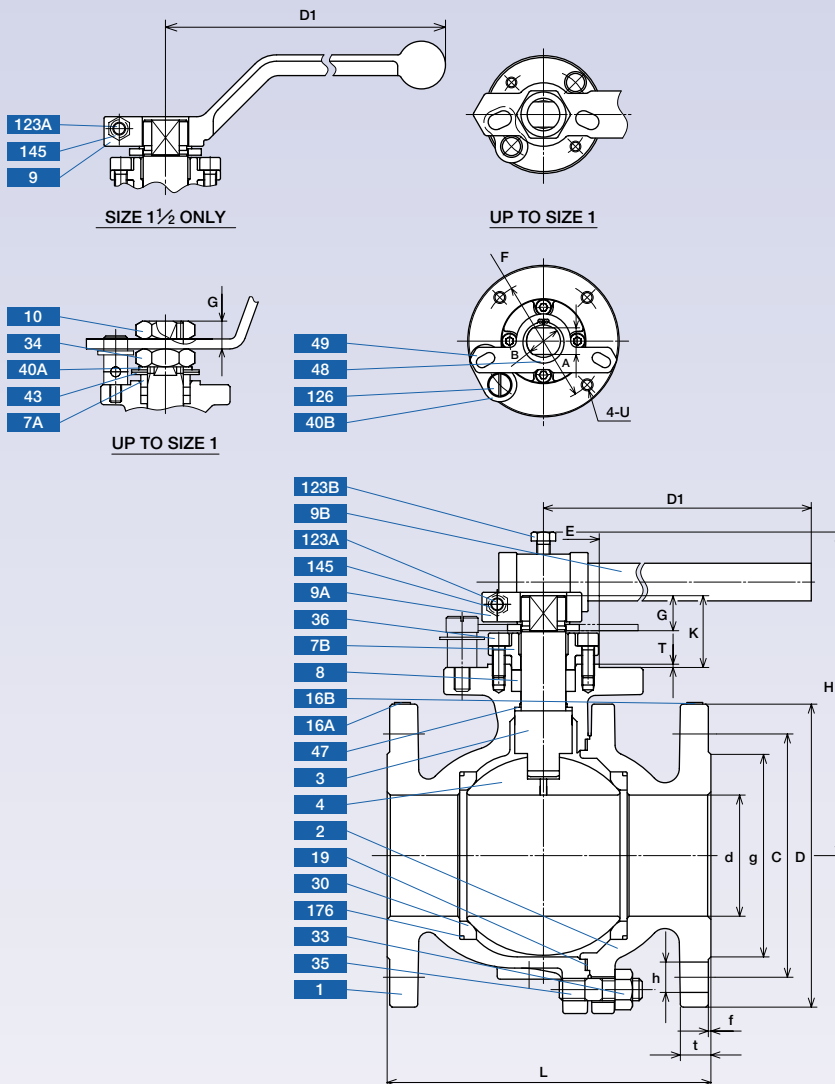
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
6	150	5.95	15.16	14.17	15.50	11.00	9.50	8	0.88	3/4	8.50	1.00	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	18.00	13.50	11.75	8	0.88	3/4	10.62	1.12	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 6H)

150UTBZ6HM



Construction and materials

No.	Parts	Specifications
		150UTBZ6HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	JIS SUS630 (2)
4	Ball	A351 Gr.CF8M + Ni-Cr Alloy or A276 Type316 + Ni-Cr Alloy
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1½ & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1) Ductile iron (size 1½)
9A	Handle bar	Carbon steel (size 2 & over)
9B	Handle head	Ductile iron (size 2 & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 8M
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Stainless steel (size 1½ & over)
49	Stopper	Stainless steel (size 1½ & over)
123A	Handle bolt	Stainless steel (size 1½ & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1½ & over)
176	Seat gasket	Flexible graphite

Dimensions

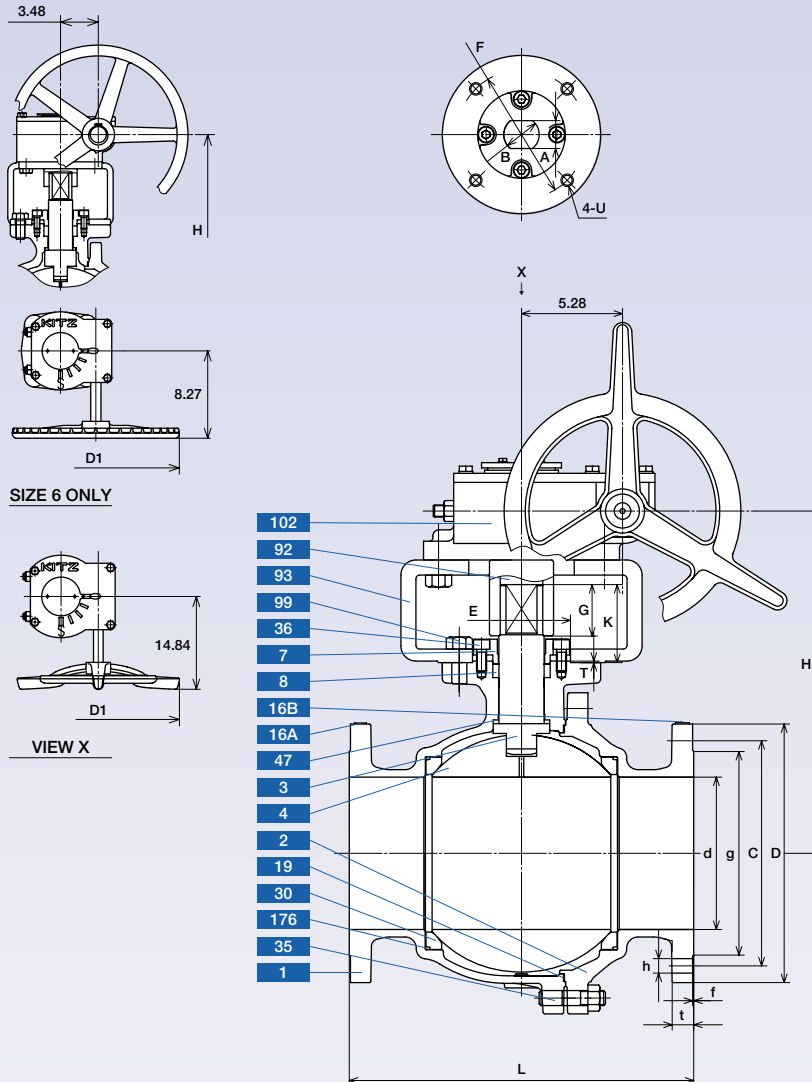
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	4.25	3.50	2.38	4	0.62	1/2	1.38	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	4.62	3.88	2.75	4	0.62	1/2	1.69	0.44	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	5.00	4.25	3.12	4	0.62	1/2	2.00	0.44	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1½	40	1.50	5.63	9.06	6.00	5.00	3.88	4	0.62	1/2	2.88	0.56	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	11.81	7.00	6.00	4.75	4	0.75	5/8	3.62	0.62	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2½	65	2.52	8.78	23.62	7.50	7.00	5.50	4	0.75	5/8	4.12	0.69	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	26.62	8.00	7.50	6.00	4	0.75	5/8	5.00	0.75	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
4	100	3.94	10.08	39.37	9.00	9.00	7.50	8	0.75	5/8	6.19	0.94	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 6H)

G-150UTBZ6HM



Construction and materials

No.	Parts	Specifications
		G-150UTBZ6HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	JIS SUS630 (2)
4	Ball	A351 Gr. CF8M + Ni-Cr Alloy or A276 Type 316 + Ni-Cr Alloy
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 8M
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

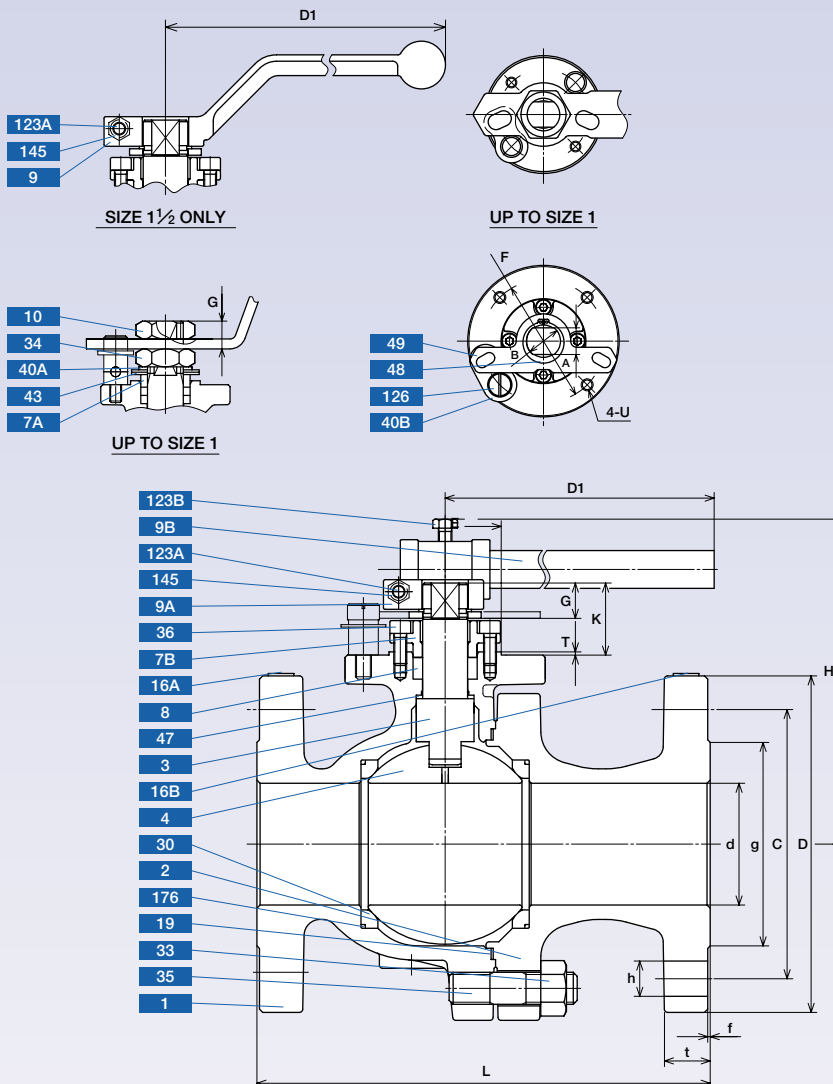
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
6	150	5.95	15.16	14.17	15.50	11.00	9.50	8	0.88	3/4	8.50	1.00	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	18.00	13.50	11.75	8	0.88	3/4	10.62	1.12	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 6H)

300SCTBZ6HM



Construction and materials

No.	Parts	Specifications
		300SCTBZ6HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (2)
4	Ball	A351 Gr. CF8M + Ni-Cr Alloy or A276 Type 316 + Ni-Cr Alloy
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1½ & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1)
9A	Handle bar	Carbon steel (size 1½ & over)
9B	Handle head	Ductile iron (size 1½ & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 2HM
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Alloy steel (size 1½ & over)
49	Stopper	Stainless steel (size 1½ & over)
123A	Handle bolt	Stainless steel (size 1½ & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1½ & over)
176	Seat gasket	Flexible graphite

Dimensions

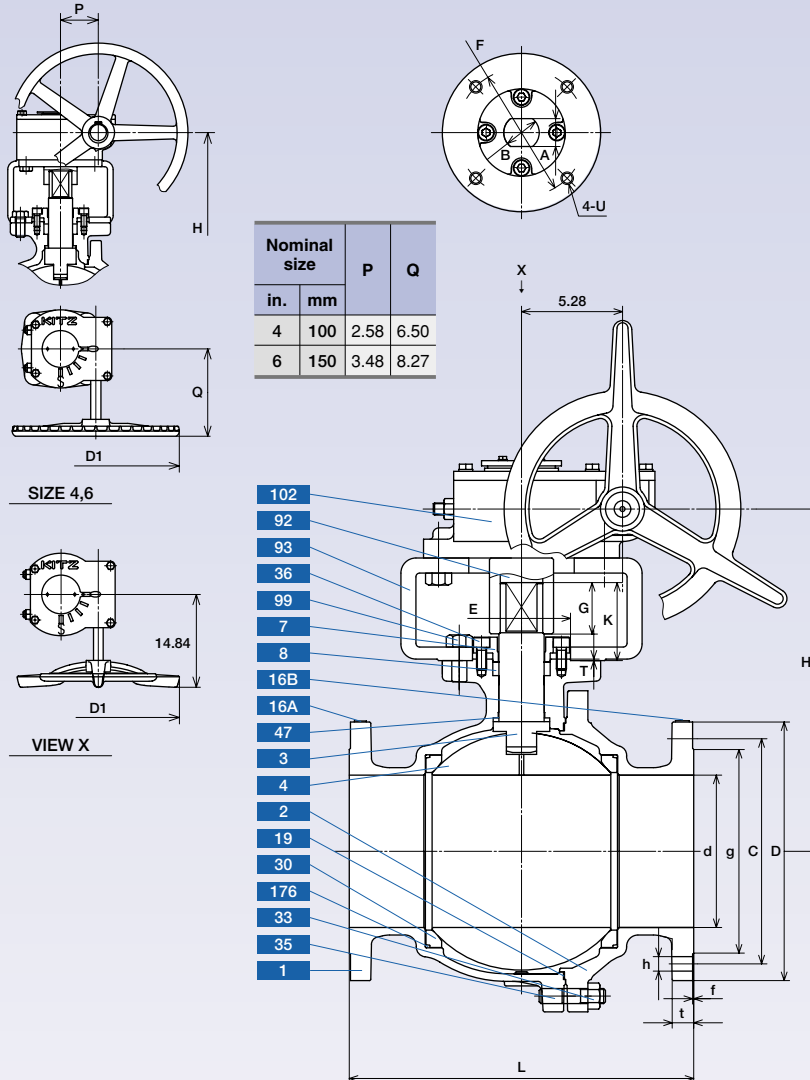
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	5.50	3.75	2.62	4	0.62	1/2	1.38	0.56	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	6.00	4.62	3.25	4	0.75	5/8	1.69	0.62	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	6.50	4.88	3.50	4	0.75	5/8	2.00	0.69	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1½	40	1.50	5.63	23.62	7.50	6.14	4.50	4	0.88	3/4	2.88	0.81	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	23.62	8.50	6.50	5.00	8	0.75	5/8	3.62	0.88	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2½	65	2.52	8.78	39.37	9.50	7.50	5.88	8	0.88	3/4	4.12	1.00	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	39.37	11.12	8.25	6.62	8	0.88	3/4	5.00	1.12	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 6H)

G-300SCTBZ6HM



Construction and materials

No.	Parts	Specifications
		G-300SCTBZ6HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (2)
4	Ball	A351 Gr. CF8M + Ni-Cr Alloy or A276 Type 316 + Ni-Cr Alloy
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 2HM
35	Cap bolt	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
92	Connector	Carbon steel
93	Bracket	Ductile iron or Carbon steel
99	Bolt	Stainless steel
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

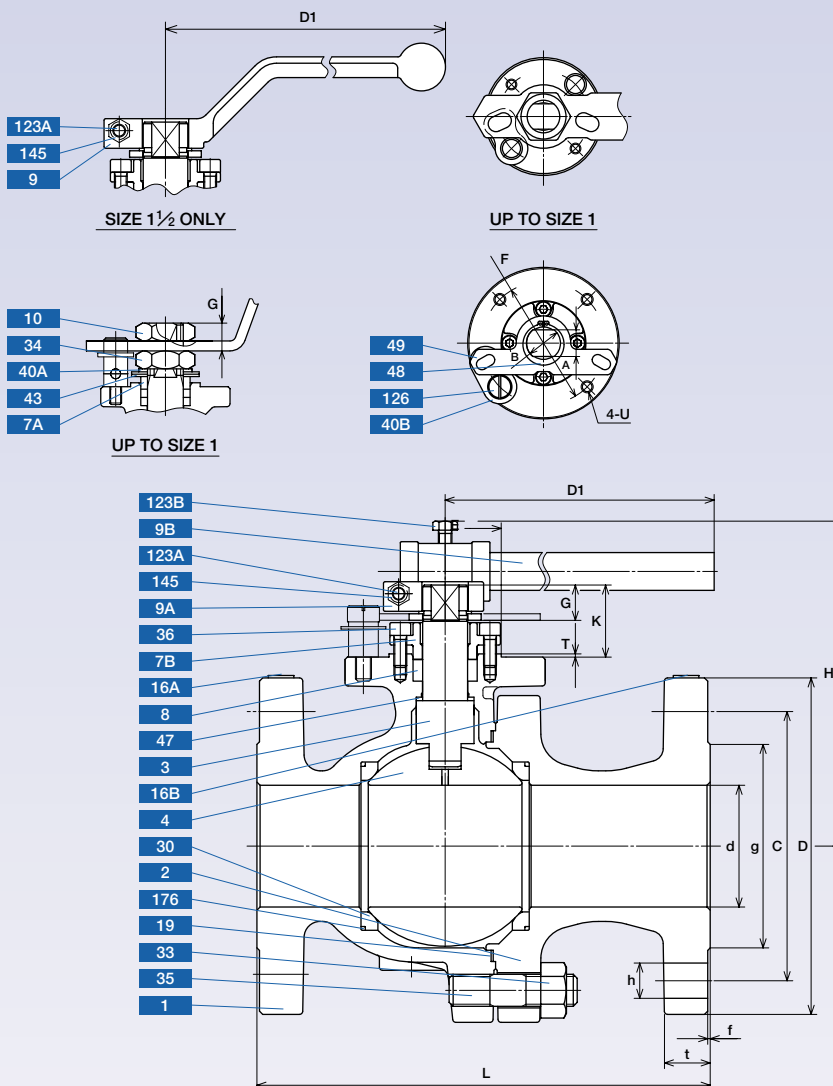
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
4	100	3.94	11.54	12.20	12.00	10.00	7.88	8	0.88	3/4	6.19	1.25	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12
6	150	5.95	15.16	14.17	15.88	12.50	10.62	12	0.88	3/4	8.50	1.44	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	19.75	15.00	13.00	12	1.00	7/8	10.62	1.62	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to ASTM A564 Type 630.

● Metal seated ball valve (Trim 6H)

300UTBZ6HM



Construction and materials

No.	Parts	Specifications
		300UTBZ6HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	JIS SUS630 (2)
4	Ball	A351 Gr.CF8M + Ni-Cr Alloy or A276 Type316 + Ni-Cr Alloy
7A	Gland	A276 Type 316 (up to size 1)
7B	Gland	A351 Gr. CF8 (size 1½ & over)
8	Gland packing	Flexible graphite
9	Handle	Stainless steel (up to size 1)
9A	Handle bar	Carbon steel (size 1½ & over)
9B	Handle head	Ductile iron (size 1½ & over)
10	Handle nut	Stainless steel (up to size 1)
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 8M
34	Gland nut	Stainless steel (up to size 1)
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
40A	Lock plate	Stainless steel (up to size 1)
40B	Key lock plate	Stainless steel
43	Coned disc spring	Stainless steel (up to size 1)
47	Thrust washer	Carbon
48	Snap ring	Stainless steel (size 1½ & over)
49	Stopper	Stainless steel (size 1½ & over)
123A	Handle bolt	Stainless steel (size 1½ & over)
123B	Handle bolt	Stainless steel (size 4 & over)
126	Stopper pin	Stainless steel
145	Spring washer	Stainless steel (size 1½ & over)
176	Seat gasket	Flexible graphite

Dimensions

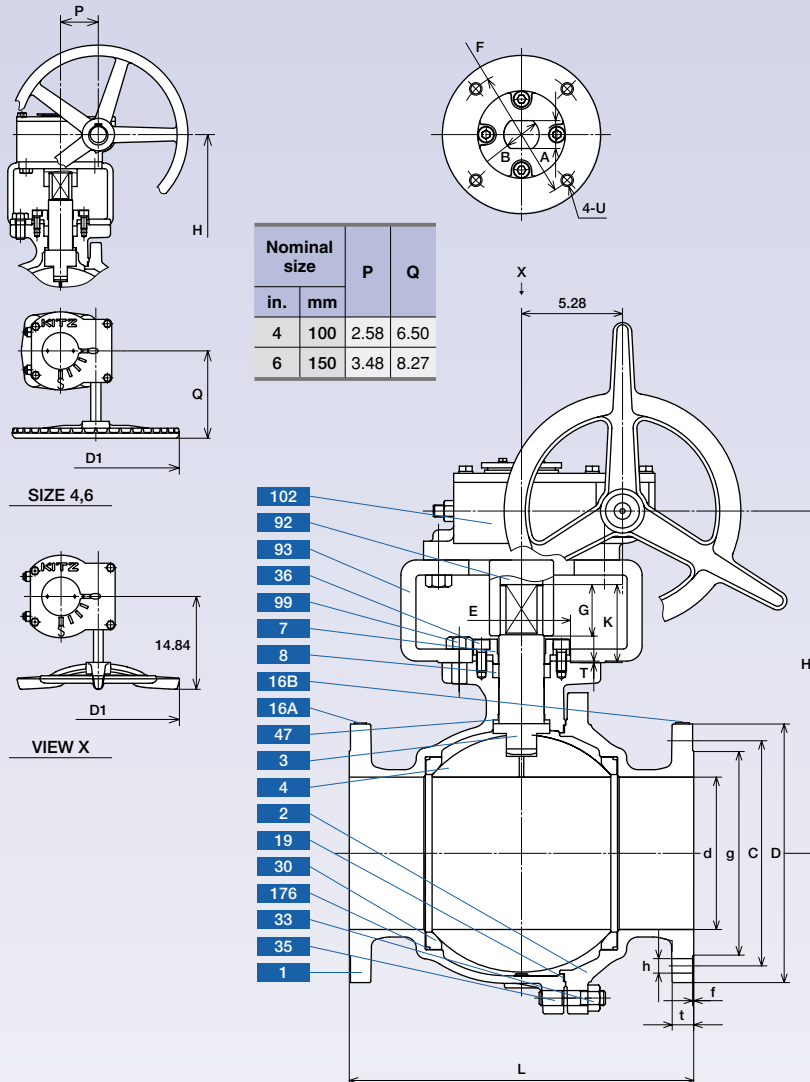
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
1/2	15	0.55	4.53	6.30	5.50	3.75	2.62	4	0.62	1/2	1.38	0.56	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
3/4	20	0.75	4.72	6.30	6.00	4.62	3.25	4	0.75	5/8	1.69	0.62	0.06	0.355	0.473	0.985	1.417	0.39	0.85	0.06	1/4-20UNC	F03
1	25	0.95	5.28	7.09	6.50	4.88	3.50	4	0.75	5/8	2.00	0.69	0.06	0.552	0.709	1.378	1.969	0.55	1.26	0.08	1/4-20UNC	F05
1½	40	1.50	5.63	23.62	7.50	6.14	4.50	4	0.88	3/4	2.88	0.81	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2	50	1.97	5.98	23.62	8.50	6.50	5.00	8	0.75	5/8	3.62	0.88	0.06	0.670	0.867	2.166	2.756	0.67	1.34	0.08	5/16-18UNC	F07
2½	65	2.52	8.78	39.37	9.50	7.50	5.88	8	0.88	3/4	4.12	1.00	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10
3	80	3.00	9.06	39.37	11.12	8.25	6.62	8	0.88	3/4	5.00	1.12	0.06	0.867	1.103	2.756	4.016	0.87	1.77	0.08	3/8-16UNC	F10

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to ASTM A564 Type 630.

● Metal seated ball valves (Trim 6H)

G-300UTBZ6HM



Construction and materials

No.	Parts	Specifications
		G-300UTBZ6HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	JIS SUS630 (2)
4	Ball	A351 Gr. CF8M + Ni-Cr Alloy or A276 Type 316 + Ni-Cr Alloy
7	Gland	A351 Gr. CF8
8	Gland packing	Flexible graphite
16A	Name plate	Stainless steel
16B	LEV plate	Stainless steel
19	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + Ni-Cr Alloy
33	Cup nut	A194 Gr. 8M
35	Cap bolt	A193 Gr. B8M
36	Gland bolt	A193 Gr. B8M
47	Thrust washer	Carbon
102	Gear unit	
176	Seat gasket	Flexible graphite

Dimensions

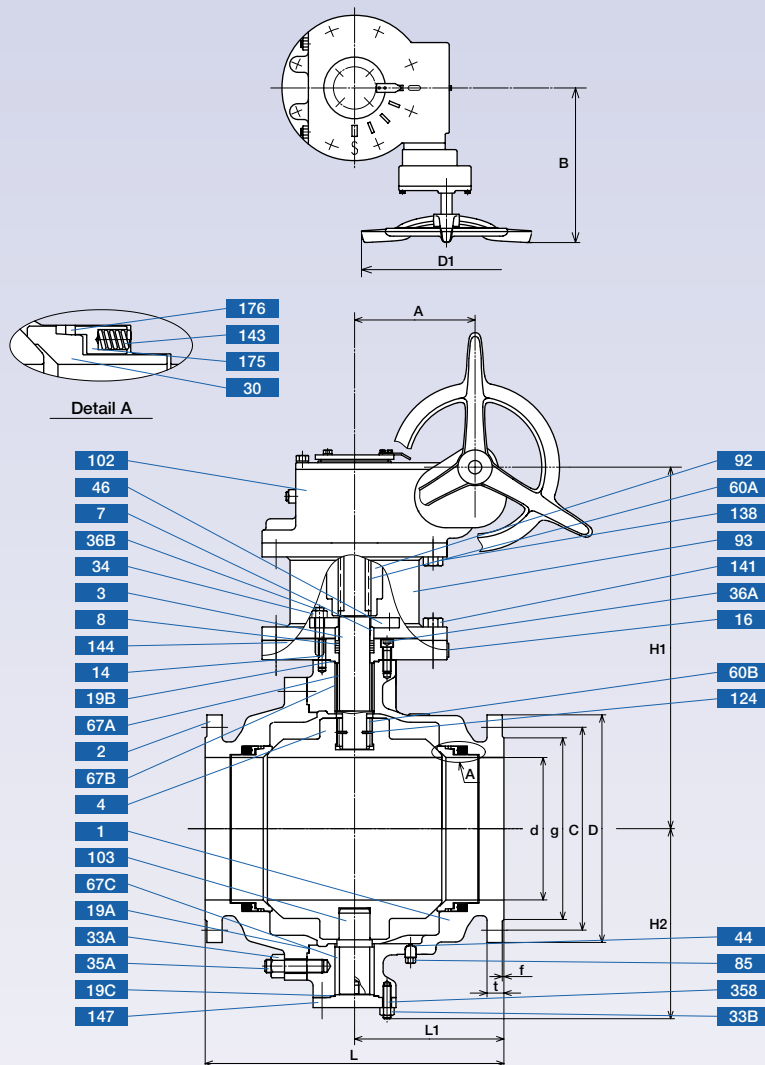
Unit: inch

Nominal size		d	H	D1	L	End flange							Mounting dimensions for actuator									
						D	Bolt hole			Bolt size	g	t	f	A	B	E	F	G	K	T	U	ISO 5211 Flange type
in.	mm						C	No.	h													
4	100	3.94	11.54	12.20	12.00	10.00	7.88	8	0.88	3/4	6.19	1.25	0.06	1.063	1.418	3.347	4.921	1.06	1.97	0.08	1/2-13UNC	F12
6	150	5.95	15.16	14.17	15.88	12.50	10.62	12	0.88	3/4	8.50	1.44	0.06	1.418	1.890	3.937	5.512	1.42	2.48	0.08	5/8-11UNC	F14
8	200	7.95	17.87	19.69	19.75	15.00	13.00	12	1.00	7/8	10.62	1.62	0.06	1.811	2.362	5.118	6.496	1.81	3.07	0.08	3/4-10UNC	F16

Notes: (1) Allowable seat leakage shall be in accordance with ANSI/FCI 70-2 Class VI. (2) Equivalent to ASTM A564 Type 630.

● Metal seated trunnion mounted ball valve (Trim 6H)

G-150SCTC6HM



Construction and materials

No.	Parts	Specifications
		G-150SCTC6HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (3)
4	Ball	A276 Type 316 + SFNi (1)
7	Gland	A276 Type 304
8	Gland packing	Flexible graphite
14	Set pin	A576 Gr. 1045
16	Name plate	Stainless steel
19A	Gasket	Flexible graphite
19B	Gasket	Flexible graphite
19C	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + SFNi (1)
33A	Cup nut	A194 Gr. 2H
33B	Cover nut	A194 Gr. 2H
34	Gland nut	A194 Gr. 8
35A	Cap bolt	A193 Gr. B7
35B	Cover bolt	A193 Gr. B7
36A	Gland bolt	A193 Gr. B7
36B	Gland bolt	A193 Gr. B8
44	Gasket	Flexible graphite
46	Flange	A276 Type 304
60A	Key	Alloy steel
60B	Key	JIS SUS630 (3)
67A	Stem bearing	A276 Type 304 + SFNi (1)
67B	Stem bearing	A276 Type 304 + SFNi (1)
67C	Stem bearing	A276 Type 304 + SFNi (1)
85	Plug	A576 Gr. 1025
92	Connector	Carbon steel
93	Bracket	Carbon steel
102	Gear unit	
103	Bottom stem	JIS SUS329J1 + SFNi (1)
124	Spring pin	Stainless steel
138	Bolt	Carbon steel
141	Bolt	Carbon steel
143	Seat spring	Ni-Co-Cr-Fe Alloy
144	Gland plate	A105 + Co-Cr-W Alloy
147	End plate	A105
175	Seat retainer	A276 Type 304
176	Retainer packing	Flexible graphite

Dimensions

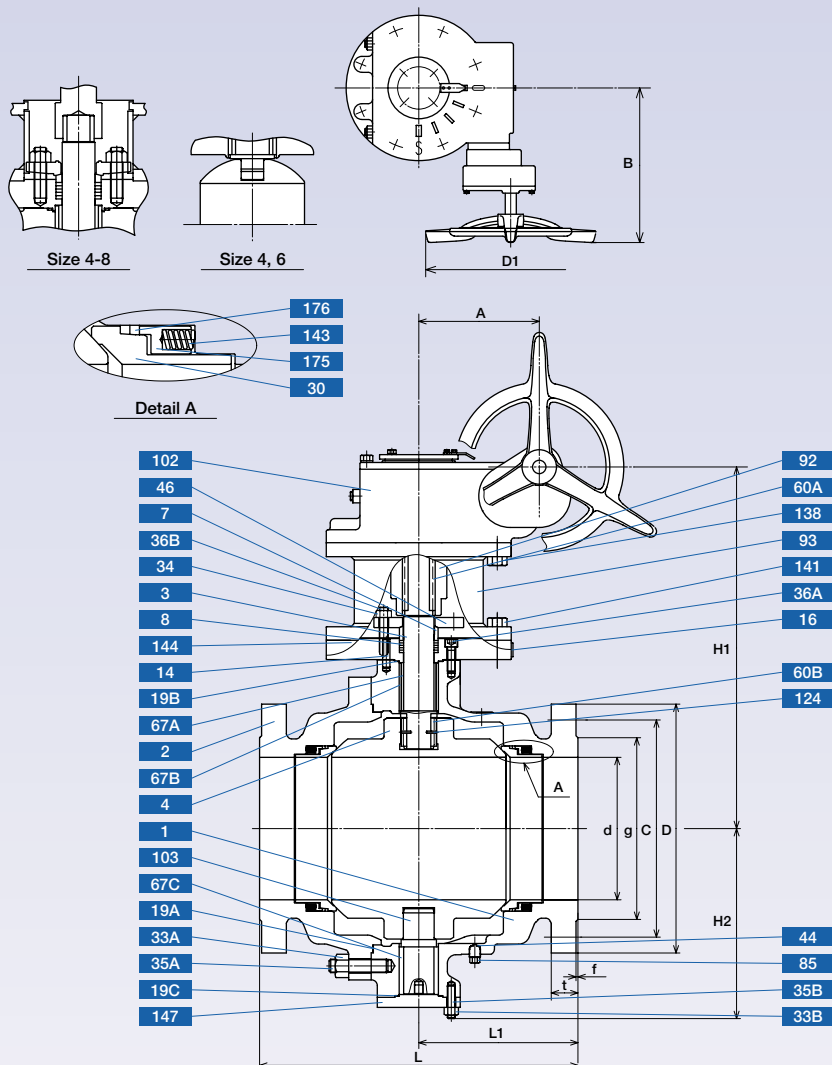
Unit: inch

Nominal size		d	H1	H2	D1	L	L1	End flange							A	B	Gear size	
								D	Bolt hole			Bolt size	g	t				f
in.	mm	C	No.	h														
10	250	10.00	25.5	13.3	19.7	21.00	10.50	16.00	14.25	12	1.00	7/8	12.75	1.19	0.06	8.39	14.8	No. 7
12	300	12.00	28.4	15.2	19.7	24.00	12.00	19.00	17.00	12	1.00	7/8	15.00	1.25	0.06	8.39	14.8	No. 7
14	350	13.25	30.0	16.7	19.7	27.00	13.50	21.00	18.75	12	1.12	1	16.25	1.38	0.06	8.39	14.8	No. 7

Notes: (1) Ni-Cr Alloy thermal spraying. (2) Allowable seat leakage : 21.75ml/min. x Port diameter (inch) x Test Air Pressure (0.59MPa). (3) Equivalent to ASTM A564 Type 630.

● Metal seated trunnion mounted ball valve (Trim 6H)

G-300SCTC6HM



Construction and materials

No.	Parts	Specifications
		G-300SCTC6HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (3)
4	Ball	A276 Type 316 + SFNi (1)
7	Gland	A276 Type 304
8	Gland packing	Flexible graphite
14	Set pin	A576 Gr. 1045
16	Name plate	Stainless steel
19A	Gasket	Flexible graphite
19B	Gasket	Flexible graphite
19C	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + SFNi (1)
33A	Cup nut	A194 Gr. 2H
33B	Cover nut	A194 Gr. 2H
34	Gland nut	A194 Gr. 8
35A	Cap bolt	A193 Gr. B7
35B	Cover bolt	A193 Gr. B7
36A	Gland bolt	A193 Gr. B7
36B	Gland bolt	A193 Gr. B8
44	Gasket	Flexible graphite
46	Flange	A276 Type 304
60A	Key	Alloy steel
60B	Key	JIS SUS630 (3)
67A	Stem bearing	A276 Type 304 + SFNi (1)
67B	Stem bearing	A276 Type 304 + SFNi (1)
67C	Stem bearing	A276 Type 304 + SFNi (1)
85	Plug	A576 Gr. 1025
92	Connector	Carbon steel
93	Bracket	Carbon steel
102	Gear unit	
103	Bottom stem	JIS SUS329J1 + SFNi (1)
124	Spring pin	Stainless steel
138	Bolt	Carbon steel
141	Bolt	Carbon steel
143	Seat spring	Ni-Co-Cr-Fe Alloy
144	Gland plate	A105 + Co-Cr-W Alloy
147	End plate	A105
175	Seat retainer	A276 Type 304
176	Retainer packing	Flexible graphite

Dimensions

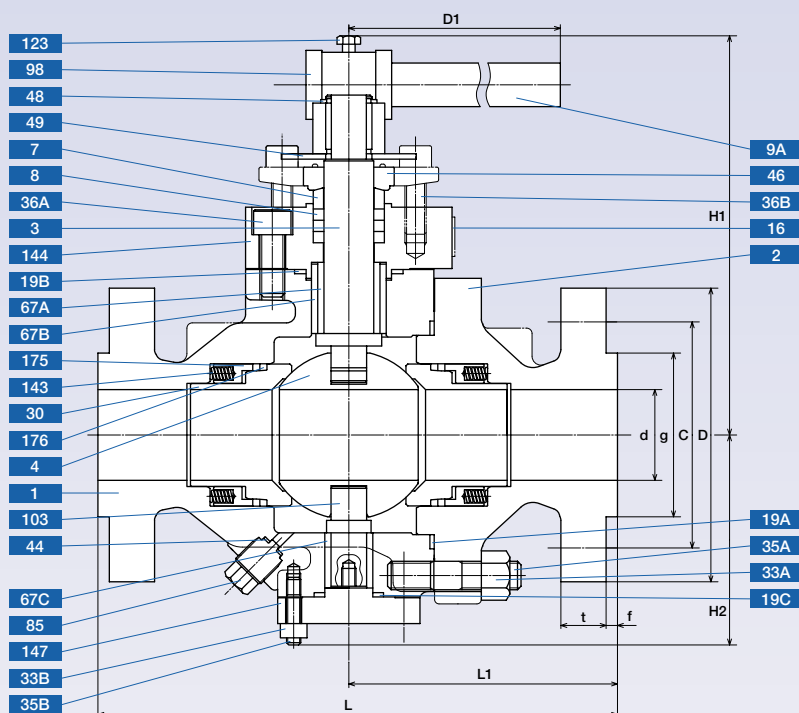
Unit: inch

Nominal size		d	H1	H2	D1	L	L1	End flange								A	B	Gear size
								D	Bolt hole			Bolt size	g	t	f			
in.	mm								C	No.	h							
4	100	4.00	13.9	6.02	14.2	12.00	6.00	10.00	7.88	8	0.88	¾	6.19	1.25	0.06	3.50	8.27	No. 4
6	150	6.00	15.2	8.62	19.7	15.88	7.94	12.50	10.62	12	0.88	¾	8.50	1.44	0.06	3.68	14.3	No. 5
8	200	8.00	18.2	10.7	19.7	19.75	9.875	15.00	13.00	12	1.00	7/8	10.62	1.62	0.06	5.28	14.8	No. 6
10	250	10.00	25.5	13.3	19.7	22.38	11.19	17.50	15.25	16	1.12	1	12.75	1.88	0.06	8.39	14.8	No. 7
12	300	12.00	28.4	15.2	19.7	25.50	12.75	20.50	17.75	16	1.25	1 1/8	15.00	2.00	0.06	8.39	14.8	No. 7
14	350	13.25	30.0	16.7	19.7	30.00	15.00	27.00	20.25	20	1.25	1 1/8	16.25	2.12	0.06	8.39	14.8	No. 7

Notes: (1) Ni-Cr Alloy thermal spraying. (2) Allowable seat leakage : 21.75ml/min. x Port diameter (inch) x Test Air Pressure (0.59MPa). (3) Equivalent to ASTM A564 Type 630.

● Metal seated trunnion mounted ball valve (Trim 6H)

600SCTC6HM



Construction and materials

No.	Parts	Specifications
		600SCTC6HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (3)
4	Ball	A276 Type 316 + SFNi (1)
7	Gland	A276 Type 304
8	Gland packing	Flexible graphite
9A	Handle bar	Carbon steel
9B	Handle head	Ductile iron
16	Name plate	Stainless steel
19A	Gasket	Flexible graphite
19B	Gasket	Flexible graphite
19C	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + SFNi (1)
33A	Cup nut	A194 Gr. 2H
33B	Cover nut	A194 Gr. 2H
35A	Cap bolt	A193 Gr. B7
35B	Cover bolt	A193 Gr. B7
36A	Gland bolt	A193 Gr. B7
36B	Gland bolt	A193 Gr. B8
44	Gasket	Flexible graphite
46	Flange	A351 Gr. CF8
48	Spring pin	Alloy steel
49	Stopper	Stainless steel
67A	Stem bearing	A276 Type 304 + SFNi (1)
67B	Stem bearing	A276 Type 304 + SFNi (1)
67C	Stem bearing	A276 Type 304 + SFNi (1)
85	Plug	A576 Gr. 1025
103	Bottom stem	JIS SUS329J1 + SFNi (1)
123	Handle bolt	Carbon steel
143	Seat spring	Ni-Co-Cr-Fe Alloy
144	Gland plate	A105 + Co-Cr-W Alloy
147	End plate	A105
175	Retainer gland	A276 Type 304
176	Retainer packing	Flexible graphite

Dimensions

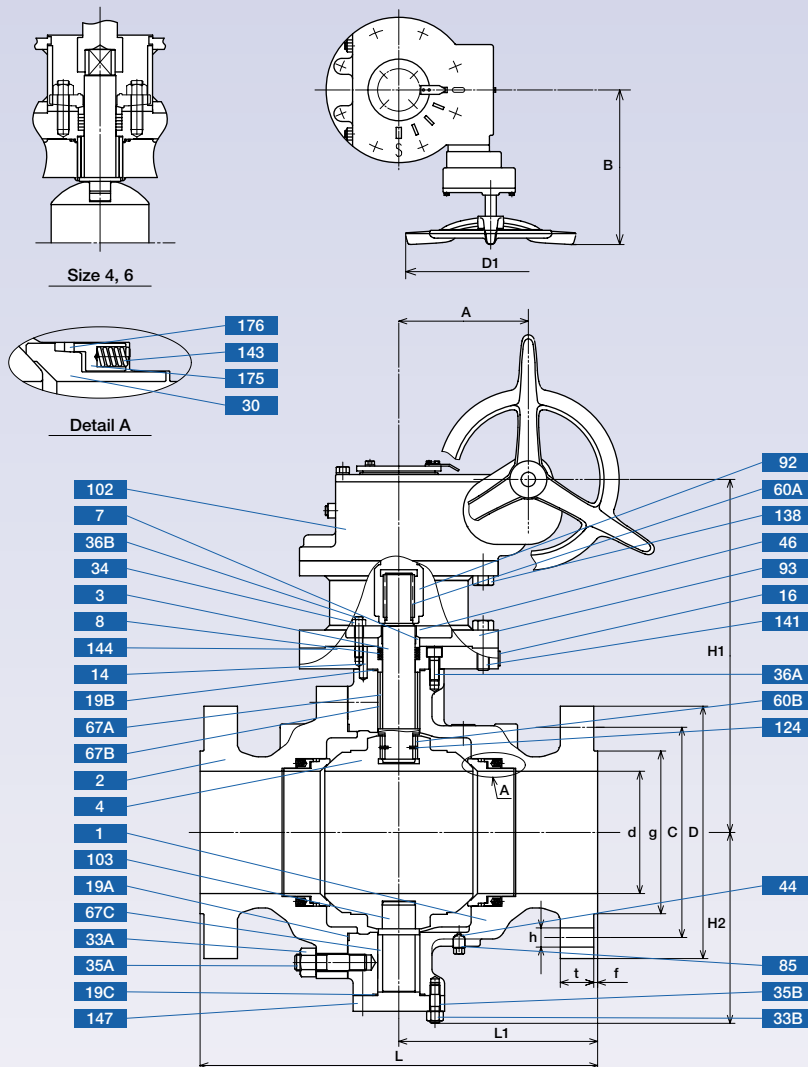
Unit: inch

Nominal size		d	H1	H2	D1	L	L1	End flange							
								D	Bolt hole			Bolt size	g	t	f
in.	mm	C	No.	h											
2	50	2.00	9.06	4.69	39.4	11.50	5.94	6.50	5.00	8	0.75	⁵ / ₈	3.62	1.00	0.25
3	80	3.00	10.4	5.79	59.1	14.00	7.40	8.25	6.62	8	0.88	³ / ₄	5.00	1.25	0.25

Notes: (1) Ni-Cr Alloy thermal spraying. (2) Allowable seat leakage : 21.75ml/min. x Port diameter (inch) x Test Air Pressure (0.59MPa). (3) Equivalent to ASTM A564 Type 630.

● Metal seated trunnion mounted ball valve (Trim 6H)

G-600SCTC6HM



Construction and materials

No.	Parts	Specifications
		G-600SCTC6HM
1	Body	A216 Gr. WCB
2	Body cap	A216 Gr. WCB
3	Stem	JIS SUS630 (3)
4	Ball	A276 Type 316 + SFNi (1)
7	Gland	A276 Type 304
8	Gland packing	Flexible graphite
14	Set pin	A576 Gr. 1045
16	Name plate	Stainless steel
19A	Gasket	Flexible graphite
19B	Gasket	Flexible graphite
19C	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + SFNi (1)
33A	Cup nut	A194 Gr. 2H
33B	Cover nut	A194 Gr. 2H
34	Gland nut	A194 Gr. 8
35A	Cap bolt	A193 Gr. B7
35B	Cover bolt	A193 Gr. B7
36A	Gland bolt	A193 Gr. B7
36B	Gland bolt	A193 Gr. B8
44	Gasket	Flexible graphite
46	Flange	A351 Gr. CF8 or A276 Type 304
60A	Key	Alloy steel
60B	Key	JIS SUS630 (3)
67A	Stem bearing	A276 Type 304 + SFNi (1)
67B	Stem bearing	A276 Type 304 + SFNi (1)
67C	Stem bearing	A276 Type 304 + SFNi (1)
85	Plug	A576 Gr. 1025
92	Connector	Carbon steel
93	Bracket	Carbon steel
102	Gear unit	
103	Bottom stem	JIS SUS329J1 + SFNi (1)
124	Spring pin	Stainless steel
138	Bolt	Carbon steel
141	Bolt	Carbon steel
143	Seat spring	Ni-Co-Cr-Fe Alloy
144	Gland plate	A105 + Co-Cr-W Alloy
147	End plate	A105
175	Retainer gland	A276 Type 304
176	Retainer packing	Flexible graphite

Dimensions

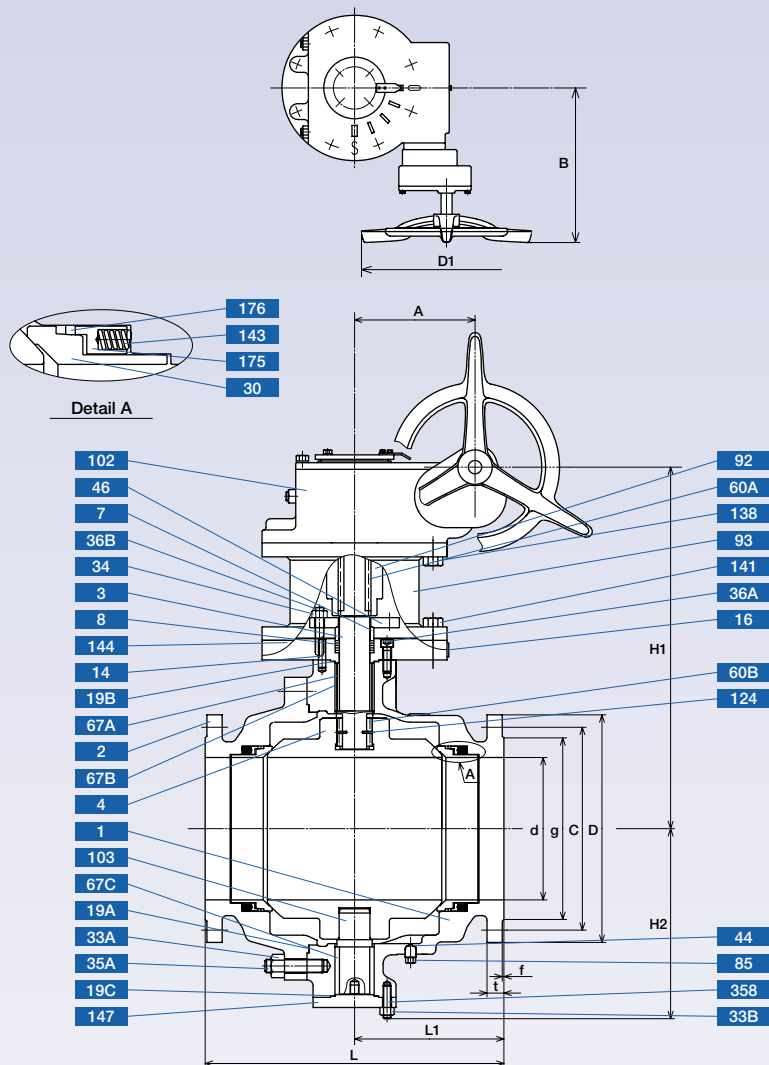
Unit: inch

Nominal size		d	H1	H2	D1	L	L1	End flange								A	B	Gear size
								D	Bolt hole			Bolt size	g	t	f			
in.	mm	C	No.	h														
4	100	4.00	13.0	6.77	19.7	17.00	8.90	10.75	8.50	8	1.00	7/8	6.19	1.50	0.25	3.68	14.3	No. 5
6	150	6.00	17.1	9.84	19.7	22.00	11.00	14.00	11.50	12	1.12	1	8.50	1.88	0.25	5.28	14.8	No. 6
8	200	8.00	24.3	12.5	19.7	26.00	13.00	16.50	13.75	12	1.25	1 1/8	10.62	2.19	0.25	8.39	14.8	No. 7
10	250	10.00	27.8	14.6	19.7	31.00	15.50	20.00	17.00	16	1.38	1 1/4	12.75	2.50	0.25	8.39	14.8	No. 7
12	300	12.00	32.9	17.1	19.7	33.00	16.50	22.00	19.25	20	1.38	1 1/4	15.00	2.62	0.25	10.91	18.0	No. 8
14	350	13.25	34.4	19.1	19.7	35.00	17.50	23.75	20.75	20	1.50	1 3/8	16.25	2.75	0.25	10.91	18.0	No. 8

Notes: (1) Ni-Cr Alloy thermal spraying. (2) Allowable seat leakage : 21.75ml/min. x Port diameter (inch) x Test Air Pressure (0.59MPa). (3) Equivalent to ASTM A564 Type 630.

● Metal seated trunnion mounted ball valve (Trim 6H)

G-150UTC6HM



Construction and materials

No.	Parts	Specifications
		G-150UTC6HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	JIS SUS630 (3)
4	Ball	A276 Type 316 + SFNi (1)
7	Gland	A276 Type 304
8	Gland packing	Flexible graphite
14	Set pin	A276 Type 304
16	Name plate	Stainless steel
19A	Gasket	Flexible graphite
19B	Gasket	Flexible graphite
19C	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + SFNi (1)
33A	Cup nut	A194 Gr. 8
33B	Cover nut	A194 Gr. 8
34	Gland nut	A194 Gr. 8
35A	Cap bolt	A193 Gr. B8
35B	Cover bolt	A193 Gr. B8
36A	Gland bolt	A193 Gr. B8
36B	Gland bolt	A193 Gr. B8
44	Gasket	Flexible graphite
46	Flange	A276 Type 304
60A	Key	Alloy steel
60B	Key	JIS SUS630 (3)
67A	Stem bearing	A276 Type 316 + SFNi (1)
67B	Stem bearing	A276 Type 316 + SFNi (1)
67C	Stem bearing	A276 Type 316 + SFNi (1)
85	Plug	A276 Type 316
92	Connector	Carbon steel
93	Bracket	Carbon steel
102	Gear unit	
103	Bottom stem	JIS SUS329J1 + SFNi (1)
124	Spring pin	Stainless steel
138	Bolt	Carbon steel
141	Bolt	Carbon steel
143	Seat spring	Ni-Co-Cr-Fe Alloy
144	Gland plate	A276 Type 316 + Co-Cr-W Alloy
147	End plate	A276 Type 316
175	Seat retainer	A276 Type 316
176	Retainer packing	Flexible graphite

Dimensions

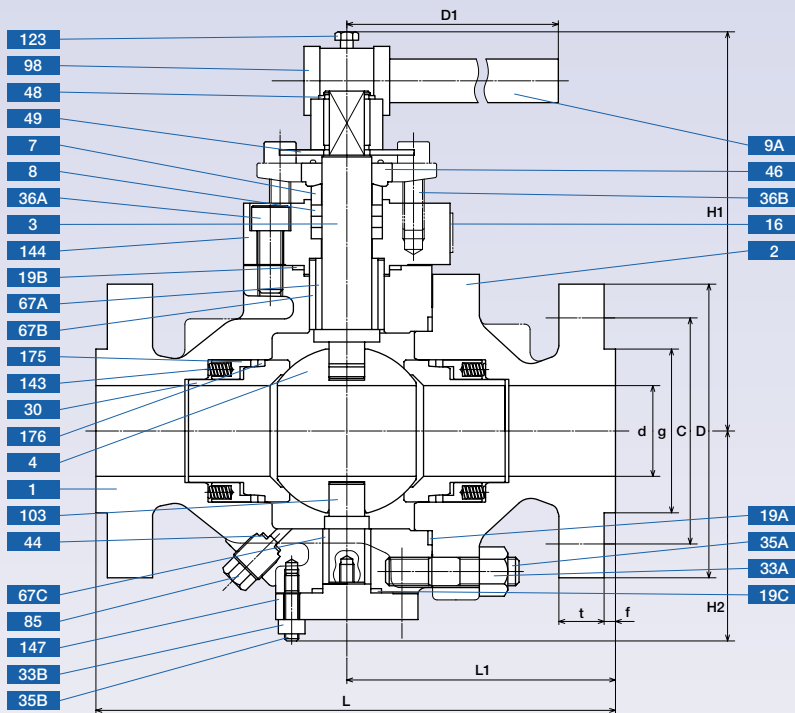
Unit: inch

Nominal size		d	H1	H2	D1	L	L1	End flange							A	B	Gear size	
								D	Bolt hole			Bolt size	g	t				f
in.	mm	C	No.	h														
10	250	10.00	25.5	13.3	19.7	21.00	10.50	16.00	14.25	12	1.00	7/8	12.75	1.19	0.06	8.39	14.8	No. 7
12	300	12.00	28.4	15.2	19.7	24.00	12.00	19.00	17.00	12	1.00	7/8	15.00	1.25	0.06	8.39	14.8	No. 7
14	350	13.25	30.0	16.7	19.7	27.00	13.50	21.00	18.75	12	1.12	1	16.25	1.38	0.06	8.39	14.8	No. 7

Notes: (1) Ni-Cr Alloy thermal spraying. (2) Allowable seat leakage : 21.75ml/min. x Port diameter (inch) x Test Air Pressure (0.59MPa). (3) Equivalent to ASTM A564 Type 630.

● Metal seated trunnion mounted ball valve (Trim 6H)

600UTC6HM



Construction and materials

No.	Parts	Specifications
		600UTC6HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	JIS SUS630 (3)
4	Ball	A276 Type 316 + SFNi (1)
7	Gland	A276 Type 304
8	Gland packing	Flexible graphite
9A	Handle bar	Carbon steel
9B	Handle head	Ductile iron
16	Name plate	Stainless steel
19A	Gasket	Flexible graphite
19B	Gasket	Flexible graphite
19C	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + SFNi (1)
33A	Cup nut	A194 Gr. 8
33B	Cover nut	A194 Gr. 8
35A	Cap bolt	A193 Gr. B8
35B	Cover bolt	A193 Gr. B8
36A	Gland bolt	A193 Gr. B8
36B	Gland bolt	A193 Gr. B8
44	Gasket	Flexible graphite
46	Flange	A351 Gr. CF8
48	Spring pin	A276 Type 304
49	Stopper	A276 Type 304
67A	Stem bearing	A276 Type 316 + SFNi (1)
67B	Stem bearing	A276 Type 316 + SFNi (1)
67C	Stem bearing	A276 Type 316 + SFNi (1)
85	Plug	A276 Type 316
103	Bottom stem	JIS SUS329J1 + SFNi (1)
123	Handle bolt	Carbon steel
143	Seat spring	Ni-Co-Cr-Fe Alloy
144	Gland plate	A276 Type 316 + Co-Cr-W Alloy
147	End plate	A276 Type 316
175	Retainer gland	A276 Type 316
176	Retainer packing	Flexible graphite

Dimensions

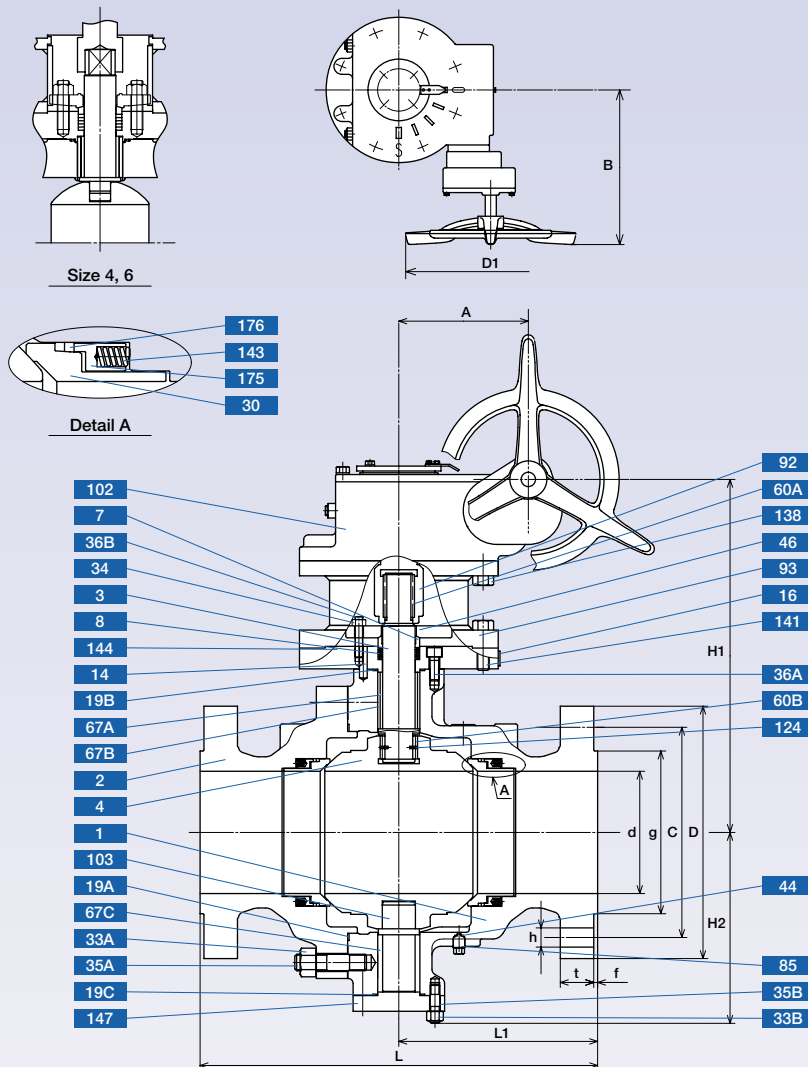
Unit: inch

Nominal size		d	H1	H2	D1	L	L1	End flange							
								D	Bolt hole			Bolt size	g	t	f
in.	mm	C	No.	h											
2	50	2.00	9.06	4.69	39.4	11.50	5.94	6.50	5.00	8	0.75	5/8	3.62	1.00	0.25
3	80	3.00	10.4	5.79	59.1	14.00	7.40	8.25	6.02	8	0.88	3/4	5.00	1.25	0.25

Notes: (1) Ni-Cr Alloy thermal spraying. (2) Allowable seat leakage : 21.75ml/min. x Port diameter (inch) x Test Air Pressure (0.59MPa). (3) Equivalent to ASTM A564 Type 630.

● Metal seated trunnion mounted ball valve (Trim 6H)

G-600UTC6HM



Construction and materials

No.	Parts	Specifications
		G-600UTC6HM
1	Body	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8M
3	Stem	JIS SUS630 (3)
4	Ball	A276 Type 316 + SFNi (1)
7	Gland	A276 Type 304
8	Gland packing	Flexible graphite
14	Set pin	A276 Type 304
16	Name plate	Stainless steel
19A	Gasket	Flexible graphite
19B	Gasket	Flexible graphite
19C	Gasket	Flexible graphite
30	Ball seat	A276 Type 316 + SFNi (1)
33A	Cup nut	A194 Gr. 8
33B	Cover nut	A194 Gr. 8
34	Gland nut	A194 Gr. 8
35A	Cap bolt	A193 Gr. B8
35B	Cover bolt	A193 Gr. B8
36A	Gland bolt	A193 Gr. B8
36B	Gland bolt	A193 Gr. B8
44	Gasket	Flexible graphite
46	Flange	A351 Gr. CF8 or A276 Type 304
60A	Key	Alloy steel (size 8 & over)
60B	Key	JIS SUS630 (3) (size 8 & over)
67A	Stem bearing	A276 Type 316 + SFNi (1)
67B	Stem bearing	A276 Type 316 + SFNi (1)
67C	Stem bearing	A276 Type 316 + SFNi (1)
85	Plug	A276 Type 316
92	Connector	Carbon steel
93	Bracket	Carbon steel
102	Gear unit	
103	Bottom stem	JIS SUS329J1 + SFNi (1)
124	Spring pin	Stainless steel
138	Bolt	Carbon steel
141	Bolt	Carbon steel
143	Seat spring	Ni-Co-Cr-Fe Alloy
144	Gland plate	A276 Type 316 + Co-Cr-W Alloy
147	End plate	A276 Type 316
175	Retainer gland	A276 Type 316
176	Retainer packing	Flexible graphite

Dimensions

Unit: inch

Nominal size		d	H1	H2	D1	L	L1	End flange							A	B	Gear size	
								D	Bolt hole			Bolt size	g	t				f
in.	mm	C	No.	h														
4	100	4.00	13.0	6.77	19.7	17.00	8.90	10.75	8.50	8	1.00	7/8	6.19	1.50	0.25	3.68	14.3	No. 5
6	150	6.00	17.1	9.84	19.7	22.00	11.00	14.00	11.50	12	1.12	1	8.50	1.88	0.25	5.28	14.8	No. 6
8	200	8.00	24.3	12.5	19.7	26.00	13.00	16.50	13.75	12	1.25	1 1/8	10.62	2.19	0.25	8.39	14.8	No. 7
10	250	10.00	27.8	14.6	19.7	31.00	15.50	20.00	17.00	16	1.38	1 1/4	12.75	2.50	0.25	8.39	14.8	No. 7
12	300	12.00	32.9	17.1	19.7	33.00	16.50	22.00	19.25	20	1.38	1 1/4	15.00	2.62	0.25	10.91	18.0	No. 8
14	350	13.25	34.4	19.1	19.7	35.00	17.50	23.75	20.75	20	1.50	1 3/8	16.25	2.75	0.25	10.91	18.0	No. 8

Notes: (1) Ni-Cr Alloy thermal spraying. (2) Allowable seat leakage : 21.75ml/min. x Port diameter (inch) x Test Air Pressure (0.59MPa). (3) Equivalent to ASTM A564 Type 630.

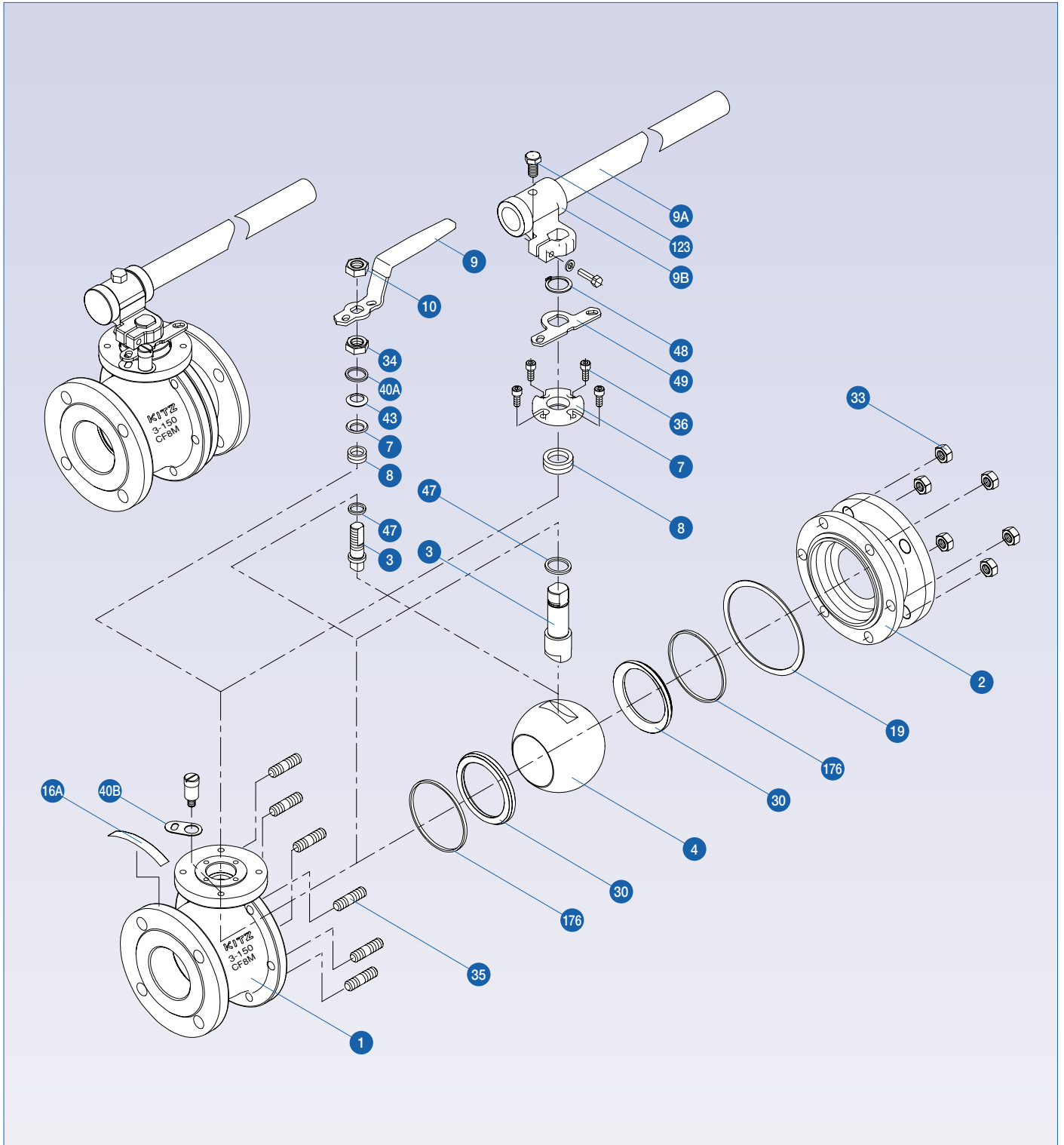
Construction and Materials

ASME 150/300 Hard Graphite Seated Ball Valve

No.	Parts	ASTM Material Designation (Trim 3H)	
		Stainless steel shell	Carbon steel shell
		150/300 UTBZ 3HM	150/300 SCTBZ 3H
1	Body	A351 Gr. CF8M	A216 Gr. WCB
2	Body cap	A351 Gr. CF8M	A216 Gr. WCB
3	Stem	A276 Type 316	
4	Ball	A351 Gr. CF8M or A276 Type 316	A351 Gr. CF8M or A276 Type 316
7	Gland	A276 Type 316 / A351 Gr. CF8	
8	Gland packing	Flexible graphite	
9	Handle	Stainless steel / Ductile iron	
9A	Handle bar	Carbon steel	
9B	Handle head	Ductile iron	
16A	Name plate	Stainless steel	
19	Gasket	Flexible graphite	
30	Ball seat	Carbon + Stainless steel	
33	Cap nut	A194 Gr. 8M	A194 Gr. 2HM
34	Gland nut	Stainless steel	
35	Cap bolt	A193 Gr. B8M	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M	A193 Gr. B8M
40A	Lock plate	Stainless steel	
40B	Key lock plate	Stainless steel	
43	Coned disc spring	Carbon	
47	Thrust washer	Carbon	
48	Snap ring	Stainless steel	Alloy steel
49	Stopper	Stainless steel	
123	Handle bolt	Stainless steel	
176	Seat gasket	Flexible graphite	

Construction and Materials

ASME 150/300 Hard Graphite Seated Ball Valve



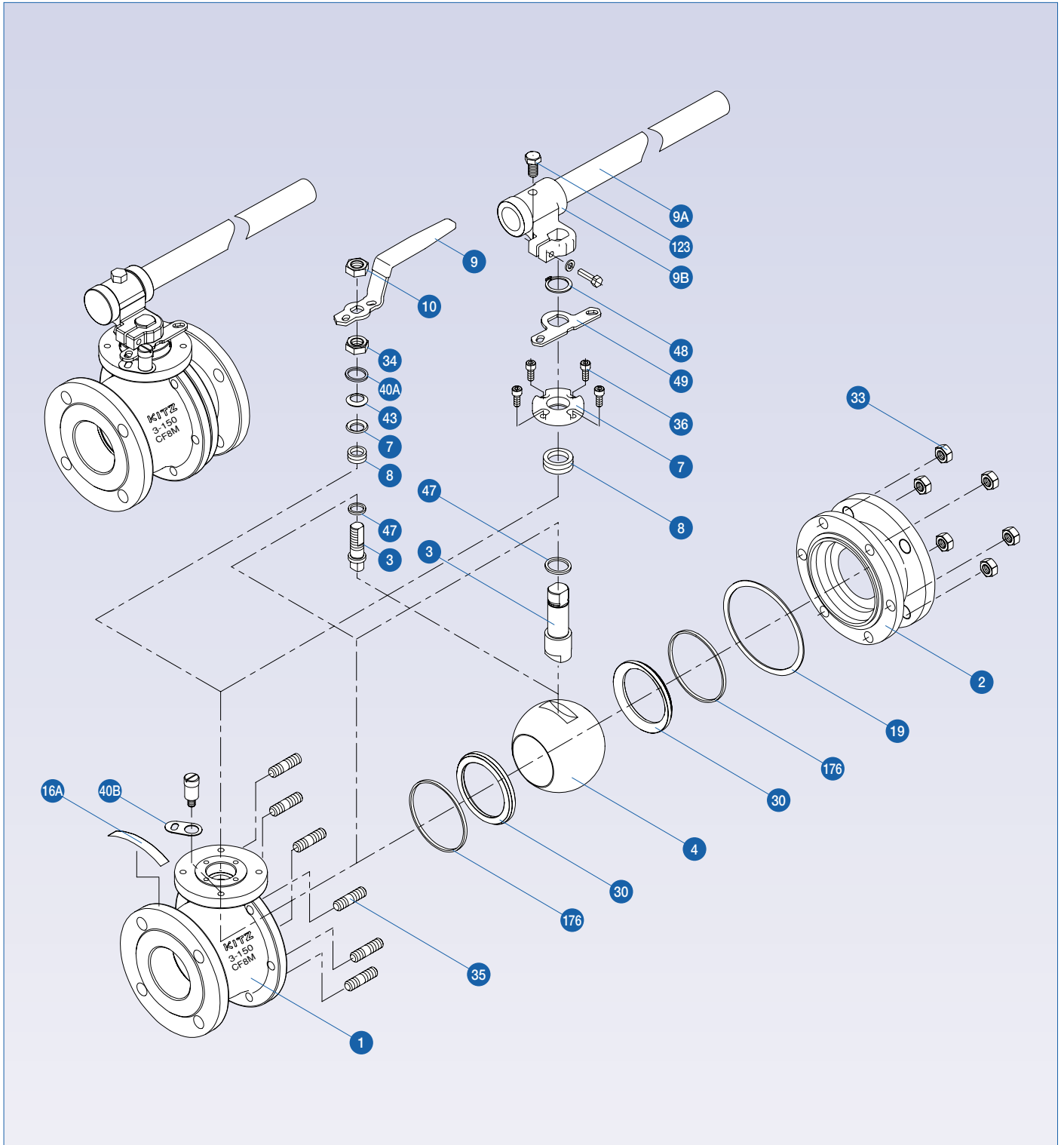
Construction and Materials

ASME 150/300 Metal Seated Ball Valve

No.	Parts	ASTM Material Designation (Trim 5H)	
		Stainless steel shell	Carbon steel shell
		150/300 UTBZ 5HM	150/300 SCTBZ 5HM
1	Body	A351 Gr. CF8M	A216 Gr. WCB
2	Body cap	A351 Gr. CF8M	A216 Gr. WCB
3	Stem	JIS SUS630	
4	Ball	A351 Gr. CF8M with Cr. plating or A276 Type 316 with Cr. plating	
7	Gland	A276 Type 316 or A351 Gr. CF8	
8	Gland packing	Flexible graphite	
9	Handle	Stainless steel or Ductile iron	
9A	Handle bar	Carbon steel	
9B	Handle head	Ductile iron	
16A	Name plate	Stainless steel	
19	Gasket	Flexible graphite	
30	Ball seat	A276 Type 316 with Ni-Cr alloy	
33	Cap nut	A194 Gr. 8M	A194 Gr. 2HM
34	Gland nut	Stainless steel	
35	Cap bolt	A193 Gr. B8M	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M	A193 Gr. B8M
40A	Lock plate	Stainless steel	
40B	Key lock plate	Stainless steel	
43	Coned disc spring	Stainless steel	
47	Thrust washer	Carbon	
48	Snap ring	Stainless steel	Alloy steel
49	Stopper	Stainless steel	
123	Handle bolt	Stainless steel	
176	Seat gasket	Flexible graphite	

Construction and Materials

ASME 150/300 Metal Seated Ball Valve



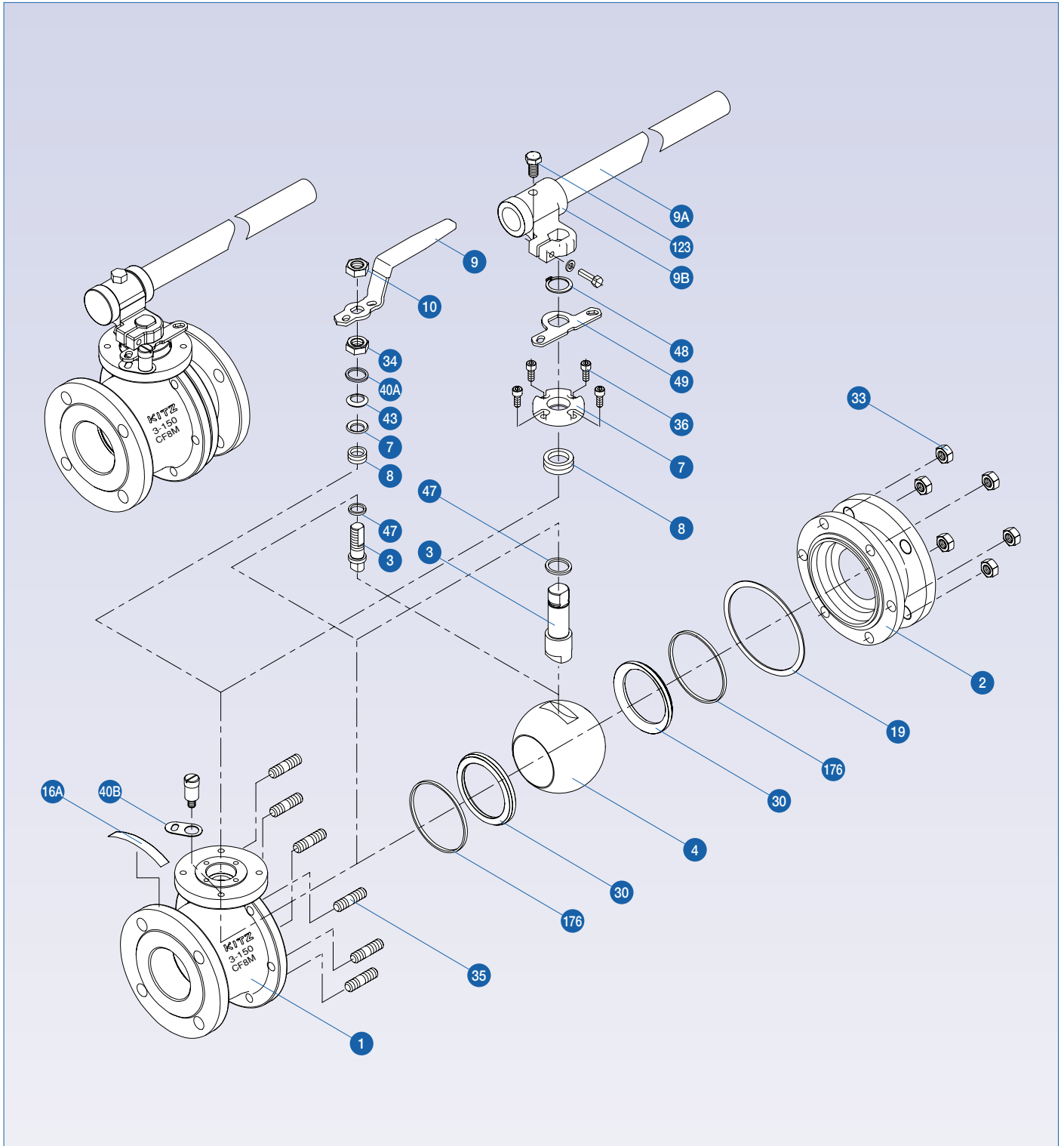
Construction and Materials

ASME 150/300 Metal Seated Ball Valve

No.	Parts	ASTM Material Designation (Trim 6H)	
		Stainless steel shell	Carbon steel shell
		150/300 UTBZ 6HM	150/300 SCTBZ 6HM
1	Body	A351 Gr. CF8M	A216 Gr. WCB
2	Body cap	A351 Gr. CF8M	A216 Gr. WCB
3	Stem	JIS SUS630	
4	Ball	A351 Gr. CF8M with Ni-Cr alloy hard facing or A276 Type 316 with Ni-Cr alloy hard facing	
7	Gland	A276 Type 316 or A351 Gr. CF8	
8	Gland packing	Flexible graphite	
9	Handle	Stainless steel or Ductile iron	
9A	Handle bar	Carbon steel	
9B	Handle head	Ductile iron	
16A	Name plate	Stainless steel	
19	Gasket	Flexible graphite	
30	Ball seat	A276 Type 316 with Ni-Cr alloy hard facing	
33	Cap nut	A194 Gr. 8M	A194 Gr. 2HM
34	Gland nut	Stainless steel	
35	Cap bolt	A193 Gr. B8M	A193 Gr. B7M
36	Gland bolt	A193 Gr. B8M	A193 Gr. B8M
40A	Lock plate	Stainless steel	
40B	Key lock plate	Stainless steel	
43	Coned disc spring	Carbon	
47	Thrust washer	Carbon	
48	Snap ring	Stainless steel	Alloy steel
49	Stopper	Stainless steel	
123	Handle bolt	Stainless steel	
176	Seat gasket	Flexible graphite	

Construction and Materials

ASME 150/300 Metal Seated Ball Valve



Technical Data

Flow Characteristics of KITZ Ball Valves

Multiple the volumetric flow rate (GPM) in Table 1 with the flow rate (%) in Table 2 to calculate the flow volume at a given opening angle of a Full Port ball valve.

Table 1

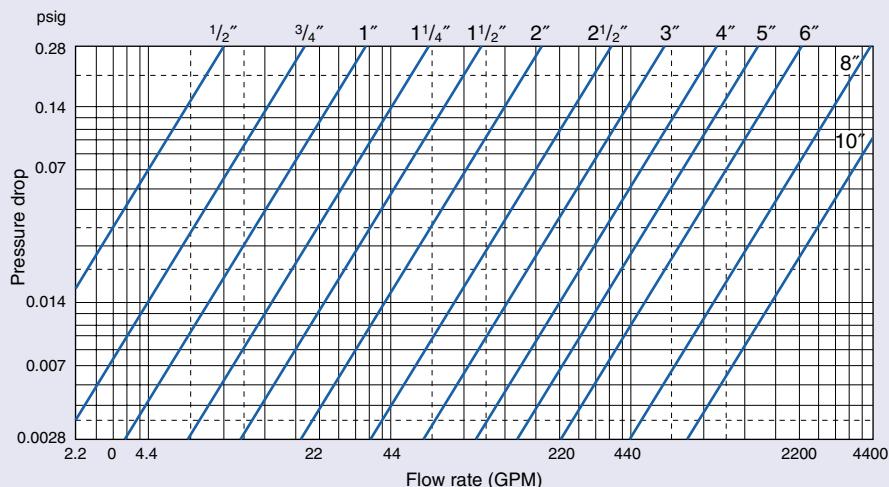
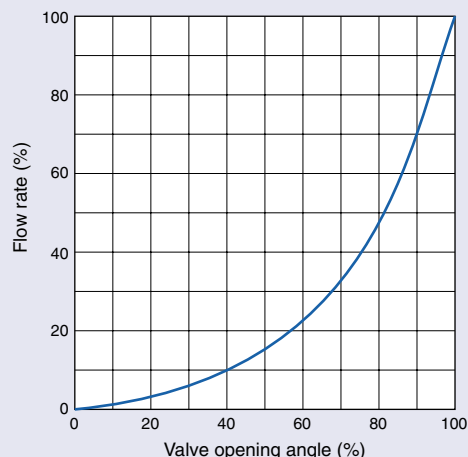


Table 2



Chemical Resistance of KITZ Hard Graphite Seats (Trim 3H)

○:Recommended
X:Not recommended

Chemicals	Density (%)	Temp. (°F)	Applicability
Sulfuric acid	0—70	*	○
	70—98	212	○
	98	302	X
Sulfuric acid + SO ₃	98	* *	X
Nitric acid	0—10	185	○
	10—20	149	○
	65	248	X
Sulfuric acid + Nitric acid	100	* *	X
Fluorine gas	100	* *	X
Chromic acid solution	60	212	○
Hydrogen sulfide gas	100	212	○
Sulfurous acid gas	100	* *	○
Caustic soda	60	212	○

Chemicals	Density (%)	Temp. (°F)	Applicability
Ammonia hydroxide	25	122	○
Sodium chlorite	100	212	○
Hydrochloric acid	100	212	○
Bromine	100	* *	X
Chlorine gas	100	212	○
Chlorine gas	100	* *	○
Gasoline	100	*	○
Acetone	100	*	○
Ethylene glycol	100	*	○
Potassium per manganate	50	212	X
Steam	—	*	○
Air	—	842	○

* At any temperature within the range of P-T rating

* * Room temperature

Possibilities of the galvanic corrosion caused by coexisting different metallic ions is not considered here.

Valve Disassembly and Reassembly for Maintenance*

1. Valve Disassembly

1-1. Work to do before valve dismantling from the pipeline:

- (a) Relieve the line pressure completely and discharge all line fluids from the bore and body cavity of the half opened valve.
- (b) Mark the valve end flanges and coupled piping flanges adequately for easy remounting of the valve on the pipeline.

1-2. Work to do before valve disassembly:

- (a) Remove and collect all inside residue of the valve, if there is any, and record their condition and locations. Subsequent examination of these records may be useful for better valve maintenance.
- (b) Mark the body-cap coupling flanges of the valve adequately for easy valve reassembly.
- (c) If flange bolts are found to be seized or stuck, apply some lubricant and leave for a while for easier unthreading on valve disassembly.

1-3. Place the fully closed valve with the body flange down on a work bench, after having disassembled the valve operator, and proceed with disassembly of the cap from the body, referring to the illustrations on Page 37,39 and 41. (No special tool is required.) Be careful not to damage the metal ball seat and ball, which are the most important valve parts.

1-4. After removal of the cap, place the valve body with "KITZ" mark up on the bench, and proceed with disassembly of the ball. Put soft cloths inside the valve body not to damage the ball, which is also an important member of the valve components.

1-5. Examination of the valve component parts:

- (a) Clean the inside of the valve body and cap, and note any wear, corrosion or cracks in the castings using a magnifying glass, or, where visual access is not easy, using a tube inspector or a mirror and a flashlight. Non-destructive examination may be carried out if found necessary. Measure the wall thickness of castings periodically to check any dangerous signs to jeopardize valve shell soundness.
- (b) Inspect surfaces of the metal seat and ball carefully to detect any scratches or wear, which may be a cause to replace the seat and/or ball on reassembly. Other metal parts must be also checked carefully to decide whether they are still usable.

2. Valve Reassembly

2-1. Prepare new non-metal valve parts such as gaskets, gland packings, thrust washers, gland bushings, stem bearings and carbon graphite seats, and clean all metal parts before reassembly.

2-2. Proceed with valve reassembly, referring to the illustrations on Page 37,39 and 41.

2-3. Pressurization for Trim 3H valves

To assure smooth operation, 2 $\frac{1}{2}$ " and larger carbon graphite seated valves should be pressurized after reassembly is completed, according to the following procedure:

(a) Pressurize the fully closed valve for 60 seconds as follows:

Class 150 : 2 $\frac{1}{2}$ " to 8" : 356 psig

Class 300 : 2 $\frac{1}{2}$ " to 4" : 711 psig

6" and 8" : 569 psig

(b) Conduct above valve pressurization from both ends separately.

(c) Measure the unloaded operating torque of the reassembled valve to confirm that the result is within the torque value ranges given below:

2 $\frac{1}{2}$ " : 357 to 714 inch-lbs 6" : 1607 to 3571 inch-lbs

3" : 536 to 1250 inch-lbs 8" : 2679 to 8036 inch-lbs

4" : 893 to 1786 inch-lbs

(d) If the valve operating torque is higher than the maximum value provided above, repeat the pressurization of valves with 71 to 142 psig higher pressure until the correct result is confirmed.

3. Acceptance Test

After reassembly, open and close the valve several times to check satisfactory valve operation. Then pressure test the valve according to the specifications given on Page 3 to ensure the satisfactory sealing performance for final acceptance.

* Refer to KITZ MT-05 Operation Manual for more information.

Memo

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.

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