ALLTORQUE

EAC CE 0036 TÜV 6D-1933

BALL VALVES



Floating ball valve

Trunnion mounted ball valve

Top entry ball valve Multi-way ball valve

Bellows ball valve

Doulbe Block & Bleed Ball Valve

Cryogenic ball valve Jacketed Ball Valve

Orbit Ball Valve



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Description of Valve model code

Composition and definition of model unit

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- Special requirements code
- Valve body material code
- Rated pressure code
- Code of sealing surface materlal
- Structural form code
- Connection form code
- Transmission form code
- Ball valve code
- Nominal size
- Materlal category code:D:Forging,Zs: Casting

Special requirements code
EX-Extension stem type
D- Low temperature type
M- Buried type

Valve body material code	
Q-Ball valve	Special code
WQ-Welding ball valve	SQ-Top entry ball valve
BWQ-Bellows ball valve	GQ-Orbital ball valve
DBBQ-Doulbe Block & Bleed ball valve	BQ-Jacketed insulated ball valve
DQ-Cryogenic ball valve	VQ-V type ball valve

Valve body material code
C-Carbon steel
P-Stainless steel
I-Chromium molybdenum steel
R-Mo2TiStainless steel series
S-Plastics

Drive mode code
3-Worm Gear
6-Pneumatic
5-Bevel gear transmission
7-Hydraulic
8-Gas Over Oil Actuator
8H-Pneumatic-hydraulic coupling with emergency shutoff
9-Electric

Connection form code
1-Internal thread
2-External thread
4-Flange
6-Welding
7-Wafer
8-Clamp
9-Ferrule

Structure code
1 Floating type
2-Y-Three way
4-L-Three way
5-L-Three way
6-Four way
7-Trunnion mounted

Sealing surface material code
Y-Metal seal
F-PTFE
RF-RPTFE
BF-Glass fiber+PTFE
PF-PCTFE
N-Nylon
PL-PPL
PK-PEEK
M-MOLON

Note: For handle operation, this code can be omitted

Technical specification for ball valves	
Technical standard	API/GB/BS/GOST
Design standard	API6D、API608、BS5351、GB/T12237、JB/T17745
Pressure and temperature grade	ASME B16.34、GB/T9124
Structural length	ASME B16.10、GB/T12221、GB/T15188.1
Flange end	ASME B16.5 、ASME B16.47、GB/T9113、HG20615、GOST 33259
Butt welded final joint	ASME B16.25
Socket welding connection	ASME B16.11
Threaded end connection	ASME B16.1.20
Inspection and testing	API598、API6D、JB/T9092、GB/T13927、GOGT 6544

Pressure grade code	
PN20	150Lb
PN50	300Lb
PN63	400Lb
PN100	600Lb
PN160	900Lb
PN250	1500Lb
PN420	2500Lb
PN560	3500Lb
PN760	4500Lb

Trunnion mounted ball valve Design features

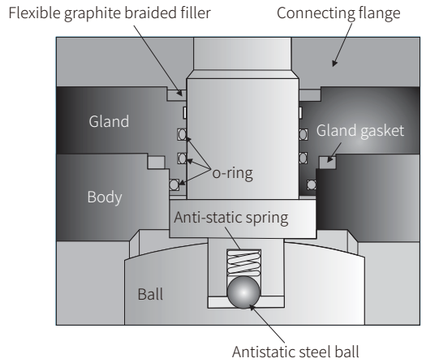
Design features of Trunnion mounted ball valve

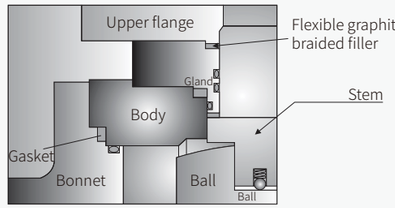
Stem blow-out prevention design

The valve stem and the ball are independent, one end of the valve stem close to the ball is designed into an integral T-shaped structure, and the gland flange blocks the T-shaped valve stem to prevent the T-shaped valve stem from being blown out by the pressure of the inner cavity.

Antistatic device

Anti-static device is the standard design of Zhenshun ball valve. The valve stem is equipped with a spring grounding plug to make the ball,the valve stem and the valve body contact to form a conductive circuit, which can transfer the electric charge, so as to avoid static electricity accumulation caused by friction when the valve is opened or closed or fluid impact on the inner cavity of the valve.This accumulation of static electricity is extremely dangerous for pipelines in some hazardous areas.





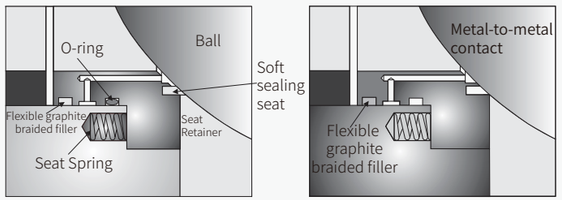
Super fireproof design

Prevent leakage

Under normal conditions, the gland's double O-ring plus graphite gasket design prevents leakage at the stem.The O-ring and the graphite gasket of the valve body also ensure the sealing of the valve body and the valve cover. When afireoccurs, the O-ring failsdue to melting. At this time, the gland graphite gasket, the valve body graphite gasket and the valve stem graphite packing will assume the function of preventing fluid leakage.

Prevent internal leakage

In the event of a fire, when non-metallic materials such as O-rings, soft seat rings and after the valve seat retainer ring is decomposed or melted, the metal seat ring lip of the second seal is springing.Under the action of the pre-tensioning force of the spring, it will push the ball to contact and block the pipeline fluid.To reduce the internal leakage in the valve channel. In addition, the flexible graphite seat ring packing is the same when the seat ring is compressed and sealed, the fluid leakage between the valve body and the valve seat is blocked.

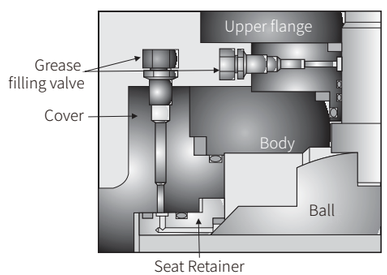


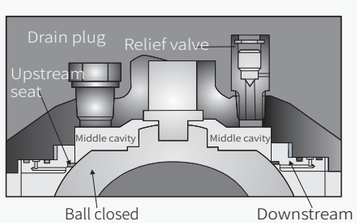
Before the fire

After the fire

Emergency grease injection device

Trunnion mounted ball valve of NPS6 (DN150) and above 6 inches, with injection seals on the stem and seat ring glue device. When the sealing material (seat seal ring or O ring)is damaged or separated by fire or other accidents during solution, injecting sealant into the syringe can prevent leakage from the valve stem and seat ring. The device has a check valve acts as a back seal to prevent backflow.



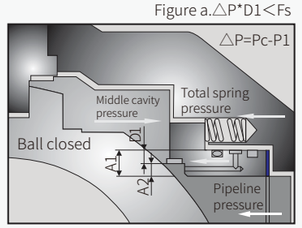


Double blocking and venting function

The Trunnion mounted ball valve valve seat can cut off the fluid from the inlet and out let ends, so as to achieve doubleblocking functioncan. When the ball is in the fully open or fully closed position,even if both sides of the valve are pressurized at the same time, the center cavity and both ends of the valve. The channels blocked from each other, and the remaining medium in the middle cavity can bed is charged through the relief valve.

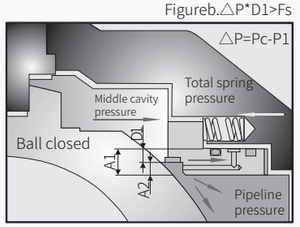
Self-discharge of middle cavity pressure

Figure a.△P*D1＜Fs



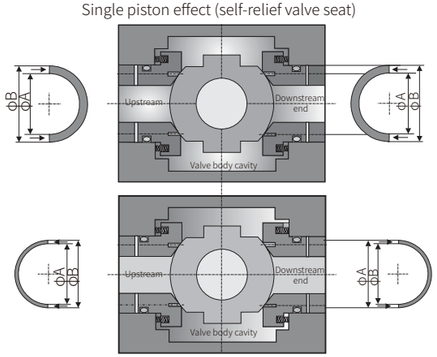
When the valve cavity pressure (Pc) is less than the preload force of the seat ring spring (Fs) and the pipeline fluid pressure (P1), namely PXD1 FS, then the ball and the valve seat are in close △ ＜ contact ensure that it is sealed.

Figureb.△P*D1>Fs

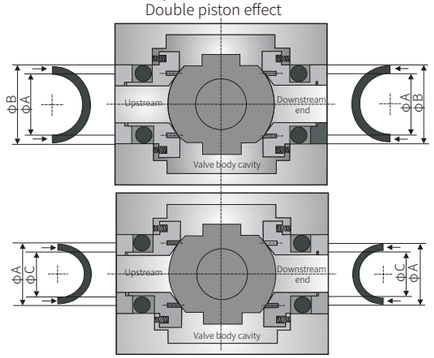


When the valve cavity pressure (Pc) is less than the preload force of the seat ring spring (Fs) and the pipe line fluid pressure (P1), namely △PXD1＜Fs, the pressure in the middle cavity pushes the seat ring slightly Open to create a small gap between it and the sphere, so that the overload pressure in the cavity is auto matically released. Put it in the pipeline. Re-reach the pressure level of the valve cavity and pipeline (upstream and downstream) Balance.

Standard structure
Single piston effect (self-relief valve seat)



Optional structure
Double piston effect



Self-relief valve seat (single piston effect valve seat)

When acting, the upstream and downstream medium pressures push the valve seat to the ball, once the cavity pressure generated by the medium exceeds the sum of the spring preload and the medium pressure, the valve seat is pushed away from the ball by the cavity pressure. Thus, the excessive pressure generated in the middle chamber is automatically released in the fully open or fully closed position of the valve.

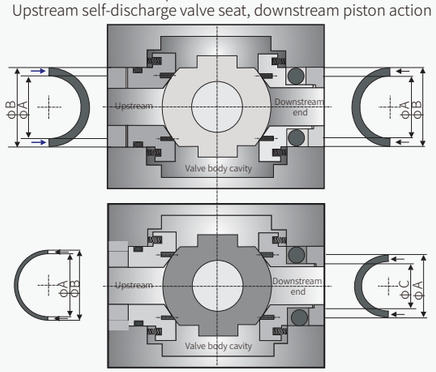
Double piston effect valve seat

The thrust generated by the pressure at the upstream and downstream ends always pushes the valve seat towards the sphere to protect maintain sealed state. The double-piston effect ball valve does not have the self-discharging unction of the middle cavity, so it is under normal circumstances, the valve needs to install an automatic pressure relief valveon the valve body, and the pressure in the middle cavity is too high,the pressure can be released through the automatic pressure relief valve.

Upstream self-relief valve seat, downstream piston action

The upstream section adopts a self-relief valve seat design, and the medium pressure pushes the valve seat to the sphere to form a seal. When the pressure in the middle cavity is too high, the upstream self-relief valve seat can be pushed away from the ball, thereby automatically releasing the excessive pressure in the middle cavity to the upstream end. The downstream end adopts a double-piston valve seat design, the medium pressure always pushes the valve seat toward the ball, and the downstream valve seat keeps sealing.

Optional structure 2
Upstream self-discharge valve seat, downstream piston action



Cast Steel Trunnion mounted
ball valve



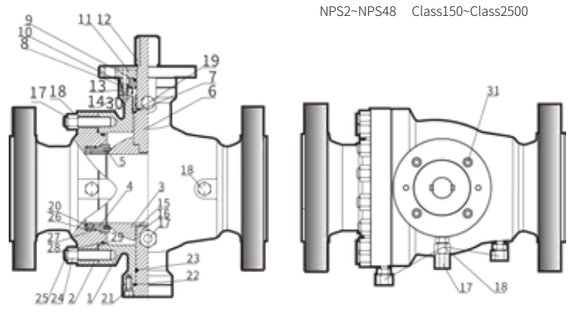
Technical specification

Design reference		API	ASME	ГОСТ
Design standard		API 6D	ASME B16.34	/
Structural length	Flanged ends	API 6D	ASEM B16.10	/
	Welded connection			
Flanged ends		ASME B16.5/ASME B16.47		ГОСТ 33259 ГОСТ 12815
Butt-welding ends		ASME B16.25		
Test & inspection		API 6D	API 598	ГОСТ 9544

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.



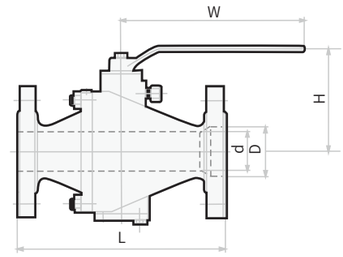
DN50~DN1200 PN10~PN420
NPS2~NPS48 Class150~Class2500



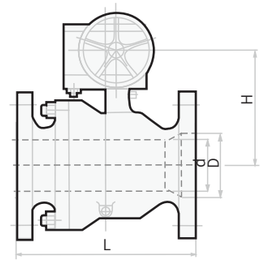
Main material

	Part Name	Main Material
1	Body	WCB,LCB,LCC,4A,CF8,CF3,CF3M,CF8M,G20Mn5,F51 A105,LF2,F304,F304L,F316,F316L,F321,F416,F440C, 17-4PH,Inconel,Monel,Alloy steel,Aluminium Bronze
2	Cover	
3	Ball	A105,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51,In-conel,Monel,Alloy steel,Aluminium Bronze
4	Seat Retainer	F51,Inconel,Monel,Alloy steel,Aluminium Bronze
5	Seat Seal	PTFE, RPTFE ,DEV, NLY ,PPL ,POM, PEEK, +STL, +TCC,+Ni60
6	Stem	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
7	Thrust Washer	PTFE
8	Pin	1035,410,F304,F316,F51
9	Flexible graphite braided filler	Graphite
10	Spiral Wound Gasket	SS+ Graphite
11	Connecting flange	A105,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51,In-conel,Monel,Alloy steel,Aluminium Bronze
12	key	1035
13	O Ring	HNBR, VITON,VITON AED,VITON GTL
14	Hexagon socket screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
15	Bearing	F304+PTFE,F316+PTFE,F51+PTFE
16	Trunnion	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
17	Drain plug	Component
18	Grease injection valve	Component
19	Anti static device	IncX 750
20	Spring	IncX 750
21	Hexagon socket screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
22	Spiral Wound Gasket	SS+ Graphite
23	O Ring	HNBR, VITON,VITON AED,VITON GTL
24	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
25	Stud	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
26	Flexible graphite braided filler	Graphite
27	O Ring	HNBR, VITON,VITON AED,VITON GTL
28	O Ring	HNBR, VITON,VITON AED,VITON GTL
29	Spiral Wound Gasket	SS+ Graphite
30	O Ring	HNBR, VITON,VITON AED,VITON GTL
31	Hexagon socket screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze

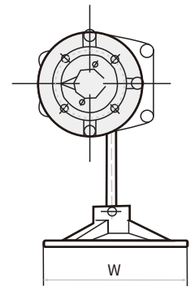
Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer' s special requirement.



Full bore



Reduced-bore



Worm Gear operation

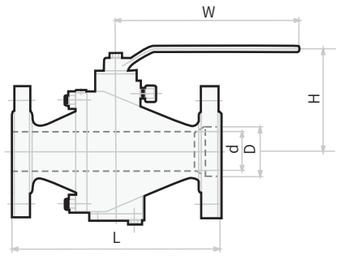
Main dimensions and weight

Class150/1.6~2.5MPa

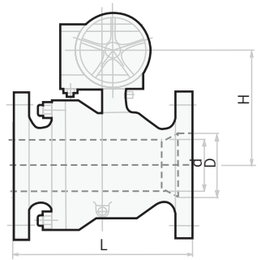
Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	2	49	7.0	178	6.50	165	9.06	230	37.5	17
3	80	3	74	8.0	203	7.60	193	15.75	400	72.8	33
4	100	4	100	9.0	229	9.09	231	18.11	460	110.2	50
6	150	5.91	150	15.5	394	12.95	329	39.37	1000	205.0	93
8	200	7.91	201	18.0	457	15.47	393	19.69	500*	366.0	166
10	250	9.92	252	21.0	533	15.79	401	19.69	500*	601.9	273
12	300	11.93	303	24.0	610	17.36	441	19.69	500*	1047.2	475
14	350	13.15	334	27.0	686	18.94	481	19.69	500*	1256.6	570
16	400	15.16	385	30.0	762	23.54	598	19.69	500*	1715.2	778
18	450	17.16	436	34.0	864	25.31	643	19.69	500*	2061.3	935
20	500	19.17	487	36.0	914	27.87	708	23.62	600*	2623.5	1190
22	550	21.18	538	40.0	1016	31.42	798	23.62	600*	2967.4	1346
24	600	23.19	589	42.0	1067	33.98	863	23.62	600*	3481.0	1579

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
3*2	80*50	2	49	2.99	76	8.00	203	7.60	193	9.06	230	66.1	30
4*3	100*80	3	74	4.02	102	9.00	229	9.09	231	15.75	400	103.6	47
6*4	150*100	4	100	5.98	152	15.50	394	12.95	329	18.11	460	198.4	90
8*6	200*150	5.91	150	7.99	203	18.00	457	15.47	393	39.37	1000	354.9	161
10*8	250*200	7.91	201	10.00	254	21.00	533	15.79	404	19.69	500*	590.8	288
12*10	300*250	9.92	252	12.01	305	24.00	610	17.36	441	19.69	500*	1029.5	467
14*10	350*300	11.93	303	13.27	337	27.00	686	18.94	481	19.69	500*	1234.6	500
16*12	400*350	13.15	334	15.24	387	30.00	762	23.54	598	19.69	500*	1688.7	766
18*14	450*400	15.16	385	17.24	438	34.00	864	25.31	643	19.69	500*	1988.5	902
20*16	500*450	17.16	436	19.25	489	36.00	914	27.87	708	19.69	500*	2491.2	1130
22*18	550*500	19.17	487	21.26	540	40.00	1016	31.42	798	23.62	600*	2866.0	1300
24*20	600*550	21.18	538	23.27	591	42.00	1067	33.98	863	23.62	600*	3351.0	1520

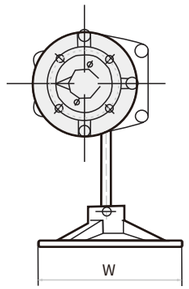
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

Main dimensions and weight

Class300/4.0MPa

Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	2	49	8.5	216	6.50	165	9.06	230	39.7	18
3	80	3	74	11.13	283	7.60	193	15.75	400	88.2	40
4	100	4	100	12.00	305	9.09	231	18.11	460	138.9	63
6	150	5.91	150	15.88	403	12.95	329	39.37	1000	330.7	150
8	200	7.91	201	19.75	502	15.47	393	19.69	500*	529.1	240
10	250	9.92	252	22.38	568	15.79	401	19.69	500*	627.4	305
12	300	11.93	303	25.50	648	17.36	441	19.69	500*	117.7	507
14	350	13.15	334	30.00	762	18.94	481	19.69	500*	1327.2	602
16	400	15.16	385	33.00	838	23.54	598	19.69	500*	2204.6	1000
18	450	17.16	436	36.00	914	25.31	643	19.69	500*	2557.3	1160
20	500	19.17	487	39.00	991	27.87	708	23.62	600*	2910.1	1320
22	550	21.18	538	43.00	1092	31.42	798	23.62	600*	3395.1	1540
24	600	23.19	589	45.00	1143	33.98	863	23.62	600*	4131.4	1874

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
3*2	80*50	2	49	2.99	76	11.13	283	6.50	165	9.06	230	83.8	38
4*3	100*80	3	74	4.02	102	12.00	305	7.60	193	15.75	400	132.3	60
6*4	150*100	4	100	5.98	152	15.88	403	9.09	231	18.11	460	324.1	147
8*6	200*150	5.91	150	7.99	203	19.75	502	12.95	329	39.37	1000	515.9	234
10*8	250*200	7.91	201	10.00	254	25.51	568	15.47	393	19.69	500*	650.4	295
12*10	300*250	9.92	252	12.01	305	25.51	648	15.79	401	19.69	500*	1075.6	488
14*10	350*300	11.93	303	13.27	337	30.00	762	17.36	441	19.69	500*	1258.6	570
16*12	400*350	13.15	334	15.24	387	33.00	838	18.94	481	19.69	500*	2006.2	910
18*14	450*400	15.16	385	17.24	438	36.00	914	23.54	598	19.69	500*	2248.7	1020
20*16	500*450	17.16	436	19.25	489	39.00	991	25.31	643	19.69	500*	2821.9	1280
22*18	550*500	19.17	487	21.26	540	43.00	1092	27.87	708	23.62	600*	2998.2	1360
24*20	600*550	21.18	538	23.27	591	45.00	1143	27.87	708	23.62	600*	3681.7	1670

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.

Forged Trunnion mounted
ball valve

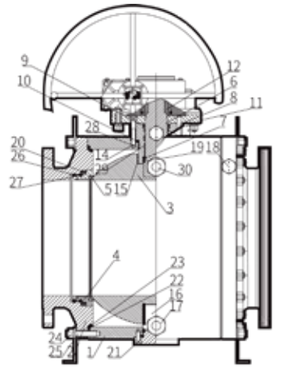


Technical specification

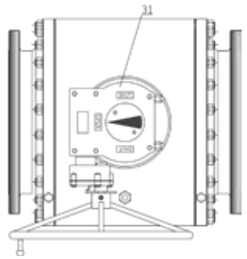
Design reference		API	ASME	ГОСТ
Design standard		API 6D	ASME B16.34	/
Structural length	Flanged ends	API 6D	ASEM B16.10	/
	Welded connection			
Connecting flange		ASME B16.5/ASME B16.47		ГОСТ 33259 ГОСТ 12815
Butt-welding ends		ASME B16.25		
Test & inspection		API 6D	API 598	ГОСТ 9544

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.



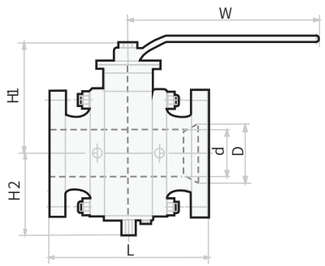


DN50~DN1200 PN10~PN420
NPS2~NPS48 Class150~Class2500

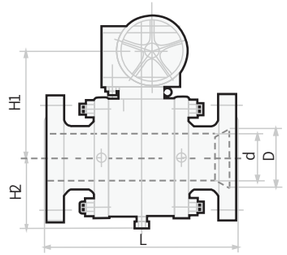


Main material

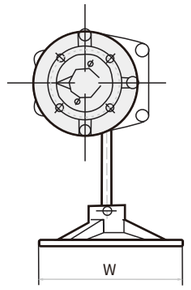
	Part Name	Main Material
1	Body	F51,A105,LF2,F304,F304L,F316,F316L,F321, F416,F440C,17-4PH,Inconel, Monel,Alloy steel,Aluminium Bronze
2	Cover	
3	Ball	
4	Seat Retainer	
5	Seat Seal	PTFE, RPTFE ,DEV, NLY ,PPL ,POM, PEEK, +STL, +TCC,+Ni60
6	Stem	410,LF2,F304,F304L,F316,F316L,F321
7	Thrust Washer	PTFE
8	Pin	1035
9	Flexible graphite braided filler	Graphite
10	Spiral wound gasket	Stainless steel+Graphite
11	Connecting flange	Matching with valve body
12	key	1035
13	O Ring	HNBR, VITON,VITON AED,VITON GTL
14	Soket head cap screw	ASTM A193 ASTM A320
15	Bearing	F304+PTFE,F316+PTFE,F51+PTFE
16	Trunnion	410,LF2,F304,F304L,F316,F316L,F321
17	Drain plug	Component
18	Grease injection valve	Component
19	Anti static device	IncX-750
20	Spring	IncX-750
21	Soket head cap screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
22	Spiral wound gasket	Stainless steel+Graphite
23	O Ring	HNBR, VITON,VITON AED,VITON GTL
24	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
25	Stud	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
26	Flexible graphite braided filler	Graphite
27	O Ring	HNBR, VITON,VITON AED,VITON GTL
28	O Ring	HNBR, VITON,VITON AED,VITON GTL
29	Spiral wound gasket	SS+ Graphite
30	Drain plug	Component
31	Gear box	Component



Full bore



Reduced-bore



Worm Gear operation

Main dimensions and weight

Class150/1.6~2.5MPa

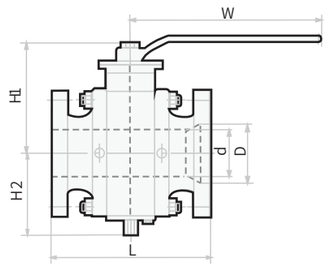
Full bore

Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	2	49	7.00	178	7.87	200	4.33	110	10.43	265	46.3	21
3	80	3	74	8.00	203	11.81	300	4.98	126	11.22	285	70.8	32
4	100	4	100	9.00	229	12.40	315	6.50	185	11.22	285	110.2	50
6	150	5.91	150	15.50	394	13.19	335	6.50	185	11.81	300*	381.8	164
8	200	7.91	201	18.00	457	15.94	405	7.87	200	11.81	300*	780.6	300
10	250	9.92	252	21.00	533	16.81	427	8.67	220	11.81	300*	970.0	440
12	300	11.93	303	24.00	610	18.31	465	10.31	282	19.69	500*	1272.1	577
14	350	13.15	334	27.00	686	19.92	506	11.54	293	23.82	600*	1893.7	859
16	400	15.16	385	30.00	762	24.49	622	13.43	341	23.62	600*	2522.1	1144
18	450	17.16	436	34.00	864	26.22	666	16.22	412	23.62	600*	3174.6	1440
20	500	19.17	487	36.00	914	28.74	730	17.13	435	23.62	600*	4285.7	1944
22	550	21.18	538	40.00	1016	32.80	833	18.90	480	23.62	600*	5185.2	2352
24	600	23.19	589	42.00	1067	35.24	895	20.39	518	31.50	800*	6179.5	2803
26	650	24.92	633	45.0	1143	35.43	900	24.06	535	31.50	800*	7054.7	3200
28	700	26.93	684	49.0	1245	36.81	905	21.34	542	31.50	800*	8924.2	4048
30	750	28.94	735	51.0	1295	39.76	1010	23.82	605	31.50	800*	13868.4	8200
32	800	30.66	779	54.0	1372	41.73	1060	25.59	650	31.50	800*	12103.2	5490
34	850	32.68	830	58.0	1473	42.40	1077	25.59	650	31.50	800*	14779.5	6704
36	900	34.41	874	60.0	1524	43.90	1115	27.56	700	31.50	800*	21164.0	9600
40	1000	38.43	976	68. 0	1727	55.12	1400	34.06	865	31.50	800*	26430.3	10271

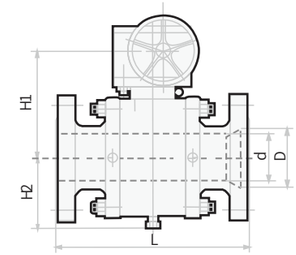
Reduced-bore

Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	2	49	2.99	76	8.00	203	7.87	200	4.33	110	10.43	265	58.4	27
4*3	100*80	3	74	4.02	102	9.00	229	11.81	300	4.98	126	11.22	285	88.2	40
6*4	150*100	4	100	5.98	152	15.50	394	12.40	315	6.50	185	11.22	285	149.9	68
8*6	200* 150	5.91	150	7.99	203	18.00	457	13.19	335	6.50	185	11.81	300*	390.2	177
10*8	250*200	7.91	201	10.00	254	21.00	533	15.94	405	7.87	200	11.81	300*	678.8	307
12*10	300*250	9.92	252	12.01	305	24.00	610	16.81	427	8.67	220	11.81	300*	1122.1	509
14*10	350*300	11.93	303	13.27	337	27.00	686	18.31	465	10.31	282	19.69	500*	1591.7	722
16*12	400*350	13.15	334	15.24	387	30.00	762	19.92	506	11.54	293	23.82	600*	2138.5	970
18*14	450*400	15.16	385	17.24	438	34.00	864	24.49	622	13.43	341	23.62	600*	2846.1	1291
20*16	500*450	17.16	436	19.25	489	36.00	914	26.22	666	16.22	412	23.62	600*	3681.7	1070
22*18	550*450	17.16	436	21.26	540	40.00	1016	26.22	666	13.22	412	23.62	600*	3685.3	1343
24*20	600*500	19.17	487	23.27	591	42.00	1067	28.74	730	17.13	435	23.62	600*	4241.6	1924
26*22	650*550	21.18	538	25.00	635	45.0	1143	32.80	833	18.90	480	31.50	800*	4883.2	2215
28*24	700*600	23.19	589	27.01	686	49.0	1245	35.24	895	20.39	535	31.50	800*	5952.4	2700
30*24	750*600	23.19	589	29.02	737	51.0	1295	35.43	900	21.06	535	31.50	800*	8433.0	2918
32*26	800*650	24.92	633	30.75	781	54.0	1372	35.43	900	21.06	535	31.50	800*	8829.4	4005
34*28	850*700	26.93	684	32.76	832	58.0	1473	36.81	935	21.34	542	31.50	800*	9799.4	4445
36*30	900* 750	28.94	735	34.49	876	60.0	1524	39.76	1010	23.82	605	31.50	800*	10110.9	4995
40*34	1000*850	32.68	830	38.50	978	68.0	1727	42.40	1077	25.59	650	31.50	800*	18077.6	8200

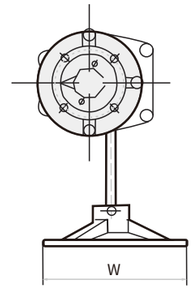
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

Main dimensions and weight

Class300/4.0MPa

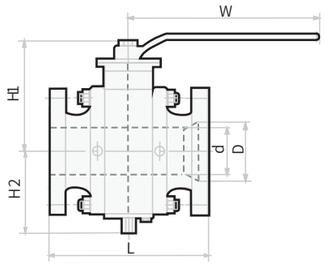
Full bore

Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	2	49	8.5	216	8.11	206	4.45	113	10.43	265	55.1	25
3	80	3	74	11.13	283	12.40	315	5.08	129	15.57	400	101.4	46
4	100	4	100	12.0	305	12.99	330	6.65	169	29.53	750	169.8	77
6	150	5.91	150	15.88	403	13.58	345	5.83	148	1.81	300*	337.0	171
8	200	7.91	201	19.75	502	16.34	415	7.28	185	11.81	300*	709.9	322
10	250	9.92	252	22.38	568	16.81	427	8.90	226	15.75	400*	1190.5	540
12	300	11.93	303	25.5	648	18.31	465	10.59	269	19.69	500*	1682.1	763
14	350	13.15	334	30.0	762	20.43	519	11.81	300	23.62	600*	2149.5	975
16	400	15.16	385	33.0	838	25.12	638	13.78	350	23.62	600*	3086.4	1400
18	450	17.16	436	36.0	914	26.89	683	15.83	402	23.62	600*	3780.9	1751
20	500	19.17	487	39.0	991	29.45	748	17.56	446	23.62	600*	5465.2	2479
22	550	21.18	538	43.0	1092	33.62	854	19.73	492	23.62	600*	5894.2	2220
24	600	23.19	589	45.0	1143	38.10	917	20.91	531	31.50	800*	6371.3	2890
28	700	26.93	684	53.0	1346	37.72	958	21.89	556	31.50	800*	10086.0	4575
30	750	28.94	735	55.0	1397	40.75	1035	24.41	620	31.50	800*	12323.6	5590
32	800	30.66	779	60.0	1524	42.80	1087	26.22	686	31.50	800*	13758.6	8240
34	850	32.68	830	64.0	1626	43.46	1104	28.22	686	31.50	800*	16247.8	7370
36	900	34.41	874	68.0	1727	45.00	1143	28.27	718	31.50	800*	18595.7	8435
40	1000	38.43	976	76.0	1900	58.00	1435	34.92	887	31.50	800*	24691.4	11200

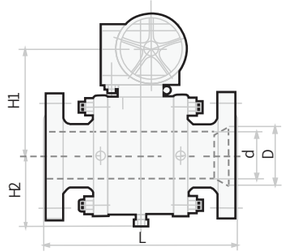
Reduced-bore

Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	2	49	2.99	76	11.13	283	8.11	206	4.45	113	10.43	265	79.4	36
4*3	100*80	3	74	4.02	102	12.0	305	12.40	316	5.08	129	15.57	400	121.3	55
6*4	150*100	4	100	5.98	152	15.88	403	12.99	330	6.65	169	29.53	750	246.9	112
8*6	200*150	5.91	150	7.99	203	19.75	502	13.58	345	5.83	148	11.81	300*	489.4	222
10*8	250*200	7.91	201	10.00	254	22.38	568	16.34	415	7.28	185	11.81	300*	839.9	381
12*10	300*250	9.92	252	12.01	305	25.5	648	16.81	427	8.90	226	15.75	400*	1278.7	580
14*10	350*300	11.93	303	13.27	337	30.0	762	18.31	465	10.59	269	19.69	500*	2028.2	920
16*12	400*350	13.15	334	15.24	387	33.0	838	20.43	519	11.81	300	23.62	600*	2314.8	1050
18*14	450*400	15.16	385	17.24	438	36.0	914	25.12	638	13.78	350	23.62	600*	3373.0	1530
20*16	500*450	17.16	436	19.25	489	39.0	991	26.89	683	15.83	402	23.62	600*	4034.4	1830
22*18	550*450	17.16	436	21.26	540	43.0	1092	29.45	748	17.56	446	23.62	600*	4431.2	2110
24*20	600*500	19.17	487	23.27	591	45.0	1143	33.62	854	19.73	492	23.62	600*	4894.2	2220
28*24	700*600	23.19	589	27.01	686	53.0	1346	36.10	917	20.91	531	31.50	800*	7054.7	3200
30*24	750*600	23.19	589	29.02	737	55.0	1397	37.72	958	21.89	556	31.50	800*	8708.1	3950
34*28	800*650	24.92	633	30.75	781	60.0	1524	42.80	1087	26.22	666	31.50	800*	10681.2	4845
36*30	850*700	26.93	684	32.76	832	64.0	1626	43.46	1104	26.22	666	31.50	800*	13448.0	6100
40*34	1000*850	32.68	830	38.50	978	76.0	1930	45.00	1143	28.27	718	31.50	800*	18077.6	8200

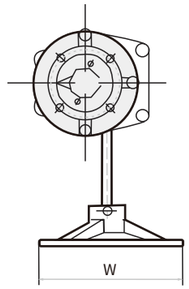
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

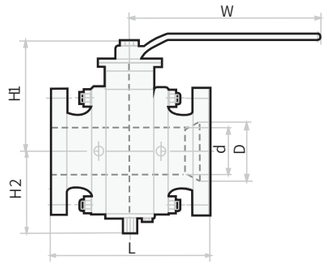
Main dimensions and weight

Class600/6.3~10.0MPa

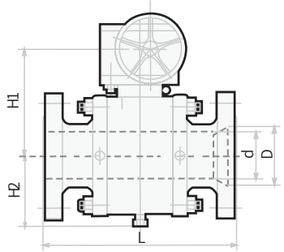
Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	2	49	11.5	292	8.11	206	4.45	113	15.75	400	72.8	33
3	80	3	74	14.0	356	12.40	315	5.08	129	29.53	750	141.2	64
4	100	4	100	17.0(16.0)	432(406)	12.99	330	6.65	169	39.37	1000	257.9	117
6	150	5.91	150	22.0(18.0)	559(459)	13.58	345	5.88	148	11.81	300*	628.3	285
8	200	7.91	201	26.0(23.5)	660(597)	16.34	415	7.28	185	11.81	300*	996.5	452
10	250	9.92	252	31.0(26.5)	787(673)	16.81	427	8.90	226	15.75	400*	1622.6	736
12	300	11.93	303	33.0(30.0)	838(762)	18.31	465	10.59	269	19.69	500*	2204.6	1000
14	350	13.15	334	35.0(32.5)	889(826)	20.43	519	11.81	300	23.62	600*	2929.9	1329
16	400	15.16	385	39.0(35.5)	991(902)	25.12	638	13.78	350	23.62	600*	3813.9	1730
18	450	17.16	436	43.0(38.5)	1092(978)	26.89	683	15.83	402	23.62	600*	5037.5	2285
20	500	19.16	487	47.0(41.5)	1194(1054)	29.45	748	17.56	446	23.62	600*	6203.7	2814
22	550	21.18	538	51.0	1295	33.82	854	19.73	495	23.62	600*	7429.5	3370
24	600	23.19	589	55.0(48.5)	1397(1232)	35.10	917	20.91	531	31.50	800*	10846.6	4920
28	700	26.93	684	61.0	1549	37.72	958	21.89	556	31.50	500*	13359.8	5060
30	750	28.94	735	65.0	1651	40.75	1035	24.41	620	31.50	800*	14748.7	6069
32	800	30.66	779	70.0	1778	42.80	1087	26.22	666	31.50	800*	17250.9	7825
34	850	32.68	830	76.0	1930	43.46	1104	28.22	606	31.50	800*	18650.8	8480
36	900	34.41	874	82.0	2083	45.00	1143	28.27	718	31.50	800*	23478.8	10650
40	1000	38.43	976	85.0	2159	56.50	1435	34.92	887	31.50	800*	32407.4	14700

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	2	49	2.99	76	14.0	356	8.11	206	4.45	113	15.75	400	103.7	47
4*3	100*80	3	74	4.02	102	17.0(16.0)	432(406)	12.40	315	5.08	129	29.53	750	189.6	86
6*4	150*100	4	100	5.98	152	22.0(18.0)	559(459)	12.99	330	6.65	169	39.37	1000	357.1	162
8*6	200*150	5.91	150	7.99	203	26.0(23.5)	660(597)	13.58	345	5.88	148	11.81	300*	670.2	304
10*8	250*200	7.91	201	10.00	254	31.0(26.5)	787(673)	16.343	415	7.28	185	11.81	300*	1181.7	536
12*10	300*250	9.92	252	12.01	305	33.0(30.0)	838(762)	16.81	427	8.90	226	15.75	400*	1838.6	834
14*10	350*300	11.93	303	13.27	337	35.0(32.5)	889(826)	18.31	465	10.59	269	19.69	500*	2403.0	1090
16*12	400*350	13.15	334	15.24	387	39.0(35.5)	991(902)	20.43	519	11.81	300	23.62	600*	2888.0	1310
18*14	450*400	15.16	385	17.24	438	43.0(38.5)	1092(978)	25.12	638	13.78	350	23.62	600*	4135.8	1876
20*16	500*450	17.16	436	19.25	489	47.0(41.5)	1194(1054)	26.89	683	15.83	402	23.62	600*	5564.4	2524
22*18	550*450	17.16	436	21.26	540	51.0	1295	29.45	748	17.56	446	23.62	600*	5357.1	2430
24*20	600*500	19.16	487	23.27	591	55.0(48.5)	1397(1232)	33.82	854	19.73	495	23.62	600*	7583.8	3440
28*24	700*600	23.19	589	27.01	686	61.0	1549	35.10	917	20.91	531	31.50	800*	9369.5	4250
30*24	750*600	23.19	589	29.02	737	65.0	1651	37.72	958	21.89	556	31.50	500*	10427.7	4730
34*28	850*700	26.93	684	32.76	832	76.0	1930	42.80	1087	26.22	666	31.50	800*	15873.0	7200
36*30	900*750	28.94	735	34.49	876	82.0	2083	43.46	1104	28.22	606	31.50	800*	18959.4	8600
40*34	1000*850	32.68	830	38.50	978	85.0	2159	45.00	1143	28.27	718	31.50	800*	22089.9	10020

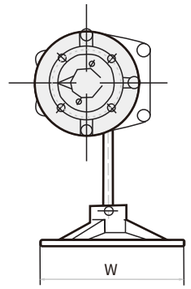
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

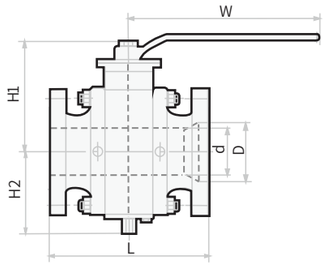
Main dimensions and weight

Class900/15.0MPa

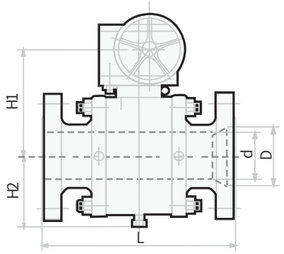
Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	1.93	49	14.5	368	8.11	206	4.45	113	18.11	460	143.3	65
3	80	2.91	74	15.0	381	12.40	315	5.08	129	39.37	1000	202.8	92
4	100	3.94	100	18.0	457	12.99	330	6.65	169	59.06	1500	339.5	154
6	150	5.91	150	24.0	610	13.58	345	5.83	148	11.81	300*	804.4	392
8	200	7.91	201	29.0	737	16.34	415	7.28	185	15.75	400*	1351.4	613
10	250	9.92	252	33.0	838	16.81	427	8.90	226	19.69	500*	1807.8	820
12	300	11.93	303	38.0	965	18.31	465	10.59	269	23.62	600*	2480.2	1125
14	350	12.67	322	40.5	1029	20.43	519	11.81	300	23.62	600*	3549.4	1610
16	400	14.69	373	44.5	1130	25.12	638	13.78	350	23.62	600*	4431.2	2010
18	450	16.65	423	48.0	1219	26.89	683	15.83	402	23.62	600*	6194.9	2810
20	500	18.54	471	52.0	1321	29.45	748	17.56	446	23.62	600*	8730.2	3960
22	550	20.55	522	56.0	1422	33.62	854	19.73	492	23.62	600*	9722.2	4410
24	600	22.44	570	61.0	1549	38.10	917	20.91	531	31.50	800*	17901.0	8120
28	700	26.18	665	69.0	1753	37.72	958	21.89	556	31.50	800*	22491.2	10202
30	750	28.03	712	74.0	1880	40.75	1035	24.41	620	31.50	800*	25617.3	11620

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	1.93	49	2.99	76	15.0	381	8.11	206	4.45	113	10.43	265	7156.5	71
4*3	100*80	2.91	74	4.02	102	18.0	457	12.40	316	5.08	129	15.57	400	244.7	111
6*4	150*100	3.94	100	5.98	152	24.0	610	12.99	330	6.65	169	29.53	750	471.8	214
8*6	200*150	5.91	150	7.99	203	29.0	737	13.58	345	5.83	148	11.81	300*	1058.2	480
10*8	250*200	7.91	201	10.00	254	33.0	838	16.34	415	7.28	185	11.81	300*	1433.0	650
12*10	300*250	9.92	252	12.01	305	38.0	965	16.81	427	8.90	226	15.75	400*	1913.6	868
14*10	350*300	11.93	303	12.76	324	40.5	1029	18.31	465	10.59	269	19.69	500*	2888.0	1310
16*12	400*350	12.67	322	14.76	375	44.5	1130	20.43	519	11.81	300	23.62	600*	4034.4	1830
18*14	450*400	14.69	373	16.73	425	48.0	1219	25.12	638	13.78	350	23.62	600*	4861.1	2205
20*16	500*450	16.65	423	18.62	473	52.0	1321	26.89	683	15.83	402	23.62	600*	6922.4	3140
22*18	550*450	16.65	423	20.63	524	56.0	1422	29.45	748	17.56	446	23.62	600*	7248.7	3288
24*20	600*500	18.54	471	22.52	572	61.0	1549	33.62	854	19.73	492	23.62	600*	10582.0	4800
28*24	700*600	22.44	570	26.26	667	69.0	1753	36.10	917	20.91	531	31.50	800*	16710.8	7580
30*24	750*600	22.44	570	28.11	714	74.0	1880	37.72	958	21.89	556	31.50	800*	17594.8	7981

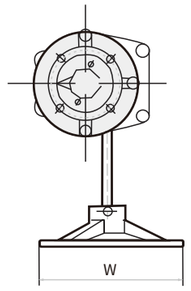
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

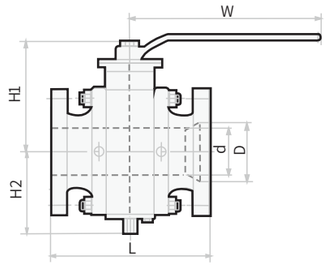
Main dimensions and weight

Class1500/25.0MPa

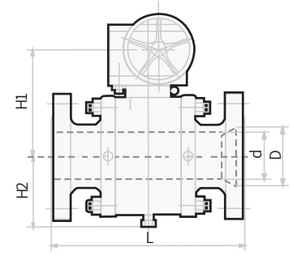
Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	1.93	49	14.5	368	8.11	206	4.45	113	15.75	400	72.8	33
3	80	2.91	74	18.5	470	12.40	315	5.08	129	29.53	750	141.2	64
4	100	3.94	100	21.5	546	12.99	330	6.65	169	39.37	1000	257.9	117
6	150	5.67	144	27.75	705	13.58	345	5.88	148	11.81	300*	628.3	285
8	200	7.55	192	32.75	832	16.34	415	7.28	185	11.81	300*	996.5	452
10	250	9.41	239	39	991	16.81	427	8.90	226	15.75	400*	1622.6	736
12	300	11.30	287	44.5	1130	18.31	465	10.59	269	19.69	500*	2204.6	1000
14	350	12.40	315	49.5	1257	20.43	519	11.81	300	23.62	600*	2929.9	1329
16	400	14.17	360	54.5	1384	25.12	638	13.78	350	23.62	600*	3813.9	1730
18	450	15.98	406	60.5	1537	26.89	683	15.83	402	23.62	600*	5037.5	2285
20	500	17.87	454	65.5	1664	29.45	748	17.56	446	23.62	600*	6203.7	2814
22	550	19.69	500	51.0	1295	33.82	854	19.73	495	23.62	600*	7429.5	3370
24	600	21.50	546	55.0(48.5)	1397(1232)	35.10	917	20.91	531	31.50	800*	10846.6	4920
28	700	25.23	641	61.0	1549	37.72	958	21.89	556	31.50	500*	13359.8	5060
30	750	27.00	686	65.0	1651	40.75	1035	24.41	620	31.50	800*	14748.7	6069
32	800	28.74	730	70.0	1778	42.80	1087	26.22	666	31.50	800*	17250.9	7825
34	850	30.50	775	76.0	1930	43.46	1104	28.22	606	31.50	800*	18650.8	8480
36	900	32.24	819	82.0	2083	45.00	1143	28.27	718	31.50	800*	23478.8	10650
40	1000	38.50	978	85.0	2159	56.50	1435	34.92	887	31.50	800*	32407.4	14700

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	1.93	49	2.99	76	18.5	470	8.11	206	4.45	113	15.75	400	103.7	47
4*3	100*80	2.91	74	4.02	102	21.5	546	12.40	315	5.08	129	29.53	750	189.6	86
6*4	150*100	3.94	100	5.98	152	27.75	705	12.99	330	6.65	169	39.37	1000	357.1	162
8*6	200*150	5.67	144	7.99	203	32.75	832	13.58	345	5.88	148	11.81	300*	670.2	304
10*8	250*200	7.55	192	10.00	254	39	991	16.343	415	7.28	185	11.81	300*	1181.7	536
12*10	300*250	9.41	239	12.01	305	44.5	1130	16.81	427	8.90	226	15.75	400*	1838.6	834
14*10	350*300	11.30	287	13.27	337	49.5	1257	18.31	465	10.59	269	19.69	500*	2403.0	1090
16*12	400*350	12.40	315	15.24	387	54.5	1384	20.43	519	11.81	300	23.62	600*	2888.0	1310
18*14	450*400	14.17	360	17.24	438	60.5	1537	25.12	638	13.78	350	23.62	600*	4135.8	1876
20*16	500*450	15.98	406	19.25	489	65.5	1664	26.89	683	15.83	402	23.62	600*	5564.4	2524
22*18	550*450	15.98	406	21.26	540	51.0	1972	29.45	748	17.56	446	23.62	600*	5357.1	2430
24*20	600*500	17.87	454	23.27	591	55.0(48.5)	1397(1232)	33.82	854	19.73	495	23.62	600*	7583.8	3440
28*24	700*600	21.50	546	27.01	686	61.0	1549	35.10	917	20.91	531	31.50	800*	9369.5	4250
30*24	750*600	21.50	546	29.02	737	65.0	1651	37.72	958	21.89	556	31.50	500*	10427.7	4730
34*28	850*700	25.23	641	32.76	832	76.0	1930	42.80	1087	26.22	666	31.50	800*	15873.0	7200
36*30	900*750	27.00	686	34.49	876	82.0	2083	43.46	1104	28.22	606	31.50	800*	18959.4	8600
40*34	1000*850	30.50	775	38.50	978	85.0	2159	45.00	1143	28.27	718	31.50	800*	22089.9	10020

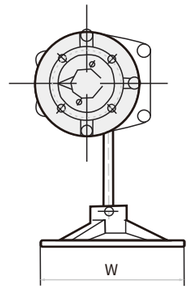
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

Main dimensions and weight

Class2500/32~42.0MPa

Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	1.65	42	17.75	451	8.11	206	4.45	113	18.11	460	143.3	65
3	80	2.44	62	22.75	578	12.40	315	5.08	129	39.37	1000	202.8	92
4	100	3.42	87	26.5	673	12.99	330	6.65	169	59.06	1500	339.5	154
6	150	5.16	131	36	914	13.58	345	5.83	148	11.81	300*	804.4	392
8	200	7.04	179	40.25	1022	16.34	415	7.28	185	15.75	400*	1351.4	613
10	250	8.78	223	50	1270	16.81	427	8.90	226	19.69	500*	1807.8	820
12	300	10.43	265	56	1442	18.31	465	10.59	269	23.62	600*	2480.2	1125
14	350	11.50	292	40.5	1029	20.43	519	11.81	300	23.62	600*	3549.4	1610
16	400	13.11	333	44.5	1130	25.12	638	13.78	350	23.62	600*	4431.2	2010
18	450	14.72	374	48.0	1219	26.89	683	15.83	402	23.62	600*	6194.9	2810
20	500	16.50	419	52.0	1321	29.45	748	17.56	446	23.62	600*	8730.2	3960
22	550	20.63	524	56.0	1422	33.62	854	19.73	492	23.62	600*	9722.2	4410
24	600	22.52	572	81.0	1549	38.10	917	20.91	531	31.50	800*	17901.0	8120
28	700	26.26	667	69.0	1753	37.72	958	21.89	556	31.50	800*	22491.2	10202
30	750	28.11	714	74.0	1880	40.75	1035	24.41	620	31.50	800*	25617.3	11620

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	1.65	42	2.99	76	22.75	578	8.11	206	4.45	113	10.43	265	156.5	71
4*3	100*80	2.44	62	4.02	102	26.5	673	12.40	316	5.08	129	15.57	400	244.7	111
6*4	150*100	3.42	87	5.98	152	36	914	12.99	330	6.65	169	29.53	750	471.8	214
8*6	200*150	5.16	131	7.99	203	40.25	1022	13.58	345	5.83	148	11.81	300*	1058.2	480
10*8	250*200	7.04	179	10.00	254	50	1270	16.34	415	7.28	185	11.81	300*	1433.0	650
12*10	300*250	8,78	223	12.01	305	56	1422	16.81	427	8.90	226	15.75	400*	1913.6	868
14*10	350*300	10.43	265	12.76	324	40.5	1029	18.31	465	10.59	269	19.69	500*	2888.0	1310
16*12	400*350	11.50	292	14.76	375	44.5	1130	20.43	519	11.81	300	23.62	600*	4034.4	1830
18*14	450*400	13.11	333	16.73	425	48.0	1219	25.12	638	13.78	350	23.62	600*	4861.1	2205
20*16	500*450	14.72	374	18.62	473	52.0	1321	26.89	683	15.83	402	23.62	600*	6922.4	3140
22*18	550*450	14.72	374	20.63	524	56.0	1422	29.45	748	17.56	446	23.62	600*	7248.7	3288
24*20	600*500	16.50	419	22.52	572	61.0	1549	33.62	854	19.73	492	23.62	600*	10582.0	4800
28*24	700*600	20.63	524	26.26	667	69.0	1753	36.10	917	20.91	531	31.50	800*	16710.8	7580
30*24	750*600	22.52	572	28.11	714	74.0	1880	37.72	958	21.89	556	31.50	800*	17594.8	7981

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.

Forged steel Top Entry
ball valve

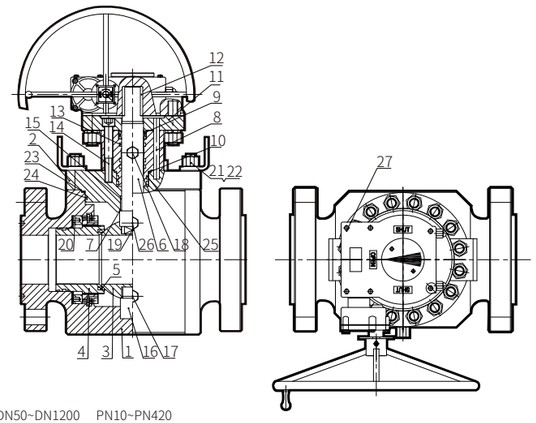


Technical specification

Design reference		API	ASME	ГОСТ
Design standard		API 6D	ASME B16.34	/
Structural length	Flanged ends	API 6D	ASEM B16.10	/
	Welded connection			
Flanged ends		ASME B16.5/ASME B16.47		ГОСТ 33259 ГОСТ 12815
Butt-welding ends		ASME B16.25		
Test & inspection		API 6D	API 598	ГОСТ 9544

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.



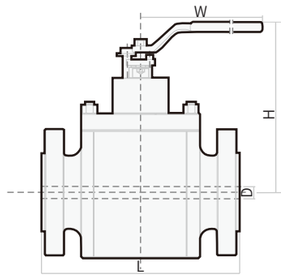


DN50~DN1200 PN10~PN420
NPS2~NPS48 Class150~Class2500

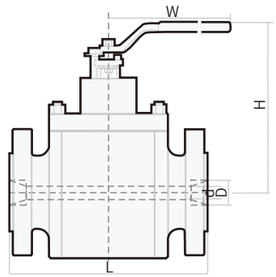
Main material

	Part Name	Main Material
1	Body	F51,A105,LF2,F304,F304L,F316,F316L,F321, F416,F440C,17-4PH,Inconel, Monel,Alloy steel,Aluminium Bronze
2	Cover	
3	Ball	
4	Seat Retainer	
5	Seat Seal	PTFE, RPTFE ,DEV, NLY ,PPL ,POM, PEEK, +STL, +TCC,+Ni60
6	Stem	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
7	Thrust Washer	PTFE
8	Pin	1035
9	Flexible graphite braided filler	Graphite
10	Spiral Wound Gasket	Matching with valve body
11	Connecting flange	SS+ Graphite
12	Key	1035
13	O Ring	HNBR, VITON,VITON AED,VITON GTL
14	Hexagon socket screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
15	Bearing	F304+PTFE,F316+PTFE,F51+PTFE
16	Trunnion	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
17	Drain plug	Component
18	Grease injection valve	Component
19	Anti static device	IncX-750
20	Spring	IncX-750
21	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
22	Stud	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
23	Flexible graphite braided filler	Graphite
24	O Ring	HNBR, VITON,VITON AED,VITON GTL
25	O Ring	HNBR, VITON,VITON AED,VITON GTL
26	Drain plug	Component
27	Gear box	Component

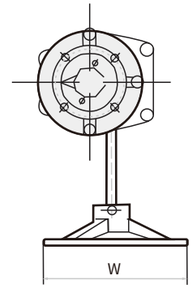
Notes::Major parts of the valve series and materials of sealing surface differaccording to actual working condition and customer' s special requirement.



Full bore



Reduced-bore



Worm Gear operation

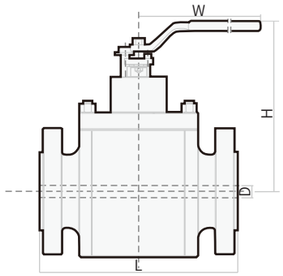
Main dimensions and weight

Class150/PN16

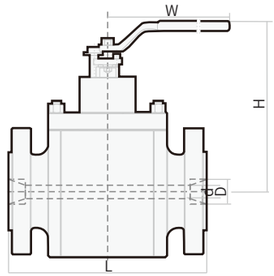
Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	12.7	6.5	165	2.68	68	5.15	130	8.6	3
3/4	20	0.75	19	7.48	190	2.80	71	5.12	130	8.8	4.0
1	25	0.98	25	8.5	216	3.37	85.5	6.30	160	13.2	6
1-1/4	32	1.25	31.8	9.02	229	3.62	92	6.30	160	21.0	9.5
1-1/2	40	1.50	38	9.49	241	3.84	97.5	9.06	230	26.4	12
2	50	1.93	49	11.5	292	4.31	109.5	13.78	350	37.4	17
2-1/2	65	2.44	64	13	330	5.31	135	13.78	350	41.8	19
3	80	2.91	74	14	356	5.95	151	15.75	400	48.4	22
4	100	3.94	100	17.01	432	6.63	165	27.56	700	101.2	46

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
3/4*1/2	20*15	0.50	12.7	0.75	19	6.5	165	2.68	68	5.12	130	7.48	3.4
1*3/4	25*20	0.75	19	1.00	25	7.48	190	2.80	71	5.12	130	11.0	5.0
1-1/2*1	40*25	0.98	25	1.50	38	8.5	216	3.37	85.5	8.30	160	18.5	8.4
2*1-1/2	50*40	1.50	38	2.0	51	11.5	292	3.84	97.5	9.06	230	42.9	19.5
3*2	80*50	1.93	49	3.0	76	14	356	4.31	109.5	15.75	400	53.68	24.4
4*3	100*80	2.91	74	4.0	102	17	432	5.95	151	27.56	700	82.5	37.5

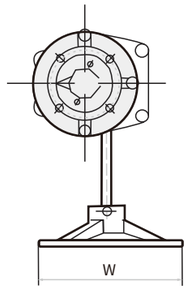
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

Main dimensions and weight

Class300/PN40

Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	13	6.5	165	2.08	68	5.12	130	8.8	4.0
3/4	20	0.75	19	7.48	190	2.80	71	5.12	130	13.2	6.0
1	25	1.00	25	8.5	216	3.37	85.5	6.30	160	15.0	6.8
1-1/4	32	1 25	32	9.02	229	3.62	92	6.30	160	20.9	9.5
112	40	1.50	38	9.49	241	3.84	97.5	9.06	230	26.4	12
2	50	2.00	49	11.5	292	4.31	109.5	13.78	350	40.26	18.3
2-1/2	65	2.50	62	13	330	5.31	135	13.78	350	70.4	32
3	80	2.91	74	14	356	5.95	151	15.75	400	83.6	38
4	100	3.94	100	17	432	6.63	168.5	25.56	700	171.6	78

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
3/4*1/2	20*15	0.50	13	0.75	19	6.5	165	2.68	68	5.12	130	7.48	4.8
1*3/4	25*20	0.75	19	1.00	25	7.48	190	2.80	71	5.12	130	10.0	5.5
1-1/2*1	40*25	1.00	25	1.50	38	8.5	216	3.37	85.5	8.30	160	18.5	9.6
2*1-1/2	50*40	1.50	38	2.0	51	11.5	292	3.84	97.5	9.06	230	42.9	4.8
3*2	80*50	2.00	49	3.0	76	14	356	4.31	109.5	15.75	400	53.68	30.5
4*3	100*80	2.91	74	4.0	102	17	432	5.95	151	27.56	700	82.5	57

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.

Cast steel Top Entry
ball valve

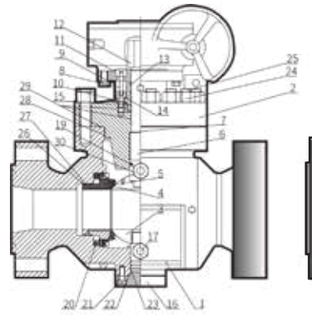


Technical specification

Design reference		API	ASME	ГОСТ
Design standard		API 6D	ASME B16.34	/
Structural length	Flanged ends	API 6D	ASEM B16.10	/
	Welded connection			
Flanged ends		ASME B16.5/ASME B16.47		ГОСТ 33259 ГОСТ 12815
Butt-welding ends		ASME B16.25		
Test & inspection		API 6D	API 598	ГОСТ 9544

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.



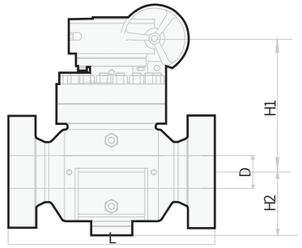


DN50~DN1200 PN10~PN420
NPS2~NPS48 Class150~Class2500

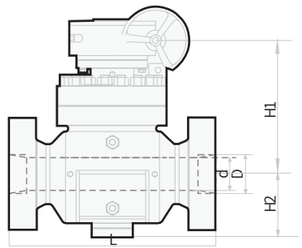
Main material

	Part Name	Main Material
1	Body	WCB,LCB,LCC,4A,CF8,CF3,CF3M,CF8M,G20Mn5. Inconel,Monel,Alloysteel,Aluminium Bronze
2	Cover	
3	Ball	A105,LF2,F304,F304L,F316,F316L,F321,F416,F440C F5
4	Seat Retainer	
5	Seat Seal	PTFE, RPTFE ,DEV, NLY ,PPL ,POM, PEEK, +STL, +TCC,+Ni60
6	Stem	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
7	Thrust Washer	PTFE
8	Pin	1035
9	O Ring	HNBR, VITON,VITON AED,VITON GTL
10	Spiral Wound Gasket	SS+ Graphite
11	Connecting flange	Matching with valve body
12	Key	1035
13	O Ring	HNBR, VITON,VITON AED,VITON GTL
14	Hexagon socket screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
15	Bearing	SS+ Graphite
16	Trunnion	Matching with valve body
17	Drain plug	Component
18	Grease injection valve	Matching with valve body
19	Anti static device	IncX-750
20	Spring	IncX-750
21	Hexagon socket screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
22	Metal winding gasket	SS+ Graphite
23	O Ring	HNBR, VITON,VITON AED,VITON GTL
24	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
25	Stud	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
26	Flexible graphite braided filler	Graphite
27	O Ring	HNBR, VITON,VITON AED,VITON GTL
28	O Ring	HNBR, VITON,VITON AED,VITON GTL
29	Metal gasket	SS+ Graphite
30	Drain plug	Component
31	Worm Gear	Assembly

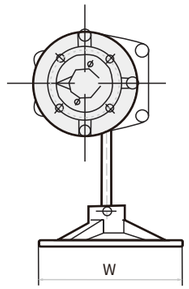
Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer' s special requirement.



Full bore



Reduced-bore



Worm Gear operation

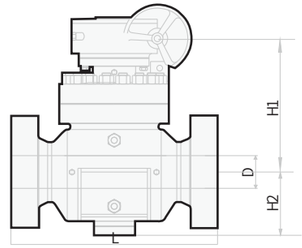
Main dimensions and weight

Class150/1.6~2.5MPa

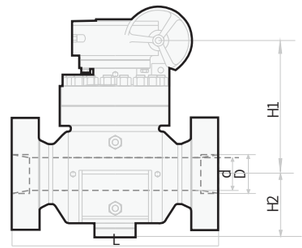
Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	2.01	51	11.5	292	7.87	200	4.33	110	10.43	265	46.3	21
3	80	2.99	49	14	356	11.81	300	4.98	126	11.22	285	70.8	32
4	100	3.94	100	17	432	12.40	315	6.50	185	11.22	285	110.2	50
6	150	5.91	150	22.0	559	13.19	335	6.50	185	11.81	300	381.8	164
8	200	7.91	201	26.0	660	15.94	405	7.87	200	11.81	300	780.6	300
10	250	9.92	252	31.0	787	16.81	427	8.67	220	11.81	300	970.0	440
12	300	11.93	303	33.0	838	18.31	465	10.31	282	19.69	500	1272.1	577
14	350	13.15	334	35.0	889	19.92	506	11.54	293	23.82	600	1893.7	859
16	400	15.16	385	39.0	991	24.49	622	13.43	341	23.62	600	2522.1	1114
18	450	17.16	436	43.0	1092	26.22	666	16.22	412	23.62	600	3174.6	1440
20	500	19.17	487	47.0	1194	28.74	730	17.13	435	23.62	600	4285.7	1944
22	550	21.18	538	51.0	1295	32.80	833	18.90	480	23.62	600	5185.2	2352
24	600	23.19	589	55 0	1397	35.24	895	20.39	518	31.50	800	6179.5	2803
26	650	24.92	633	57.0	1448	35.43	900	24.06	535	31.50	800	7054.7	3200
28	700	26.93	684	61.0	1549	36.81	905	21.34	542	31.50	800	8924.2	4048
30	750	28.94	735	65.0	1651	39.76	1010	23.82	605	31.50	800	13868.4	8200
32	800	30.66	779	70.0	1778	41.73	1060	25.59	650	31.50	800	12103.2	5490
34	850	32.68	830	76.0	1930	42.40	1077	25.59	650	31.50	800	14779.5	6704
36	900	34.41	874	82.0	2083	43.90	1115	27.56	700	31.50	800	21164.0	9600
40	1000	38.43	976	94.0	2388	55.12	1400	34.06	865	31.50	800	26430.3	10271

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	1.93	49	2.99	76	14	356	7.87	200	4.33	110	10.43	265	58.4	27
4*3	100*80	2.91	74	4.02	102	17	432	11.81	300	4.98	126	11.22	285	88.2	40
6*4	150*100	3.94	100	5.98	152	22.0	559	12.40	315	6.50	185	11.22	285	149.9	68
8*6	200* 150	5.91	150	7.99	203	26.0	660	13.19	335	6.50	185	11.81	300	390.2	177
10*8	250*200	7.91	201	10.00	254	31.0	787	15.94	405	7.87	200	11.81	300	678.8	307
12*10	300*250	9.92	252	12.01	305	33.0	838	16.81	427	8.67	200	11.81	300	1122.1	509
14*10	350*300	11.93	303	13.27	337	35.0	889	18.31	465	10.31	282	19.69	500	1591.7	722
16*12	400*350	13.15	334	15.24	387	39.0	991	19.92	506	11.54	293	23.82	600	2138.5	970
18*14	450*400	15.16	385	17.24	438	43.0	1092	24.49	622	13.43	341	23.62	600	2846.1	1291
20*16	500*450	17.16	436	19.25	489	47.0	1194	26.22	666	16.22	412	23.62	600	3681.7	1070
22*18	550*450	17.16	436	21.26	540	51.0	1295	26.22	666	13.22	412	23.62	600	3685.3	1343
24*20	600*500	19.17	487	23.27	591	55.0	1397	28.74	730	17.13	435	23.62	600	4241.6	1924
26*22	650*550	21.18	538	25.00	635	57.0	1448	32.80	833	18.90	480	31.50	800	4883.2	2215
28*24	700*600	23.19	589	27.01	686	61.0	1549	35.24	895	20.39	535	31.50	800	5952.4	2700
30*24	750*600	23.19	589	29.02	737	65.0	1651	35.43	900	21.06	535	31.50	800	8433.0	2918
32*26	800*650	24.92	633	30.75	781	70.0	1778	35.43	900	21.06	535	31.50	800	8829.4	4005
34*28	850*700	26.93	684	32.76	832	76.0	1930	36.81	935	21.34	542	31.50	800	9799.4	4445
36*30	900* 750	28.94	735	34.49	876	82.0	2083	39.76	1010	23.82	605	31.50	800	10110.9	4995
40*34	1000*850	32.68	830	38.50	978	76.0	1930	42.40	1077	25.59	650	31.50	800	18077.6	8200

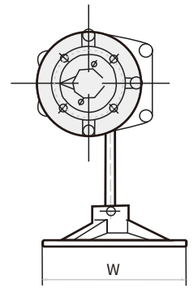
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

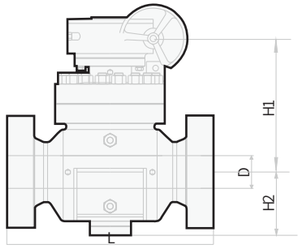
Main dimensions and weight

Class300/4.0MPa

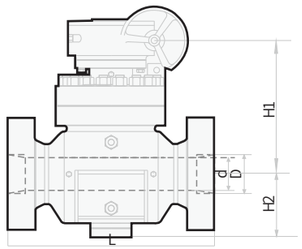
Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	1.93	49	11.5	292	8.11	206	4.45	113	10.43	265	55.1	25
3	80	2.91	74	14	356	12.40	315	5.08	129	15.57	400	101.4	46
4	100	3.94	100	17	432	12.99	330	6.65	169	29.53	750	169.8	77
6	150	5.91	150	22 0	559	13.58	345	5.83	148	11.81	300	337.0	171
8	200	7.91	201	26.0	660	16.34	415	7.28	185	11.81	300	709.9	322
10	250	9.92	252	31.0	787	16.81	427	8.90	226	15.75	400	1190.5	540
12	300	11.93	303	33.0	838	18.31	465	10.59	269	19.69	500	1682.1	763
14	350	13.15	334	35.0	889	20.43	519	11.81	300	23.62	600	2149.5	975
16	400	15.16	385	39.0	991	25.12	638	13.78	350	23.62	600	3086.4	1400
18	450	17.16	436	43.0	1092	26.89	683	15.83	402	23.62	600	3780.9	1751
20	500	19.17	487	47.0	1194	29.45	748	17.56	446	23.62	600	5465.2	2479
22	550	21.18	538	51.0	1295	33.62	854	19.73	492	23.62	600	5894.2	2220
24	600	23.19	589	55 0	1397	38.10	917	20.91	531	31.50	800	6371.3	2890
26	650	24.92	633	57.0	1448	38.10	917	20.91	531	31.50	800	6371.3	2890
28	700	26.93	684	61.0	1549	37.72	958	21.89	556	31.50	800	10086.0	4575
30	750	28.94	735	65.0	1651	40.75	1035	24.41	620	31.50	800	12323.6	5590
32	800	30.66	779	70.0	1778	42.80	1087	26.22	686	31.50	800	13758.6	8240
34	850	32.68	830	76.0	1930	43.46	1104	28.22	686	31.50	800	16247.8	7370
36	900	34.41	874	82.0	2083	45.00	1143	28.27	718	31.50	800	18595.7	8435
40	1000	38.43	976	94.0	2388	58.00	1435	34.92	887	31.50	800	24691.4	11200

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	1.93	49	2.99	76	14	292	8.11	206	4.45	113	10.43	265	79.4	36
4*3	100*80	2.91	74	4.02	102	17	356	12.40	316	5.08	129	15.57	400	121.3	55
6*4	150*100	3.94	100	5.98	152	22	432	12.99	330	6.65	169	29.53	750	246.9	112
8*6	200* 150	5.91	150	7.99	203	26	559	13.58	345	5.83	148	11.81	300	489.4	222
10*8	250*200	7.91	201	10.00	254	31	660	16.34	415	7.28	185	11.81	300	839.9	381
12*10	300*250	9.92	252	12.01	305	33	787	16.81	427	8.90	226	15.75	400	1278.7	580
14*10	350*300	11.93	303	13.27	337	35	787	18.31	465	10.59	269	19.69	500	2028.2	920
16*12	400*350	13.15	334	15.24	387	39	838	20.43	519	11.81	300	23.62	600	2314.8	1050
18*14	450*400	15.16	385	17.24	438	43	889	25.12	638	13.78	350	23.62	600	3373.0	1530
20*16	500*450	17.16	436	19.25	489	47	991	26.89	683	15.83	402	23.62	600	4034.4	1830
22*18	550*450	17.16	436	21.26	540	51	1092	29.45	748	17.56	446	23.62	600	4431.2	2110
24*20	600*500	19.17	487	23.27	591	55	1194	29.45	748	17.56	446	23.62	600	4431.2	2110
26*22	650*550	21.18	538	25.00	635	57	1295	33.62	854	19.73	492	23.62	600	4894.2	2220
28*24	700*600	23.19	589	27.01	686	61	1397	36.10	917	20.91	531	31.50	800	7054.7	3200
30*24	750*600	23.19	589	29.02	737	65	1397	37.72	958	21.89	556	31.50	800	8708.1	3950
32*26	800*650	24.92	633	30.75	781	70	1448	37.72	958	21.89	556	31.50	800	8708.1	3950
34*28	850*700	26.93	684	32.76	832	76	1549	42.80	1087	26.22	666	31.50	800	10681.2	4845
36*30	900* 750	28.94	735	34.49	876	82	1651	43.46	1104	26.22	666	31.50	800	13448.0	6100
40*34	1000*850	32.68	830	38.50	978	76.0	1930	45.00	1143	28.27	718	31.50	800	18077.6	8200

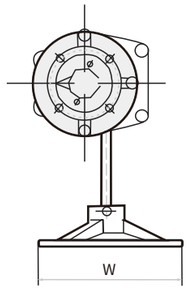
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

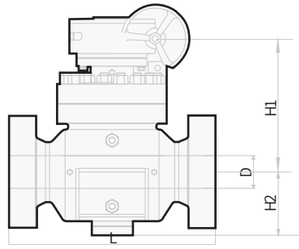
Main dimensions and weight

Class600/6.3~10.0MPa

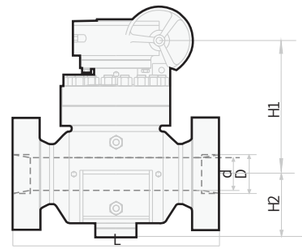
Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	1.93	49	11.5	292	8.11	206	4.45	113	15.75	400	72.8	33
3	80	2.91	74	14	356	12.40	315	5.08	129	29.53	750	141.2	64
4	100	3.94	100	17	432	12.99	330	6.65	169	11.81	1000	257.9	117
6	150	5.91	150	22 0	559	13.58	345	5.88	148	11.81	300	628.3	385
8	200	7.91	201	26.0	660	16.34	415	7.28	185	15.75	300	996.5	452
10	250	9.92	252	31.0	787	16.81	427	8.90	226	19.69	400	1622.6	736
12	300	11.93	303	33.0	838	18.31	465	10.59	269	23.62	500	2204.6	1000
14	350	13.15	334	35.0	889	20.43	519	11.81	300	23.62	600	2929.9	1329
16	400	15.16	385	39.0	991	25.12	638	13.78	350	23.62	600	3813.9	1730
18	450	17.16	436	43.0	1092	26.89	683	15.83	402	23.62	600	5037.5	2285
20	500	19.17	487	47.0	1194	29.45	748	17.56	446	23.62	600	6203.5	2814
22	550	21.18	538	51.0	1295	33.82	854	19.73	495	23.62	600	7429.5	3370
24	600	23.19	589	55 0	1397	35.10	917	20.91	531	31.50	800	10846.6	4920
26	650	24.92	633	57.0	1448	37.72	958	21.89	556	31.50	500	13349.8	5060
28	700	26.93	684	61.0	1549	40.75	1035	24.41	620	31.50	800	14748.7	6069
30	750	28.94	735	65.0	1651	42.80	1087	26.22	666	31.50	800	17250.9	7825
32	800	30.66	779	70.0	1778	43.46	1104	28.22	606	31.50	800	18650.8	8480
34	850	32.68	830	76.0	1930	45.00	1143	28.27	718	31.50	800	23478.8	10650
36	900	34.41	874	82.0	2083	56.50	1435	34.92	887	31.50	800	32407.4	14700

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	1.93	49	2.99	76	14	356	8.11	206	4.45	113	15.75	400	103.7	47
4*3	100*80	2.91	74	4.02	102	17	432	12.40	315	5.08	129	29.53	750	189.6	86
6*4	150*100	3.94	100	5.98	152	22	559	12.99	330	6.65	169	39.37	1000	357.1	162
8*6	200* 150	5.91	150	7.99	203	26	660	13.58	345	5.88	148	11.81	300	670.2	304
10*8	250*200	7.91	201	10.00	254	31	787	16.343	415	7.28	185	11.81	300	1181.7	536
12*10	300*250	9.92	252	12.01	305	33	838	16.81	427	8.90	226	15.75	400	1838.6	834
14*10	350*300	11.93	303	13.27	337	35	889	18.31	465	10.59	269	19.69	500	2403.0	1090
16*12	400*350	13.15	334	15.24	387	39	991	20.43	519	11.81	300	23.62	600	2888.0	1310
18*14	450*400	15.16	385	17.24	438	43	1092	25.12	638	13.78	350	23.62	600	4135.8	1876
20*16	500*450	17.16	436	19.25	489	47	1194	26.89	683	15.83	402	23.62	600	5564.4	2524
22*18	550*450	17.16	436	21.26	540	51	1295	29.45	748	17.56	446	23.62	600	5357.1	2430
24*20	600*500	19.17	487	23.27	591	55	1397	33.82	854	19.73	495	23.62	600	7583.8	3440
26*22	650*550	21.18	538	25.00	635	57	1448	33.82	917	19.73	495	23.62	600	7583.8	3440
28*24	700*600	23.19	589	27.01	686	61	1549	35.10	958	20.91	531	31.50	800	9369.5	4250
30*24	750*600	23.19	589	29.02	737	65	1651	37.72	958	21.89	556	31.50	500	10427.7	4730
32*26	800*650	24.92	633	30.75	781	70	1778	37.72	1035	21.89	556	31.50	500	10427.7	4730
34*28	850*700	26.93	684	32.76	832	76	1930	42.80	1087	26.22	666	31.50	800	15873.0	7200
36*30	900* 750	28.94	735	34.49	876	82	2083	43.46	1104	28.22	606	31.50	800	18959.4	8600
40*34	1000*850	32.68	830	38.50	978	76.0	2337	45.00	1143	28.27	718	31.50	800	22089.9	10020

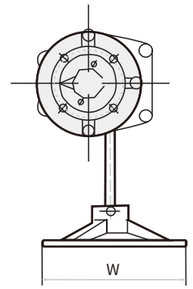
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

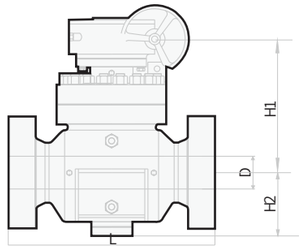
Main dimensions and weight

Class900/15.0MPa

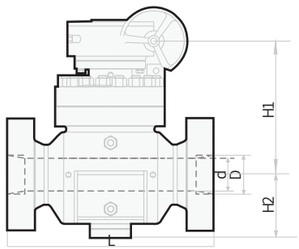
Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	1.93	49	14.5	368	8.11	206	4.45	113	18.11	460	143.3	65
3	80	2.91	74	15.0	381	12.40	315	5.08	129	39.37	1000	202.8	92
4	100	3.94	100	18.0	457	12.99	330	6.65	169	59.06	1500	339.5	154
6	150	5.91	150	24.0	610	13.58	345	5.83	148	11.81	300	804.4	392
8	200	7.91	201	29.0	737	16.34	415	7.28	185	15.75	400	1351.4	613
10	250	9.92	252	33.0	838	16.81	427	8.90	226	19.69	500	1807.8	820
12	300	11.93	303	38.0	965	18.31	465	10.59	269	23.62	600	2480.2	1125
14	350	12.67	322	40.5	1029	20.43	519	11.81	300	23.62	600	3549.4	1610
16	400	14.69	373	44.5	1130	25.12	638	13.78	350	23.62	600	4431.2	2010
18	450	16.65	423	48.0	1219	26.89	683	15.83	402	23.62	600	6194.9	2810
20	500	18.54	471	52.0	1321	29.45	748	17.56	446	23.62	600	8730.2	3960
22	550	20.55	522	56.0	1423	33.62	854	19.73	492	23.62	600	9722.2	4410
24	600	22.44	570	61.0	1549	38.10	917	20.91	531	31.50	800	17901.0	8120
28	700	26.18	665	69.0	1753	37.72	958	21.89	556	31.50	800	22491.2	10202
30	750	28.03	712	74.0	1880	40.75	1035	24.41	620	31.50	800	25617.3	11620

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	1.93	49	2.99	76	15.0	381	8.11	206	4.45	113	10.43	265	156.5	71
4*3	100*80	2.91	74	4.02	102	18.0	457	12.40	316	5.08	129	15.57	400	244.7	111
6*4	150*100	3.94	100	5.98	152	24.0	610	12.99	330	6.65	169	29.53	750	471.8	214
8*6	200*150	5.91	150	7.99	203	29.0	737	13.58	345	5.83	148	11.81	300	1058.2	480
10*8	250*200	7.91	201	10.00	254	33.0	838	16.34	415	7.28	185	11.81	300	1433.0	650
12*10	300*250	9.92	252	12.01	305	38.0	965	16.81	427	8.90	226	15.75	400	1913.6	868
14*10	350*300	11.93	303	12.76	324	40.5	1029	18.31	465	10.59	269	19.69	500	2888.0	1310
16*12	400*350	12.67	322	14.76	375	44.5	1130	20.43	579	11.81	300	23.62	600	4034.4	1830
18*14	450*400	14.69	373	16.73	425	48.0	1219	25.12	638	13.78	350	23.62	600	4861.1	2205
20*16	500*450	16.65	423	18.62	473	52.0	1321	26.89	683	15.83	402	23.62	600	6922.4	3140
22*18	550*450	16.65	423	20.63	524	56.0	1423	29.45	748	17.56	446	23.62	600	7248.7	3288
24*20	600*500	18.54	471	22.52	572	61.0	1549	33.62	854	19.73	492	23.62	600	10582.0	4800
28*24	700*550	20.55	522	26.26	667	69.0	1753	38.10	917	20.91	531	31.50	800	16710.8	7580
30*24	750*600	22.44	570	28.11	714	74.0	1880	37.72	958	21.89	556	31.50	800	17594.8	7981

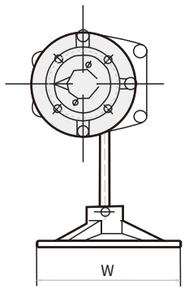
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

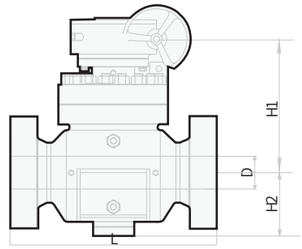
Main dimensions and weight

Class1500/25.0MPa

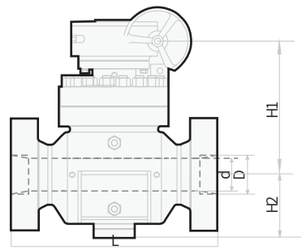
Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	1.93	49	14.5	368	8.70	221	5.12	130	29.53	750	132.3	60
3	80	2.91	74	18.5	470	11.69	297	5.98	152	11.81	300	253.5	115
4	100	3.94	100	21.5	546	13.58	345	8.54	186	11.81	300	427.7	194
6	150	5.67	144	27.75	705	14.37	365	7.65	192	15.57	400	1278.7	580
8	200	7.55	192	32.75	832	16.65	423	9.37	238	19.96	500	1857.8	752
10	250	9.41	239	39	991	22.05	560	10.79	274	23.62	600	2634.5	1195
12	300	11.30	287	44.5	1130	23.94	608	12.53	318	23.62	600	4784.0	2170
14	350	12.4	315	49.5	1257	26.06	662	19.02	483	23.62	600	4860.3	2250
16	400	14.17	360	54.5	1384	31.34	796	21.02	534	23.62	600	6084.7	2780
18	450	15.98	406	60.5	1537	33.43	849	23.86	606	23.62	600	8037.9	3646
20	500	17.87	454	65.5	1664	37.95	964	27.01	686	31.50	600	8814.0	4497
22	550	19.69	500	51.0	1820	40.35	1025	28.78	731	31.50	800	12634.5	5731
24	600	21.50	546	55.0(48.5)	1927	41.93	1065	30.51	775	31.50	800	15765.0	7151
26	650	23.38	594	61.0	1549	41.93	1065	30.51	775	31.50	800	15765.0	7151

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	1.93	49	2.99	76	18.5	470	8.70	221	5.12	130	29.53	750	132.3	60
4*3	100*80	2.91	74	4.02	102	21.5	546	11.69	297	5.98	152	11.81	300	253.5	115
6*4	150*100	3.94	100	5.98	152	27.75	705	13.58	345	8.54	186	11.81	300	427.7	194
8*6	200*150	5.67	144	7.99	203	32.75	832	14.37	365	7.65	192	15.57	400	1278.7	580
10*8	250*200	7.55	192	10.00	254	39	991	16.65	423	9.37	238	19.96	500	1857.8	752
12*10	300*250	9.41	239	12.01	305	44.5	1130	22.05	560	10.79	274	23.62	600	2634.5	1195
14*10	350*300	11.3	287	13.27	337	49.5	1257	23.94	608	12.53	318	23.62	600	4784.0	2170
16*12	400*350	12.4	315	15.24	387	54.5	1384	26.06	662	19.02	483	23.62	600	4860.3	2250
18*14	450*400	14.17	360	17.24	438	60.5	1537	31.34	796	21.02	534	23.62	600	6084.7	2780
20*16	500*450	15.98	406	19.25	489	65.5	1664	33.43	849	23.86	606	23.62	600	8037.9	3646
22*18	550*500	17.87	454	21.26	540	51.0	1820	37.95	964	27.01	686	31.50	600	8814.0	4497
24*20	600*550	19.69	500	23.27	591	55.0(48.5)	1927	40.35	1025	28.78	731	31.50	800	12634.5	5731
28*24	700*600	21.5	546	27.01	686	61.0	1549	41.93	1065	30.51	775	31.50	800	15765.0	7151

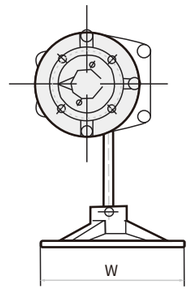
Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore



Worm Gear operation

Main dimensions and weight

Class2500/32~42.0MPa

Full bore													
Nominal Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
2	50	1.65	42	17.75	451	9.06	230	4.76	121	11.81	300	198.4	90
3	80	2.44	62	22.75	578	11.18	284	5.75	148	15.57	400	440.9	200
4	100	3.42	87	46.5	673	11.93	303	6.46	164	15.57	400	848.8	385
6	150	5.16	131	36	914	15.51	394	8.66	220	23.62	600	1715.2	778
8	200	7.04	179	40.25	1022	19.21	488	12.28	312	23.62	600	2980.6	1352
10	250	8.78	223	50	1270	23.02	600	16.73	425	23.62	600	4711.2	2137
12	300	10.43	265	56	1422	34.33	872	24.76	629	29.92	760	7202.4	3267

Reduced-bore															
Nominal Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
3*2	80*50	1.65	42	2.99	76	22.75	578	9.06	230	4.76	121	11.81	300	198.4	90
4*3	100*80	2.44	62	4.02	102	46.5	673	11.18	284	5.75	148	15.57	400	440.9	200
6*4	150*100	3.42	87	5.98	152	36	914	11.93	303	6.46	164	15.57	400	848.8	385
8*6	200*150	5.16	131	7.99	203	40.25	1022	15.51	394	8.66	220	23.62	600	1715.2	778
10*8	250*200	7.04	179	10.00	254	50	1270	19.21	488	12.28	312	23.62	600	2980.6	1352
12*10	300*250	8.78	223	12.01	305	56	1422	23.02	600	16.73	425	23.62	600	4711.2	2137

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.

Floating Ball Valve

Design Features

Floating ball valve design features

Valve Stem blow-out proof Design

The valve stem and the ball are independent, and one end of thevalve stem close to the ball is designed into an integralT-shapedstructure.It is protected by the boss on the valve body to ensurethat the valve stem is not blown out under any pressure and actsas an upper seal.(Figure 1)

Anti-static device

Anti-static device is the standard design of floating ball valve. The valve stem is equipped with a spring grounding plug, so that the ball,the valve stem and the valve body are kept in continuous contact to form a conducting circuit, which can transfer the charge, thus avoiding the accumulation of static electricity caused by friction when the valve is opened and closed. This buildup of static electricity is extremely dangerous for certain operating conditions. (Figure 2)

Fire safety design

In the fire environment, when the non-metallic sealing material is damaged or decomposed by high temperature, the ball contacts with the metal lip-shaped valve seat of the soft sealing valve seat under the push of pressure to realize the metal-to-metal sealing, thereby cutting off the fluid and reducing the internal leakage. In addition, the fireproof metal valve seat can prevent the mediumpressure from eroding the soft seal valve seat and reduce the creep deformation of the soft seal valve seat. The fire protection design of all floating ball valves meets the API607 standard, and the fire protection test certification witnessed by the third party has been carried out.

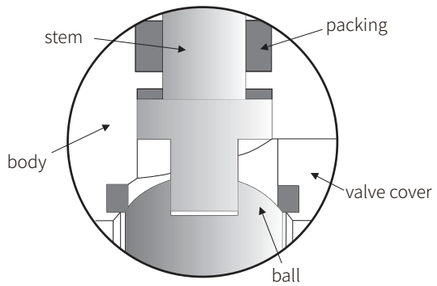


Figure 1

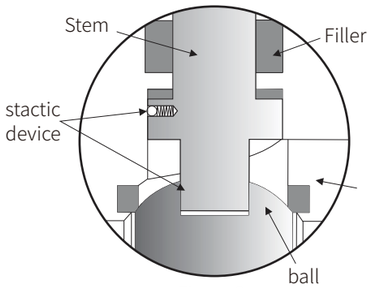


Figure 2

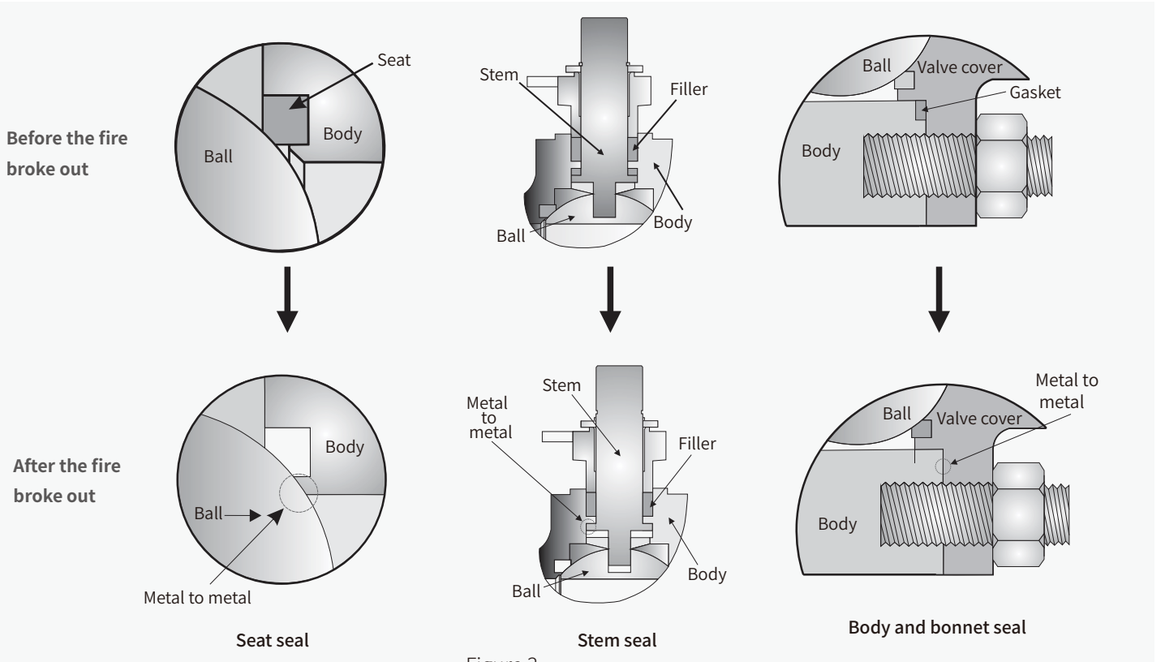


Figure 3

Cast Steel Floating

ball valve



Design features

①Valve stem head design of double D type:

Ensure that the handle is, installed correctly,the handle is always consistent tindicate the switch position. and prevent blowing out.

②Valve, stem design:

The bottom of the valve stem is designed as a T-shaped structure and an integral boss on the valve body to ensure that the valve stem is not blown out by pressure

③ISO 5211 connection size:

International standard connection size is adopted to simplify the installation and execution structure

④Fireproof design:

After the non-metallic sealing material is damaged by fire, it can realize metal-to-metal sealing to cut off the valve fluid.

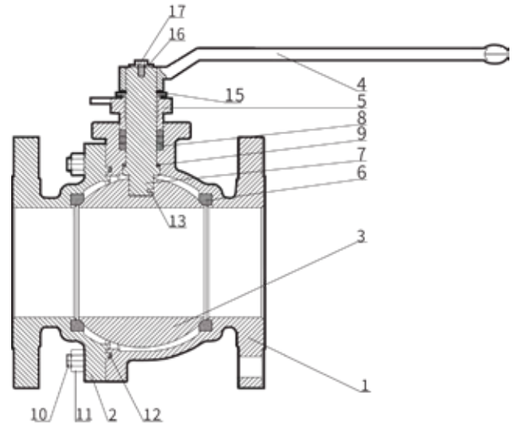
⑤Leak-proof gasket:

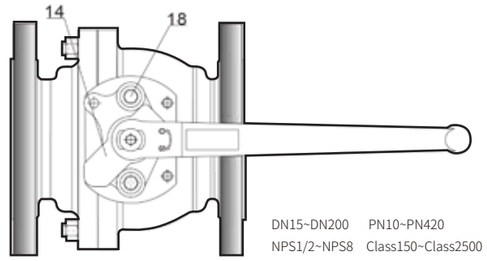
Use low-leakage graphite gasket to avoid leakage

Technical specification

Design reference		API	ASME	ГОСТ
Design standard		API 6D	ASME B16.34	/
Structural length	Flanged ends	API 6D	ASEM B16.10	/
	Welded connection			
Connecting flange		ASME B16.5/ASME B16.47		ГОСТ 33259 ГОСТ 12815
Butt-welding ends		ASME B16.25		
Test & inspection		API 6D	API598	ГОСТ 9544

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.



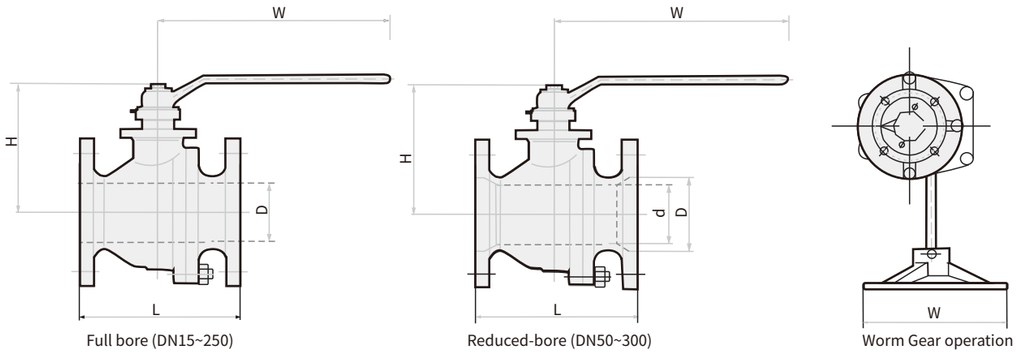


DN15~DN200 PN10~PN420
NPS1/2~NPS8 Class150~Class2500

Main material

	Part Name	Main Material
1	Body	WCB,LCB,LCC,4A,CF8,CF3,CF3M,CF8M,G20Mn5,F51 A105,LF2,F304,F304L,F316,F316L,F321,F416,F440C, 17-4PH,Inconel,Monel,Alloy steel,Aluminium Bronze
2	Cover	
3	Ball	A105,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51,Inconel,Monel,Alloy steel,Aluminium Bronze
4	Handle	WCB,CF8
5	Paking gland	Consistent with body
6	Seat	PTFE, RPTFE ,DEV, NLY ,PPL ,POM, PEEK, +STL, +TCC,+Ni60
7	Stem	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
8	Packing	Graphite
9	Thrust Washer	PTFE
10	Stud	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
11	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
12	Spiral wound gasket	Stainless steel+Graphite
13	Anti-static device	IncX 750
14	Locating piece	Carbon steel / Stainless ste
15	Shaft snap ring	Carbon steel / Stainless ste
16	Plain washer	Carbon steel / Stainless ste
17	Hexagon-headed bolt	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
18	Soket head cap screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze

Notes: Major parts ofthe valve series and materials ofsealing surface differ according to actuaworking condition andcustomer sspecialrequirement.



Full bore (DN15~250) | Reduced-bore (DN50~300) | Worm Gear operation

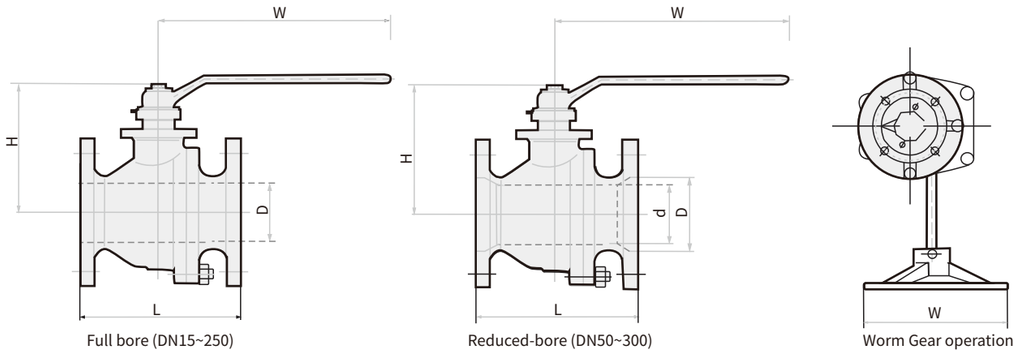
Main dimensions and weight

Class150

Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	12.7	4.52	108	2 32	59	5.12	130	4.0	1.6
3/4	20	0.75	19	4.61	117	2.48	63	5.12	130	4.4	2.0
1	25	0.98	25	5.00	127	2.99	76	6.30	160	7.9	3.6
1-1/4	32	1.25	31.8	5.51	140	3.82	76	6.30	230	15.9	7.1
1-1/2	40	1.50	38	6.50	165	3 82	97	9.06	230	15.9	7.2
2	50	1.93	49	7	178	4.21	107	9.06	230	24.5	11.1
2-1/2	65	2.44	62	7.5	191	5.59	142	15.57	400	30.9	14.0
3	80	2.91	74	8	203	5.98	152	15.57	400	48.5	22.0
4	100	3.94	100	9	229	7.01	178	27.56	700	116.8	53.0
5	125	5.00	127	14.02	★358	9.92	252	43.31	1100	127.9	58.0
6	150	5.91	150	15.5	394	10.71	272	11.81	300*	238 7	108.0
8	200	7.91	201	18	457	13.46	342	11.81	300*	429.9	195.0

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
3/4×1/2	20x15	0.50	12.7	0.75	19	4.61	117	3.23	82	5.12	130	6.6	3.0
1×3/4	25×20	0.75	19	1.00	25	5.00	127	3.35	85	5.12	130	9.9	4.5
1-1/2×1	40x25	0.98	25	1.50	38	6.50	165	3.94	100	6.30	160	15.4	7.0
2×1-1/2	50x40	1.5	38	2.0	51	7	178	4.53	115	9.06	230	19.8	9.0
2-1/2×2	65x50	1.93	49	2.5	64	7.5	191	4.72	120	9.06	230	33.1	15.0
3×2	80x50	1.93	49	3.0	76	8	203	6.02	153	15.57	400	35.3	16.0
4×3	100x80	2.91	74	4.0	102	9	229	6.38	162	15.57	400	65.0	29.5
6×4	150x100	3.94	100	6.0	152	15.5	394	7.52	191	18.11	460	105.8	48.0
8×6	200x150	5.91	150	8.0	203	18	457	11.42	290	11.81	300*	271.2	123.0
10×8	250x200	7.91	201	10.0	254	21	533	13.39	340	11.81	400*	408.6	218.0

Notes: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore (DN15~250) | Reduced-bore (DN50~300) | Worm Gear operation

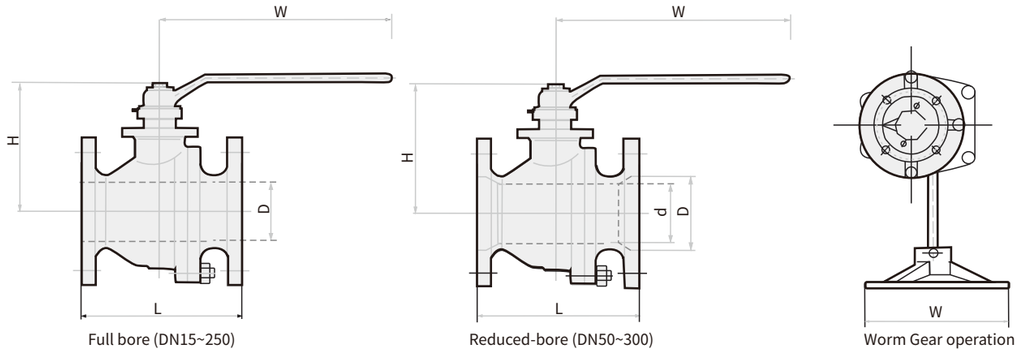
Main dimensions and weight

Class300

Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	12.7	5.51	140	2.32	59	5.12	130	5.1	2.3
3/4	20	0.75	19	5.98	152	2.48	83	5.12	130	7.9	3.6
1	25	0.98	25	6.50	165	2.99	76	6.30	160	11.2	5.1
1-1/2	40	1.50	38	7.48	190	3.82	97	9.06	230	22.0	10.0
2	50	1.93	49	8.50	216	4.21	107	9.06	230	30.9	14.0
2-1/2	65	2.44	62	9.5	241	5.59	142	15.57	400	50.7	23.0
3	80	2.91	74	11.13	283	5.98	152	15.57	400	67.5	30.0
4	100	3.94	100	12	305	7.01	178	27.56	700	110.2	50.0
5	125	5.00	127	15.88	★381	9.92	252	43.31	1100	205.0	93.0
6	150	5.91	150	15.87	403	10.71	272	11.81	300*	255.7	116.0
8	200	7.91	201	19.75	502	13.46	342	11.81	300*	517.0	234.5

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
¾×½	20x15	0.50	12.7	0.75	19	5.98	152	3.23	82	5.12	130	7.7	3.5
1×¾	25×20	0.75	19	1.00	25	6.50	185	3.35	85	5.12	130	12.1	5.5
1½×1	40x25	0.98	25	1.50	38	7.48	190	3.94	100	6.30	160	22.0	10.0
2×1½	50x40	1.50	38	2.0	51	8.50	216	4.53	115	9.06	230	24.3	11.0
2½×2	65x50	1.93	49	2.5	64	9.5	241	4.72	120	9.06	230	51.8	23.5
3×2	80x50	1.93	49	3.0	76	11.3	283	6.02	153	15.57	400	66.1	30.3
4×3	100x80	2.91	74	4.0	102	12	305	6.38	162	15.57	400	86.0	39.0
6×4	150x100	3.94	100	6.0	1552	15.88	403	7.52	191	18.11	460	159.8	72.5
8×6	200x150	5.91	150	8.0	203	19.75	502	11.42	290	11.81	300*	326.3	148.0
10×8	250x200	7.91	201	10.0	254	22.38	568	13.39	340	11.81	300*	705.5	320.0

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Main dimensions and weight

Class600

Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	12.7	6.5	165	2.76	70	5.12	130	4.0	1.6
3/4	20	0.75	19	7.5	190	2.48	63	5.12	130	4.4	2.0
1	25	0.98	25	8.5	216	2.98	75.5	6.30	160	7.9	3.6
1½	40	1.50	38	9.5	241	4.59	116.5	9.06	230	15.9	7.2
2	50	1.93	49	11.5	292	5.04	128	9.06	230	24.5	11.1
2½	65	2.44	62	13.0	330	6.70	170	15.57	400	30.9	14.0
3	80	2.91	74	14.0	356	7.19	182.5	15.57	400	48.5	22.0
4	100	3.94	100	17.0	432	8.26	214	27.56	700	116.8	53.0

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
¾×½	20x15	0.50	12.7	0.75	19	7.5	190	2.76	70	5.12	130	4.4	2.0
1×¾	25×20	0.75	19	1.00	25	8.5	216	2.48	63	5.12	130	5.3	2.4
1½×1	40x25	0.98	25	1.50	38	9.5	241	2.96	75.5	6.30	160	9.5	4.3
2×1½	50x40	1.50	38	2.0	51	11.5	292	4.59	116.5	9.06	230	19.0	8.6
2½×2	65x50	1.93	49	2.5	64	13.0	330	5.04	128	15.57	400	29.5	13.4
3×2	80x50	1.93	49	3.0	76	14.0	356	5.04	128	15.57	400	40.5	18.4
4×3	100x80	2.91	74	4.0	102	17.0	432	7.19	182.5	27.56	700	58.0	26.4
6×4	150x100	3.94	100	6.0	152	22.0	559	8.26	214	11.81	300*	140.2	63.4

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.

Forged steel Floating
Ball Valve



Design features

①Valve stem head design of double D type:
Ensure that the handle is, installed correctly,the handle is always consistent tindicate the switch position. and prevent blowing out.

②Valve, stem design:
The bottom of the valve stem is designed as a T-shaped structure and an integral boss on the valve body to ensure that the valve stem is not blown out by pressure

③ISO52 ll connection size:
International standard connection size is adopted to simplify the installation and execution structure

④Fireproof design:
After the non-metallic sealing material is damaged by fire, it can realize metal-to-metal sealing to cut off the valve fluid.

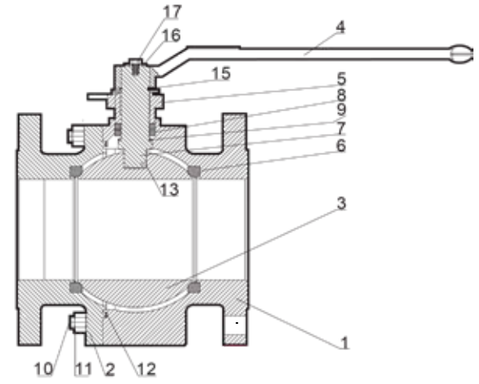
⑤Leak-proof gasket:
Use low-leakage graphite gasket to avoid leakage

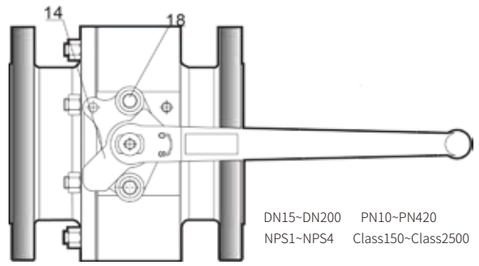


Technical specification

Design reference		API	ASME	ГОСТ
Design standard		API 6D	ASME B16.34	/
Structural length	Flanged ends	API 6D	ASEM B16.10	/
	Welded connection			
Flanged ends		ASME B16.5/ASME B16.47		ГОСТ 33259 ГОСТ 12815
Butt-welding ends		ASME B16.25		
Test & inspection		API 6D	API598	ГОСТ 9544

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.

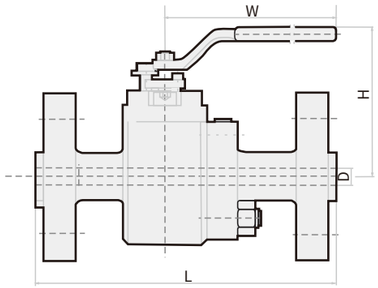




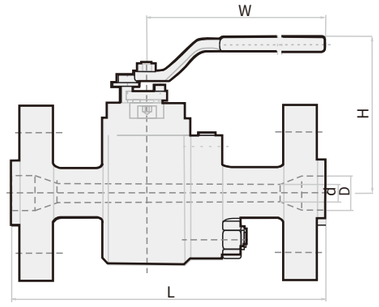
Main material

	Part Name	Main Material
1	Body	WCB,LCB,LCC,4A,CF8,CF3,CF3M,CF8M,G20Mn5,F51 A105,LF2,F304,F304L,F316,F316L,F321,F416,F440C, 17-4PH,Inconel,Monel,Alloy steel,Aluminium Bronze
2	Cover	
3	Ball	A105,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51,In-conel,Monel,Alloy steel,Aluminium Bronze
4	Handle	WCB,CF8
5	Paking gland	Consistent with body
6	Seat	PTFE, RPTFE ,DEV, NLY ,PPL ,POM, PEEK, +STL, +TCC,+Ni60
7	Stem	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
8	Packing	Graphite
9	Thrust Washer	PTFE
10	Stud	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
11	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
12	Spiral wound gasket	Stainless steel+Graphite
13	Anti-static device	IncX-750
14	Locating piece	Carbon steel / Stainless ste
15	Shaft snap ring	Carbon steel / Stainless ste
16	Washer	Carbon steel / Stainless ste
17	Hexagon-headed bolt	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
18	Soket head cap screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze

Notes: Major parts ofthe valve series and materials ofsealing surface differ according to actuaworking condition andcustomer sspecialrequirement.



Full bore



Reduced-bore

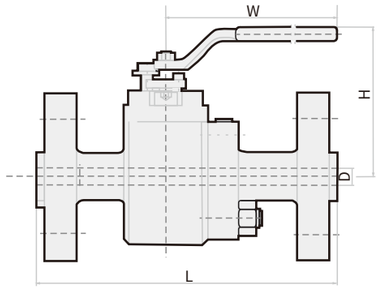
Main dimensions and weight

Class150/PN16

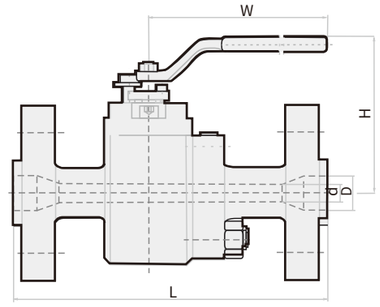
Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	12.7	4.25	108	2.68	68	5.12	130	8.6	3
3/4	20	0.75	19	4.26	117	2.80	71	5.12	130	8.8	4.0
1	25	0.98	25	5.0	127	3.37	85.5	6.30	160	13.2	6
1-1/4	32	1.25	32	5.51	140	3.62	92	6.30	160	2 1.0	9.5
1-1/2	40	1.50	38	6.5	165	3.84	97.5	9.06	230	26.4	12
2	50	1.93	49	7	178	4.31	265	13.78	350	37.4	17
2-1/2	65	2.44	62	7.5	191	5.31	135	13.78	350	41.8	19
3	80	2.91	74	8	203	5.95	151	15.57	400	48.4	22
4	100	3.94	100	9	229	6.63	165	27.56	700	101.2	46

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
3/4×1/2	20x15	0.50	12.7	0.75	19	4.61	117	2.68	68	5.12	130	7.48	3.4
1×3/4	25×20	0.75	19	1.00	25	5.0	127	2.80	71	5.12	130	11.0	5.0
1-1/2×1	40x25	0.98	25	1.50	38	6.5	165	3.37	85.5	8.30	160	18.5	8.4
2×1-1/2	50x40	1.50	38	2.0	51	7	178	3.84	97.5	9.06	230	42.9	19.5
3×2	80x50	1.93	49	3.0	76	8	203	4.31	109.5	15.75	400	53.68	24.4
4×3	100x80	2.91	74	4.0	102	9	229	5.95	151	27.56	700	82.5	37.5

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore

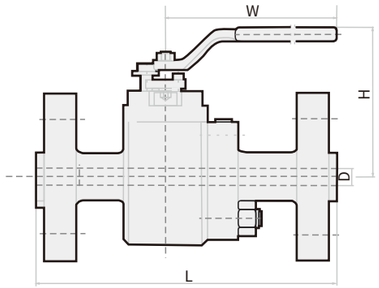
Main dimensions and weight

Class300/PN40

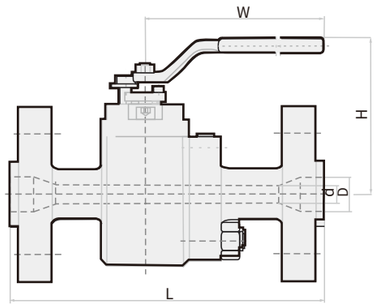
Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	12.7	5.5	140	2.08	68	5.12	130	8.8	4.0
3/4	20	0.75	19	6.0	152	2.80	71	5.12	130	13.2	6.0
1	25	0.98	25	6.5	165	3.37	85.5	6.30	160	15.0	6.8
1-1/4	32	1.25	32	7.0	178	3.62	92	6.30	160	20.9	9.5
1-1/2	40	1.50	38	7.5	190	3.84	97.5	9.06	230	26.4	12
2	50	1.93	49	8.5	216	4.31	109.5	13.78	350	40.26	18.3
2-1/2	65	2.44	62	9.5	241	5.31	135	13.78	350	70.4	32
3	80	2.91	74	11.13	283	5.95	151	15.57	400	83.6	38
4	100	3.94	100	12	305	6.63	168.5	27.56	700	171.6	78

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
3/4×1/2	20x15	0.50	12.7	0.75	19	6.0	152	2.68	68	5.12	130	7.48	4.8
1×3/4	25×20	0.75	19	1.00	25	6.5	165	2.80	71	5.12	130	10.0	5.5
1-1/2×1	40x25	0.98	25	1.50	38	7.5	190	3.37	85.5	8.30	160	18.5	9.6
2×1-1/2	50x40	1.50	38	2.0	51	8.5	216	3.84	97.5	9.06	230	42.9	4.8
3×2	80x50	1.93	49	3.0	76	11.13	283	4.31	109.5	15.75	400	53.68	30.5
4×3	100x80	2.91	74	4.0	102	12	305	5.95	151	27.56	700	82.5	57

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



Reduced-bore

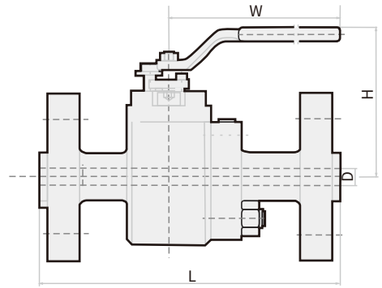
Main dimensions and weight

Class600/PN63~PN100

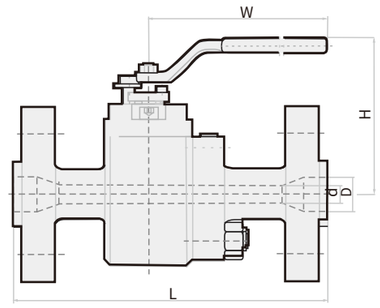
Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	12.7	5.5	140	2.08	68	5.12	130	8.8	4.0
3/4	20	0.75	19	6.0	152	2.80	71	5.12	130	13.2	6.0
1	25	0.98	25	6.5	165	3.37	85.5	6.30	160	15.0	6.8
1-1/4	32	1.25	32	7.0	178	3.62	92	6.30	160	20.9	9.5
1-1/2	40	1.50	38	7.5	190	3.84	97.5	9.06	230	26.4	12
2	50	1.93	49	11.5	292	4.31	109.5	13.78	350	40.26	18.3
2-1/2	65	2.44	62	13	330	5.31	135	13.78	350	70.4	32
3	80	2.91	74	14	356	5.95	151	15.57	400	83.6	38
4	100	3.94	100	17	432	6.63	168.5	27.56	700	171.6	78

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
3/4×1/2	20x15	0.50	12.7	0.75	19	6.0	152	2.68	68	5.12	130	7.48	4.8
1×3/4	25×20	0.75	19	1.00	25	6.5	165	2.80	71	5.12	130	10.0	5.5
1-1/2×1	40x25	0.98	25	1.50	38	7.5	190	3.37	85.5	8.30	160	18.5	9.6
2×1-1/2	50x40	1.50	38	2.0	51	11.5	292	3.84	97.5	9.06	230	42.9	4.8
3×2	80x50	1.93	49	3.0	76	13	356	4.31	109.5	15.75	400	53.68	30.5
4×3	100x80	2.91	74	4.0	102	14	432	5.95	151	27.56	700	82.5	57

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.



Full bore



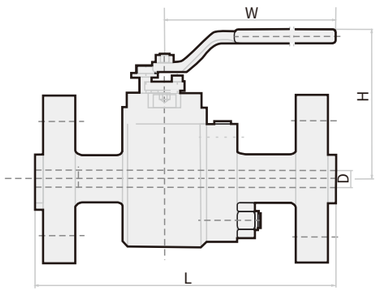
Reduced-bore

Main dimensions and weight

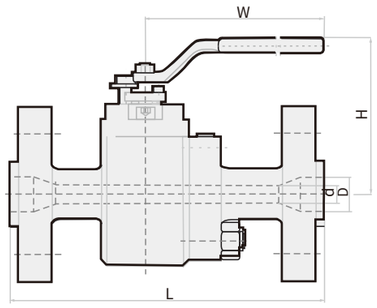
Class900/15.0MPa

Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	12.7	8.5	216	4.21	107	5.91	150	18.7	8.5
3/4	20	0.75	19	9.0	229	5.08	129	7.09	180	24.3	11.0
1	25	0.98	25	10.1	254	5.93	150.5	9.06	230	35.3	16.0
1-1/2	40	1.5	38	12.0	305	7.72	196	11.81	300	72.8	33.0
2	50	1.93	49	14.5	368	9.00	228.5	14.57	370	99.2	45.0

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
1/2×3/8	15x10	0.37	9.5	0.5	12.7	8.5	218	3.15	80	4.45	113	15.43	7.0
3/4×1/2	20x15	0.5	12.7	0.75	19	9.02	229	4.21	107	5.91	150	22.0	10.0
1×3/4	25 x20	0.75	19	1	25	10.0	254	5.08	129	7.09	180	33.1	15.0
1-1/2×1	40x25	0.98	25	1.5	38	12.0	305	5.93	150.5	9.06	230	62.84	28.5
2×1-1/2	50x40	1.5	38	2	69	14.5	368	7.72	196	11.81	300	88.2	40.0



Full bore



Reduced-bore

Main dimensions and weight

Class1500/25.0MPa

Full bore											
Nominal Size		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	Lb	kg
1/2	15	0.50	12.7	8.5	216	4.21	107	5.91	150	18.7	8.5
3/4	20	0.75	19	9.0	229	5.08	129	7.09	180	24.3	11.0
1	25	0.98	25	10.1	254	5.93	150.5	9.06	230	35.3	16.0
1-1/2	40	1.5	38	12.0	305	7.72	196	11.81	300	72.8	33.0
2	50	1.93	49	14.5	368	9.00	228.5	14.57	370	141.1	64

Class2500/42.0MPa

Reduced-bore													
Nominal Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Lb	Kg
1/2×3/8	15x10	0.37	9.5	0.5	13	8.5	264	3.15	80	4.45	113	15.43	7.0
3/4×1/2	20x15	0.5	12.7	0.75	19	9.02	273	4.21	107	5.91	150	22.0	10.0
1×3/4	25x20	0.75	19	1	25	10.0	308	5.08	129	7.09	180	33.1	15.0
1-1/2×1	40x25	0.98	25	1.5	38	12.0	384	5.93	150.5	9.06	230	62.84	28.5

Note: The sizes in the table are stipulated by API standards. For other standard sizes, please contact our sales staff.

Multi-way
ball valve

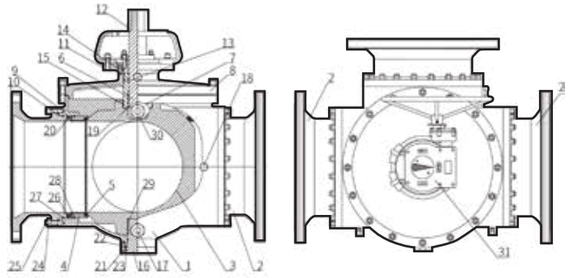


Technical specification

Design reference		API	ASME	ГОСТ
Design standard		API 6D	ASME B16.34	/
Structural length	Flanged ends	API 6D	ASEM B16.10	/
	Welded connection			
Flanged ends		ASME B16.5/ASME B16.47		ГОСТ 33259 ГОСТ 12815
Butt-welding ends		ASME B16.25		
Test & inspection		API 6D	API 598	ГОСТ 9544

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.





DN50~DN1200 PN10~PN420 NPS2~NPS48 Class150~Class2500

Main material

	Part Name	Main Material
1	Body	WCB,LCB, LCC,4A,CF8,CF3,CF3M,CF8M,G20Mn5,
2	Cover	Inconel,Monel,Alloy steel,Aluminium Bronze
3	Ball	A105,LF2,410,LF2,F304,F304L,F316,F316L,F321,F416, F440C,F51,Inconel,Monel,Alloy steel,Aluminium Bronze
4	Seat Retainer	A105,LF2,410,LF2,F304,F304L,F316,F316L,F321,F416, F440C,F51,Inconel,Monel,Alloy steel,Aluminium Bronze
5	Seat Seal	PTFE, RPTFE ,DEV, NLY ,PPL ,POM, PEEK, +STL, +TCC,+Ni60
6	Stem	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
7	Thrust Washer	PTFE
8	Gland flange	Matching with valve body
9	Flexible graphite braided filler	Graphite
10	Spiral wound gasket	SS+ Graphite
11	Connecting flange	Matching with valve body
12	Key	1035
13	O Ring	HNBR, VITON,VITON AED,VITON GTL
14	Soket head cap screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
15	Bearing	F304+PTFE,F316+PTFE,F51+PTFE
16	Trunnion	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
17	Drain plug	Component
18	Grease injection valve	Component
19	Anti static device	IncX-750
20	Spring	IncX-750
21	Soket head cap screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
22	Spiral wound gasket	SS+ Graphite
23	O Ring	HNBR, VITON,VITON AED,VITON GTL
24	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
25	Stud	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
26	Flexible graphite braided filler	Graphite
27	O Ring	HNBR, VITON,VITON AED,VITON GTL
28	O Ring	HNBR, VITON,VITON AED,VITON GTL
29	Bearing	F304+PTFE,F316+PTFE,F51+PTFE
30	Drain plug	Component
31	Worm Gear	Component

Notes: The main parts and materials of valve sealing surface series can be designed and selected according to actual working conditions or special requirements of users.
For specific valve size and installation size, please contact our sales staff to confirm or according to the data provided by users.

High Performance Metal to Metal Seal
ball valve



Design features

①Zhenshun company proudly provides high-performance metal sealed ball valves. The product adopts a special surface hardening treatment, which completely solves the problem of easy wear and frequent replacement of metal sealed ball valves under severe working conditions.
The metal hard-sealed ball valve developed by Zhenshun Company has the characteristics of low fluid resistance, unobstructed flow path, rapid opening and closing, and easy automatic control,and has been used more and more widely.

②The ball and valve seat of the metal sealed ball valve of Zhenshun Company are designed for different working conditions and requirements of users. A variety of advanced hardening technologies can be used, including supersonic spraying, nickel-based spray welding, special surface hardening, hard alloy spray welding and the use of high-strength a-harnd highdness ceramic materials. The surface hardness of the ball and valve seat can generally reach more than HRc60, and the special surface treatment of Zhenshun can reach HV1800 ~ 2000. The temperature resistance of the sealing surface material is generally up to 540 °C and up to 980 °C. The bonding strength of the material can reach more than 10000PSI. The sealing surface material also has good wear resistance, impact resistance and other properties. Zhenshun metal hard seal ball valve can be applied to most of the harsh working conditions.

Technical specification

Pressure Norminal:
CL150LB ~ CL2500LB (PN16-PN420)
Diameter Norminal:
½"~ 48" (DN15-DN1200)
Ball Valve Features:
Side Entry, Split Body 3pcs,Top-mounted; Floating ball or fixed ball; Stem anti-blowout, anti-static design, fire safe design.
Design standards:
Comply with the requirements of API6D and ASME B16.34 or the national and international standards specified by the customer.
Face to Face & Connection standards:
Face to face per ASME B16.10, weld ends per ASME B16.25, flanges per ASME B16.5, ASME B16.47 and other customer specified standards.
Fugitive Emission Test:
In accordance with ISO 15848 requirements
Fire safe design:
In accordance with API607 requirements.
Test & Inspection:
In accordance with API 598, API 6D requirements and other national and international standards as specified by the customer.
Temperature:
-60°C ~ +535°C
Material Option:
Carbon steel, Low Temperature Carbon Steel, Stainless Steel, Alloy Steel, Duplex Stainless Steel, and other special alloys.
Operation:
Manual Lever, Manual Gear, Pneumatic Actuator, Electric Actuator,Hydraulic Actuator, Gas over Oil Actuator, etc.



Doulbe Block & Bleed
ball valve

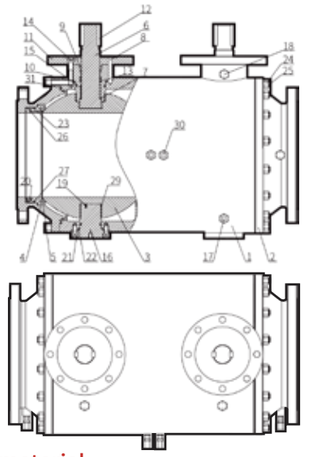


Technical specification

Design reference		API	ASME	ГОСТ
Design standard		API 6D	ASME B16.34	/
Structural length	Flanged ends	API 6D	ASEM B16.10	/
	Welded connection			
Flanged ends		ASME B16.5/ASME B16.47		ГОСТ 33259 ГОСТ 12815
Butt-welding ends		ASME B16.25		
Test & inspection		API 6D	API 598	ГОСТ 9544

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.





DN50~DN900
PN10~PN420

NPS2~NPS36
Class150~Class2500

Main material

	Part Name	Main Material
1	Body	F51,A105,LF2,F304,F304L,F316,F316L,F321, F416,F440C,17-4PH,Inconel, Monel,Alloy steel,Aluminium Bronze
2	Cover	
3	Ball	A105,LF2,410,LF2,F304,F304L,F316,F316L,F321,F416, F440C,F51,Inconel,Monel,Alloy steel,Aluminium Bronze
4	Seat Retainer	A105,LF2,410,LF2,F304,F304L,F316,F316L,F321,F416, F440C,F51,Inconel,Monel,Alloy steel,Aluminium Bronze
5	Seat Seal	PTFE, RPTFE ,DEV, NLY ,PPL ,POM, PEEK, +STL, +TCC,+Ni60
6	Stem	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
7	Thrust Washer	PTFE
8	Pin	1035/SS
9	Flexible graphite braided filler	Graphite
10	Spiral wound gasket	SS+ Graphite
11	Connecting flange	Matching with valve body
12	Key	1035
13	O Ring	HNBR, VITON,VITON AED,VITON GTL
14	Soket head cap screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
15	Bearing	F304+PTFE,F316+PTFE,F51+PTFE
16	Trunnion	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
17	Drain plug	Component
18	Grease injection valve	Component
19	Anti static device	IncX-750
20	Spring	IncX-750
21	Soket head cap screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
22	Spiral wound gasket	SS+ Graphite
23	O Ring	HNBR, VITON,VITON AED,VITON GTL
24	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
25	Stud	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
26	Flexible graphite braided filler	Graphite
27	O Ring	HNBR, VITON,VITON AED,VITON GTL
28	Spiral wound gasket	SS+ Graphite
29	Bearing	F304+PTFE,F316+PTFE,F51+PTFE
30	Drain plug	Component

Notes: The main parts and materials of valve sealing surface series can be designed and selected according to actual working conditions or special requirements of users. For specific valve size and installation size, please contact our sales staff to confirm or according to the data provided by users.

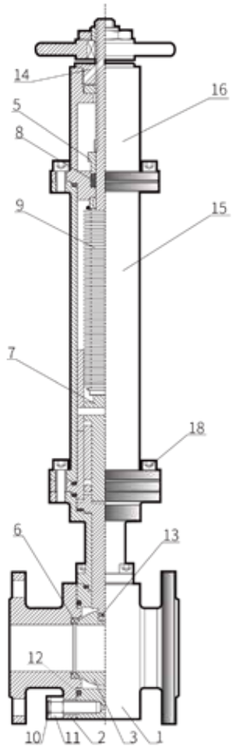
Bellows
ball valve



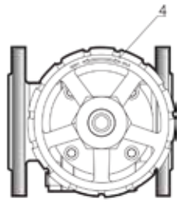
Technical specification

Design reference		API	ASME	ГОСТ
Design standard		API 6D	ASME B16.34	/
Structural length	Flanged ends	API 6D	ASEM B16.10	/
	Welded connection			
Flanged ends		ASME B16.5/ASME B16.47		ГОСТ 33259 ГОСТ 12815
Butt-welding ends		ASME B16.25		
Test & inspection		API 6D	API 598	ГОСТ 9544

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.



DN50~DN150 PN10~PN50
NPS1/2~NPS6 Class150~Class300



Main material

	Part Name	Main Material
1	Body	F51,A105,LF2,F304,F304L,F316,F316L,F321, F416,F440C,17-4PH,Inconel, Monel,Alloy steel,Aluminium Bronze
2	Cover	
3	Ball	
4	Hadle	WCB CF8
5	Paking gland	Matching with valve body
6	Seat	PTFE, RPTFE, DEV, NLY, PPL, POM ,PEEK ,+STL, +TCC ,+Ni60
7	Stem	410,LF2,F304,F304L,F316,F316L,F321,F416,F440C,F51, Inconel,Monel,Alloy steel,Aluminium Bronze
8	Packing	Graphite
9	Bellows	Stainless steel
10	Stud	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze
11	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
12	Spiral wound gasket	Stainless steel+Graphite
13	Anti-static device	IncX-750
14	Valve-stem nut	Tin bronze
15	Extended Bonnet	F304 F316
16	Stem nut holder	F304 F316
17	Nut	2H,2HM,7,7M,Inconel,Monel,Alloy steel,Aluminium Bronze
18	Soket head cap screw	B7,B7M,L7,L7M,Inconel,Monel,Alloy steel,Aluminium Bronze

Notes: The main parts and materials of valve sealing surface series can be designed and selected according to actual working conditions or special requirements of users.
For specific valve size and installation size, please contact our sales staff to confirm or according to the data provided by users.

Cryogenic
ball valve



Double Packing Combination Diagram

Use



Cryogenic ball valves are suitable for various pipelines of 150Lb~900Lb,PN16~PN160, JIS10K and JIS20K. They are used tocut off or connect the medium in the pipeline. Different materials are used, and they can be applied to different temperature media.The lowest operating temperature is -196 . The driving mode of the low temperature ball valve is manual, worm gear drive, pneumaticor electric. The low temperature ball valve generally adopts flange connection, and can also be welded.

Characteristics of structure design and manufacturing

Cryogenic ball valves are used in low-temperature working conditions, especially in some dangerous media working conditions such as lique fied natural gas. Zhenshun Company has accumuated rich experience in the design, manufactur-ing and testing of low-temperature ball valves.

Use of materials

General steel will exhibit low-temperature brittleness at low temperatures. Therefore, selecting a suitable valve body material according to the lowest operating temperature of the low-temperature ball valve is a key to design and manufacturing. The minimum working temperature of the valve body material is shown in the table below. Low-teperature materials need to be subjected to low-temperature impact tests according to standard requirements to ensure the suitability of the materials at low temperatures. Packings, gaskets, bolts, and nuts also need to be made of materials suitable for low-temperature conditions.

Minimum working temperature of valve body material

Forged Steel		Cast	
Materials	Minimum operating temperature	Materials	Minimum operating temperature
ASTM A350 LF2	-46°C	ASTM A352 LCB	-46°C
		ASTM A352 LCC	-46°C
ASTM A350 LF5	-59°C	ASTM A352 LCI	-59°C
ASTM A350 LF9	-73°C	ASTM A352 LC2	-73°C
ASTM A350 LF3	-101°C	ASTM A352 LC3	-101°C
ASTM A182 F304	-196°C	ASTM A351 CF8	-196°C
ASTM A182 F304L	-196°C	ASTM A351 CF8M	-196°C
ASTM A182 F316	-196°C	ASTM A351 CF3	-196°C
ASTM A182 F316L	-196°C	ASTM A351 CF3M	-196°C



Features of structural design and manufacturing

According to the standard requirements, ball valves with temperature below -50 ° C are generally designed with extended bonnet structure. First, increase the packing temperature to ensure reliable sealing of valve stem packing. The neck length is generally designed according to the standard. If customers have special requirements, they canal so produce according to the contract requirements.
For a valve used for a cryogenic medium, when the valve is in the closed position, the volume of the cryogenic liquid medium remaining in the valve cavity will expand rapidly due to vaporization due to the temperature rise, resulting in an abnormal pressure rise in the valve cavity, thus causing a serious problem. Causing accidents such as valve rupture. Zhenshun ball valve has the function of automatic pressure relief in the middle cavity. When the pressure in the middle chamber rises abnormally, the medium in the middle chamber can push the valve to release pressure automatically by its own force, thus ensuring the safety of the valve.
According to the requirements of the contract, the low temperature test can be carried out to check the operating torque and sealing performance of the valve at low te mperature. The parts of the valve are treated at low temperature to ensure the stability of the shape and size of the parts at low temperature.

Main dimensions and weight

The main external connection dimensions of the cryogenic ball valve refer to the side-mounted floating ball valve and the trunnion mounted ball valve. The valve height dimension is based on the length of the extended bonnet, so the dimension standard is no longer listed.

Jacketed
ball valve



Technical specification

Pressure Norminal:
CL150LB ~ CL300LB (PN6-PN40)
Diameter Norminal:
½"~ 12" (DN15-DN300)
Ball Valve Features:
Welding type; Stem anti-blow out, anti-static design,fire safe design.
Design standards:
Comply with the requirements of API6D and ASME B16.34 or the national and international standards specified by the customer.
Face to Face & Connection standards:
Face to face per ASME B16.10, weld ends per ASME B16.25, flanges per ASME B16.5, ASME B16.47, and other customer specified standards.
Test & Inspection:
In accordance with API 598, API 6D requirements and other national and international standards as specified by the customer.
Temperature:
-29°C ~ 200°C
Material Option:
Carbon steel, Low Temperature Carbon Steel, Stainless Steel, Alloy Steel,Duplex Stainless Steel, and other special alloys.
Operation:
Manual Lever, Manual Gear, Pneumatic Actuator, Electric Actuator,Hydraulic Actuator, Gas over Oil Actuator, etc.

Design features

① The jacketed ball valve is designed with integral jacketed structure, which can keep the heat and cold more evenly. Compared with the general ball valve, the jacketed ball valve is smaller in size, lighter in weight, and has good sealing performance. The jacketed carbon steel pipe is more pressure-resistant and firm than the cast one. The jacket and the outside of the valve body are welded with the jacket nozzle, and the maximum allowable pressure of steam or cold water is 1MPa.

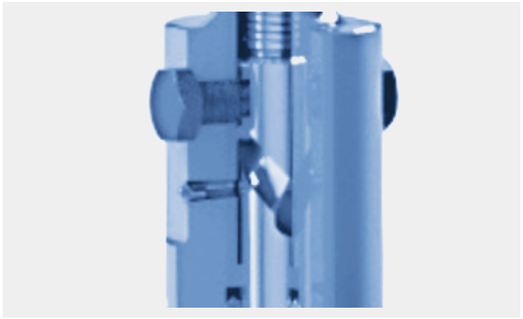
② The jacketed ball valve has good thermal insulation and cold preservation characteristics. The medium flows in a straight line same as the pipe diameter(except for the reduced jacketed ball valve) , which can effectively reduce the heat loss of the medium in the pipeline. Therefore, it has excellent performance for liquid medium with easy solidification and high viscosity.

Orbit
ball valve



Technical specification

Pressure Norminal:
CL150LB ~ CL900LB (PN16-PN150)
Diameter Norminal:
½"~ 24" (DN15-DN600)
Ball Valve Features:
Top-mounted; Stem anti-blowout,anti-static design,fire safe design.
Design standards:
Comply with the requirements of API6D and ASME B16.34 or the national and international standards specified by the customer.
Face to Face & Connection standards:
Face to face per ASME B16.10, weld ends per ASME B16.25, flanges per ASME B16.5, ASME B16.47, and other customer specified standards.
Fugitive Emission Test:
In accordance with ISO 15848 requirements.
Fire safe design:
IIn accordance with APl 607 requirements.
Test & Inspection:
In accordance with API 598, API 6D requirements and other national and international standards as specified by the customer.
Temperature:
-60°C ~ 345°C
Material Option:
Carbon steel, Low Temperature Carbon Steel, Stainless Steel, Alloy Steel,Duplex Stainless Steel, and other special alloys.
Operation:
Manual Lever, Manual Gear, Pneumatic Actuator, Electric Actuator,Hydraulic Actuator, Gas over Oil Actuator, etc.





Design features

① The opening and closing without friction. This function completely solves the problem that the sealing of traditional valves is affected by mutual friction between sealing surfaces.

② Top-mounted structure. The valves installed in the pipeline can be directly inspected and maintained online, which can effectively reduce the shut down of the device and reduce the cost.

③ Single valve seat design. The problem that the medium in the valve cavity is affected by abnormal pressure increase is eliminated.

④ Low torque design. The valve stem with special structural design can be easily opened and closed with only a small hand wheel valve.

⑤ Wedge seal structure. The valve is sealed by the mechanical force provided by the valve stem, which presses the ball wedge onto thevalve seat so that the sealing performance ofthe valve is not affected by the change of pipeline pressure difference, and the sealingperformance is reliably guaranteed under various workingconditions.

⑥ Self-cleaning structure of sealing surface. When the ball tilts away from the valve seat, the fluid in the pipeline passes evenly along the sealing surface of the ball at 360 degrees, which not only eliminates the local erosion of the valve seat by high-speed fluid, but also washes away the accumulation on the sealing surface, thus achieving the purpose of self-cleaning.