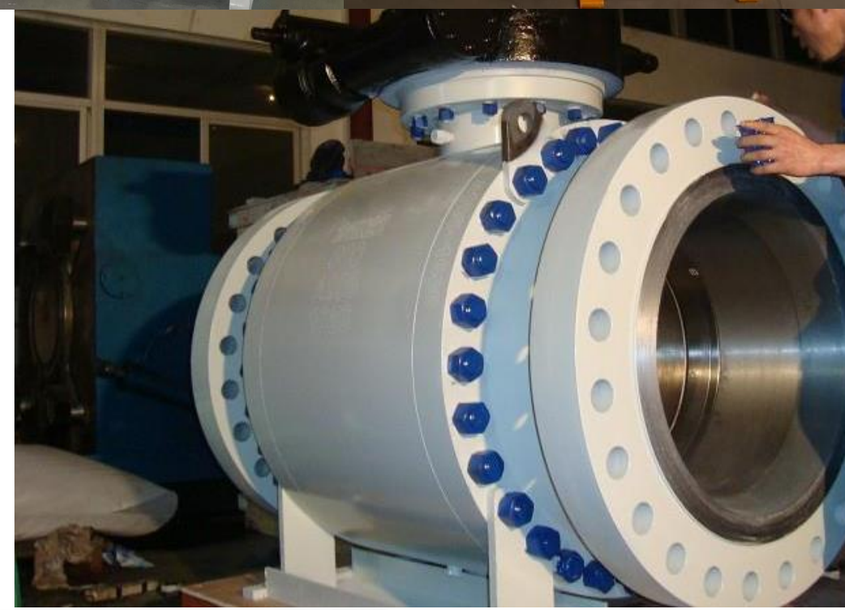
PIPELINE TRUNNION BALL VALVE



TRUNNION BALL VALVES

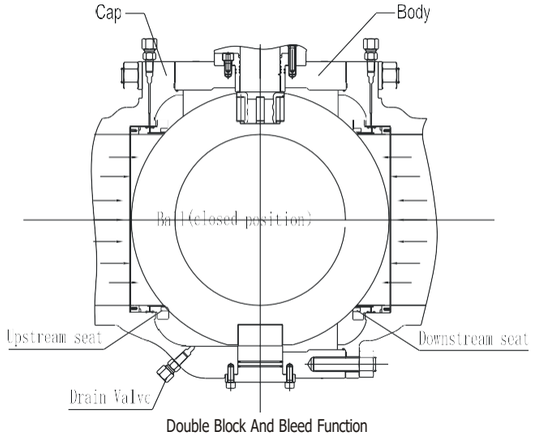
USAGE

The trunnion ball valve is used to cut off or connect the media in various pipelines of Class150~Class2500. The valves made of different materials are suitable for various media such as water, steam, oil, liquefied gas, natural gas,coal gas, nitric acid, oxidizer, urea and etc. The driving modes include manual operation, worm and worm gear transmission, pneumatic operation and electric operation. The connection ends can be flange or butt welding.

DESIGN STRUCTURAL FEATURES

1. Double Block And Bleed(DBB)

When the valve is closed and the middle cavity is emptied through the discharge valve, the upstream and downstream seats will independently block the fluid at the inlet and outlet to realize double block function. Another function of the discharge device is that the valve seat can be checked if there is any leakage during the test. In addition, the deposits inside the body can be washed and discharged through the discharge device to reduce damage to the seat by impurities in the medium.



Double Block And Bleed Function

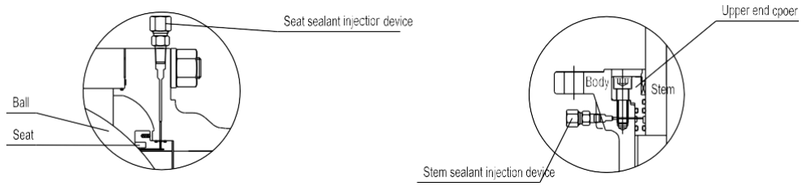
2. Low Operating Torque

The trunnion pipeline ball valve adopts trunnion ball structure and floating valve seat, so as to achieve lower torque under operating pressure. It uses self-lubricating PTFE and metal sliding bearing to reduce the friction coefficient to the lowest in conjunction with the high intensity and high fineness stem.

3. Emergency Sealing Device

The ball valves with the diameter more than or equal to 6"(DN150) are all designed with sealant injection device on stem and seat.When the seat ring or stem O ring is damaged due to accident, the corresponding sealant can be injected by the sealant injection device to avoid medium leakage on seat ring and stem.If necessary, the auxiliary sealing system can be used for washing and lubricating the seat to maintain its cleanliness.

sealant Injection Device

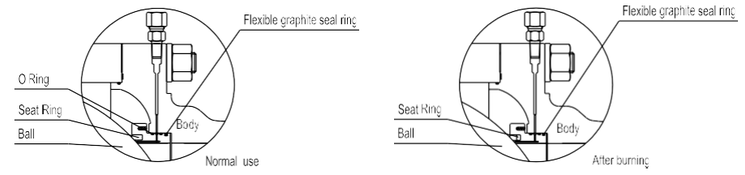


4. Fire-safe design structure

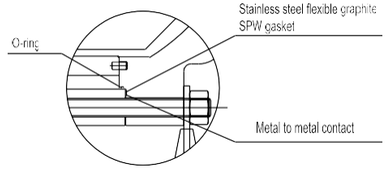
Fire during the use of valve, the seat ring, stem O ring and middle flange O ring made of PIFE, rubber or other non-metal materials will be decomposed or damaged under high temperature. Under pressure of the medium, the ball valve will push the seat reatainer rapidly towards the ball to make the metal seal ring contact the ball and form the auxiliary metal to metal sealing structure, which can effectively control valve leakage. The fireproof structure design of trunnnion pipeline ball valve conforms to requirements in API 607, API 6FA, BS6755 and other standards.

PIPELINE TRUNNION BALL VALVE

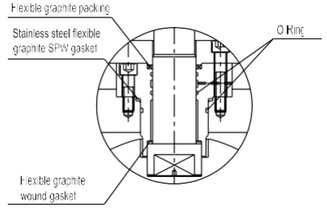
Fire-safe design structure of seat



Fire-safe design structure of middle flange



Fire-safe design structure of stem



5. Anti-static design structure

The ball valve is provided with the anti-static structure and adopts ths static electricity discharge device to directly form a static channel between the ball and body or form a static channel between the ball and body through the stem, so as to discharge the static electricity produced due to friction during theopening and closing of ball and seat through the pipeline, avoiding fire or explosion that may be caused by static spark and ensuring system safety.

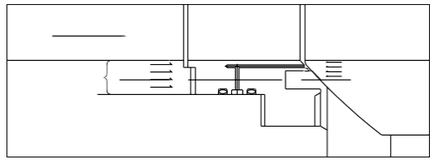
6. Reliable seat sealing design structure

The seat sealing is realized through two floating seat retainers. They can float axially to block the fluid, including ball sealing and body sealing. The low pressure sealing of valve seat is realized by spring pre-tightening. In addition, the piston effect of valve seat is designed reasonably, which realizes high pressure sealing by the pressure of the medium itself. The following two kinds of ball sealing can be realized.

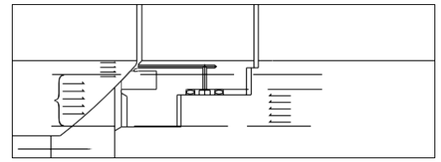
7. Single Sealing(automatic Pressure Relief In Middle Cavity Of Vavle)

Generally, the single sealing structure is used, that is, there is only the upstream sealing. As the independent spring loaded upstream and downstream sealing seats are used, the over-pressure inside valve cavity can overcome the pre-tightening effect of the spring, so as to make the seat release from the ball and realize automatic pressure relief towards the downstream part.
The upstream side: When the seat moves axially along the valve, the pressure P exerted on the upstream part(inlet) produces a reverse force on A1. As A2 is higher than A1, A2-A1=B1,The force on B1 will push the seat to the ball and realize tight sealing of the upstream part.

The downstream side: Once the pressure pb inside the valve cavity increases, the force exerted on A3 is higher than that on A4. As A3-A4=B2, The pressure differential on B2 will overcome the spring force to make the seat release from the ball and realize pressure realif of valve cavity to the downstream part. Afterwards, the seat and ball will be sealed again under the spring action.



A2＞A1

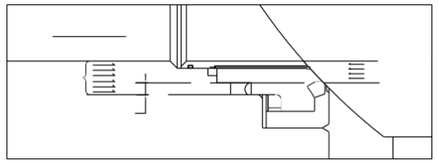


A3＞A4

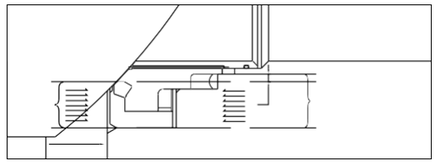
8. Double Sealing (double Piston affect)

The trunnion pipeline ball valve can be designed with the double sealing structure before and after the ball for some special service conditions and user requirements. It has double piston effect. Under normal condition, the valve generally adopts primary sealing. When the primary seat sealing is damaged and causes leakage,
the secondary seat can play the function of sealing and enhance the sealing reliability. The seat adopts the combined structure.The primary seal is metal to metal seal.The secondary seal is fluorine rubber O ring that can ensure the ball valve can reach the bubble level sealing.When the pressure differential is very low, the sealing seat will press the ball through the spring action to realize primary sealing. When the pressure differential rises,the sealing force of seat and body will increase accordingly so as to tightly seal the seat and ball and ensure good sealing performance.
Primary sealing: Upstream. When the pressure differential is lower or there is no pressure differential, the floating seat will move axially along the valve under the spring action and push the seat towards the ball to keep tight sealing. When the pipeline pressure P increases, the force exerted on the area A2 of valve seat is higher than the force exerted on the area A1, A2-A1=B1. Therefore, the force on B1 will push the seat towards the ball and realize tight sealing of the upstream part.

Secondary sealing: Downstream. When the pressure differential is lower or there is no pressure differential, the floating seat will move axially along the valve under the spring action and push the seat towards the ball to keep tight sealing. When the valve cavity pressure P increases,the force exerted on the area A4 of valve seat is higher than the force exerted on the area A3, A4-A3=B1. Therefore, the force on B1 will push the seat towards the ball and realize tight sealing of the upstream part.



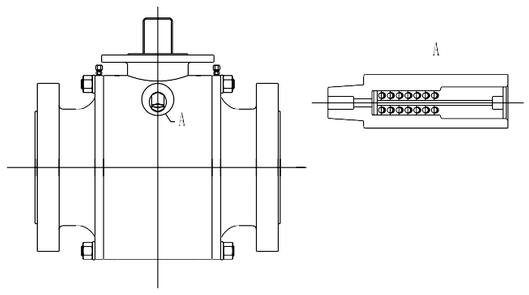
A2＞ A1



A3＞ A4

9. Safety Relief Device

As the ball valve is designed with the advanced primary and secondary sealing that has double piston effect, and the middle cavity cannot realize automatic pressure relief, the safety relief valve must be installed on the body in order to prevent the danger of over-pressure damage inside the valve cavity that may occur due to thermal expansion of medium. The connection of the safety relief valve is generally NPT1/2. Another point to be noted is that the medium of the safety rel- ief valve is directly discharged into the atmosphere. In case direct discharging into the atmosphere is not allowed, we suggest that the ball valve with a special structure of automatic pressure relief towards upper stream should be used. Refer to the following for details. Please indicate it in the order if you do not need the safety relief valve or if you would like to use the ball valve with the special structure of automatic pressure relief towards upper stream.

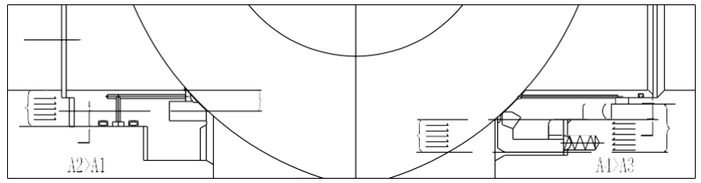


10. Secial Structure Of Automatic Pressure Relief Towards Upper Stream

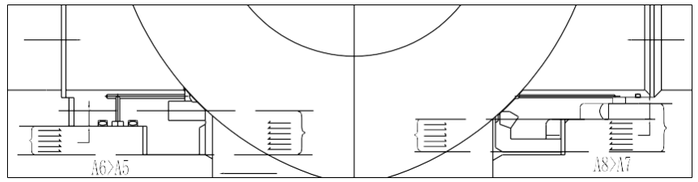
As the ball valve is designed with the advanced primary and secondary sealing that has double piston effect, and the middle cavity cannot realize automatic pressure relief, the ball valve with the special structure is recommended to meet the requirement of automatic pressure relief and ensure no pollution to the environment. In the structure, the upper stream adopts primary sealing and the lower stream adopts primary and secondary sealing. When the ball valve is closed,the pressure in the valve cavity can realize automatic pressure relief to the upper stream, so as to avoid the danger caused by cavity pressure. When the primary seat is damaged and leaks, the secondary seat can also play the function of sealing. But special attention shall be paid to the flow direction of the ball valve. During the installation, note the upstream and downstream directions. Refer to the following drawings for sealing principle of the valve with the special structure.

PIPELINE TRUNNION BALL VALVE

Principle drawing of ball valve upstream and downstream sealing

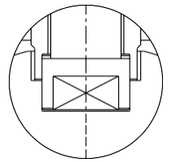


Principle drawing of ball valve cavity pressure relief to the upper steam and of downstream sealing



11. Blow-out Proof Stem

The stem adopts the blow-out proof strucrure. The stem is designed with the footstep at its bottom so that with the positioning of upper cover and screw, the stem will not be blown out by the medium even in case of abnormal pressure rise in the valve cavity.



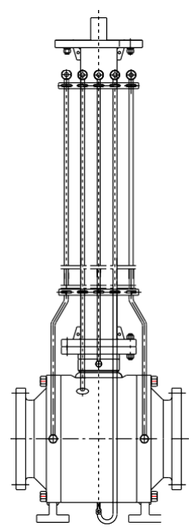
Blow-out proof stem

12. Corrosion Resistance and Sulfide Stress Resistance

Certain corrosion allowance is left for the body wall thickness. The carbon steel stem, fixed shaft, ball, seat and seat ring are subjected to chemical nickel plating according to ASTM B733 and B656. In addition, various corrosion resistant materials are available for users to select.
According to customer repuirements, the valve materials can be selected according to NACE MR 01 75/ISO 15156 or NACE MR 0103, and strict quality control and quality inspection should be carried out during the manufacturing so as to fully meet the requirements in the standards and meet the service conditions in sulfurization environment.

13. Extented Stem design for underground application

As for the embedded valves, the extension stem can be supplied if ground operation is needed. The extension stem is composed of stem, sealant injection valve, and drainage valve that can be extended to the top for the convenience of operation. Users should indicate the extension stem requirements and length when placing orders. For ball valves driven through electric, pneumatic and pneumatic-hydraulic operations, the extension stem length should be from the centre of pipeline to top flange.

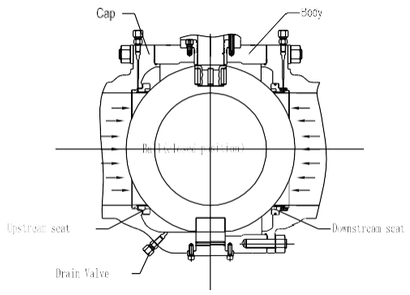


Schematic diagram of extension stem

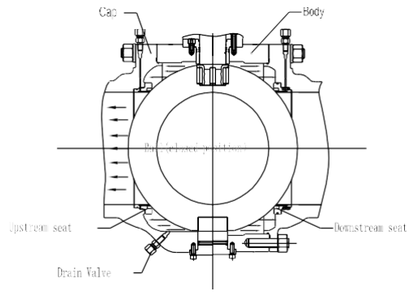
14. Double isolation and bleed valve (DIB design)

There are two type of DIG design ball valves, one type is double bi-directional seats(DIB-1), and the other type is single bi-direction seat plus unidirectional seat (it have direction mark on the valves, DIB-2), With two sealing surfaces, each sealing faces resist to a source of pressure in the closed position, through bleeder valve chamber between the sealing faces.
For DIB-1: Both seats are Bi-directional sealing, Each seat should be tested Bi-directionally;
For DIB-2: One is unidirectional sealing seat, and the other is Bi-directional sealing seat, so there is a direction marked on the body for this type of ball valve; The Bi-directional sealing seat need be tested Bi-directionally. As to the unidirectional sealing seat. It should be tested unidirectionally (Add pressure to valve chamber and upstream, examine leakage status of downstream valve seat)

DIB-2

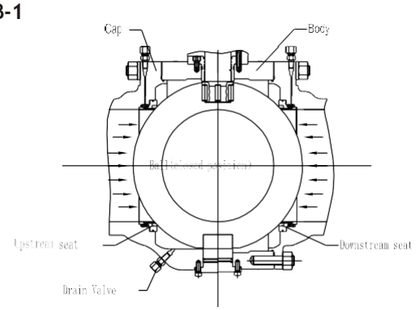


Pressure imposed from both end (DIB 2)

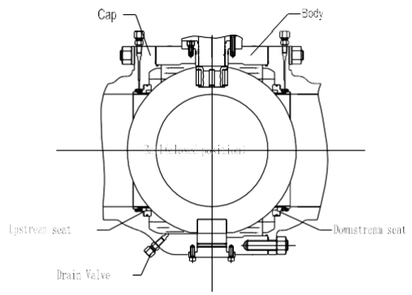


Pressure imposed from cavity(DIB 2)

DIB-1



Pressure imposed from both end (DIB-1)

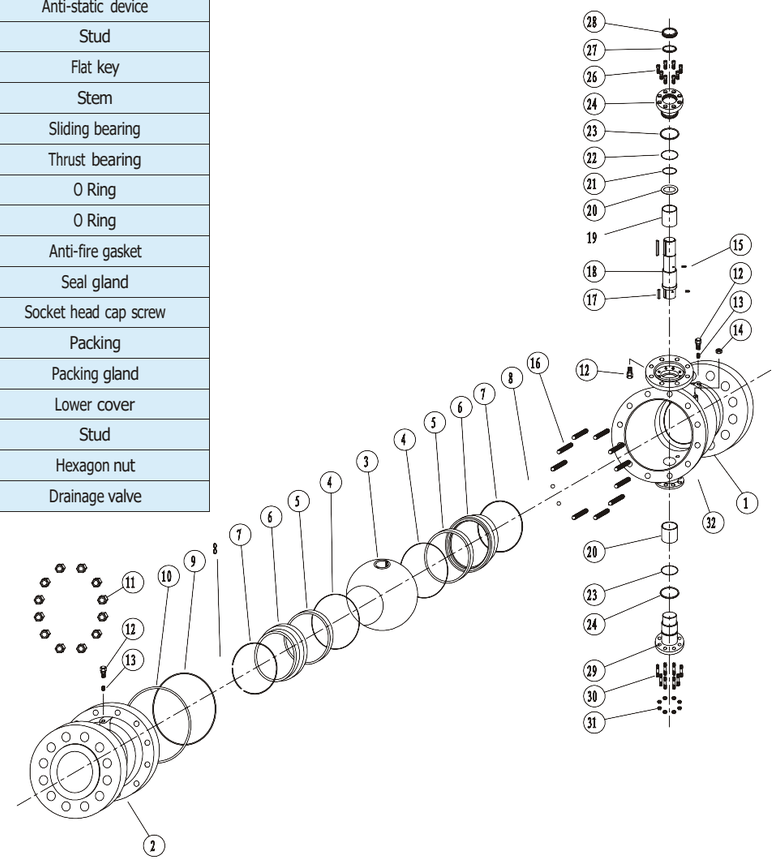


Pressure imposed from cavity(DIB-1)

PIPELINE TRUNNION BALL VALVE

CAST TRUNNION BALL VALVE (Splited body, side-entry)

1	Body
2	Bonnet
3	Ball
4	Anti-fire packing
5	Seat
6	Seat support ring
7	O Ring
8	Spring
9	O Ring
10	Anti-fire gasket
11	Hexagon nut
12	Sealant injection valve
13	Check valve
14	Air release valve
15	Anti-static device
16	Stud
17	Flat key
18	Stem
19	Sliding bearing
20	Thrust bearing
21	O Ring
22	O Ring
23	Anti-fire gasket
24	Seal gland
25	Socket head cap screw
26	Packing
27	Packing gland
28	Lower cover
29	Stud
30	Hexagon nut
31	Drainage valve

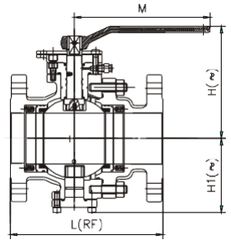


PIPELINE TRUNNION BALL VALVE

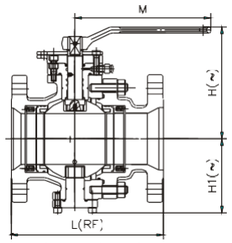
CAST TRUNNION BALL VALVE

Part Materials And Main Parameters

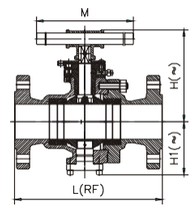
Nominal diameter(in)			NPS 2~~48				
Nominal pressure(Class)			Class150~~Class900				
	No	Part Name	Carbon Steel	Stainless Steel			
Materials of parts	1	Body	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M	ASTM A351 CF3	ASTM A351 CF3M
	2	Bonnet	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M	ASTM A351 CF3	ASTM A351 CF3M
	3	Ball	ASTM A105 • ENP	ASTM A182 304	ASTM A182316	ASTM A182 304L	ASTM A182 316L
	4	Anti-fire packing	Graphite	Graphite	Graphite	Graphite	Graphite
	5	Seat	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL
	6	Seat support ring	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	7	O Ring	VITON	VITON	VITON	VITON	VITON
	8	Spring	17-7PH	17-7PH	17-7PH	17-7PH	17-7PH
	9	O Ring	VITON	VITON	VITON	VITON	VITON
	10	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	11	Hexagon nut	A194 2HM	A194-8	A194 -8M	A194-8	A194-8M
	12	Sealant injection valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	13	Check valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	14	Air release valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	15	Anti-static device	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	16	Stud	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	17	Flat key	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045
	18	Stem	ASTM A182 F6a	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	19	Sliding bearing	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE
	20	Thrust bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	21	O Ring	VITON	VITON	VITON	VITON	VITON
	22	O Ring	VITON	VITON	VITON	VITON	VITON
	23	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	24	Seal gland	ASTM A105 • ENP	ASTM A182 304	ASTM A182316	ASTM A182304L	ASTM A182316L
	25	Socket head cap screw	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	26	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
	27	Packing gland	ASTM A182 F6a	ASTM A182 F6a	ASTM A182 F6a	ASTM A182 F6a	ASTM A182 F6a
	28	Lower cover	ASTM A105 • ENP	ASTM A182 304	ASTM A182316	ASTM A182304L	ASTM A182316L
	29	Stud	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	30	Hexagon nut	A194 2HM	A194-8	A194 -8M	A194-8	A194-8M
	31	Drainage valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
Applicable media			Water, steam, oil, gas, liquefied gas,natural gas,etc.	Nitric Acid	Nitric Acid	Strong Oxidizer	Urea
Applicable temperature			≤ ℃ 、≤ ℃ 、≤ ℃ 、≤ ℃				
Design and manufacturing			、				
Face-to-face dimensions			、				
Type of connection			Flange	ASME B16.5/ASME B16.47		Butt welding	ASME B16.25
Pressure test			API 598、API 6D				
Transmission mode			Manual, worm and worm gear transmission, pneumatic, electric				



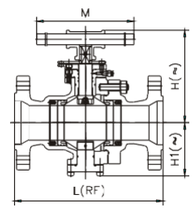
Class: 150Lb-300Lb
Bore: Full bore



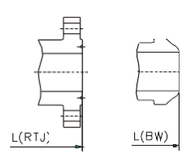
Class: 150Lb-300Lb
Bore: Reduced bore



Class: 600Lb-900Lb
Bore: Full bore



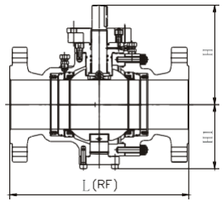
Class: 600Lb-900Lb
Bore: Reduced bore

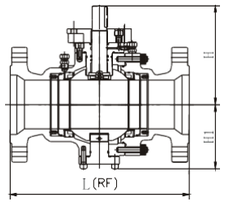


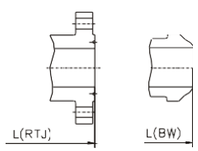
Pressure rating	Norminal Diameter	Flanged		Butt welding	H	H1	M	Weight (kg)
Class	NPS	L(RF)	L(RTJ)	L(BW)				
150	2"	178	191	216	168	83	250	10
	3" X 2"Ⓡ	203	216	283	168	83	250	11.7
	2½"	191	203	241	175	102	300	14
	3" X 2½"Ⓒ	203	216	283	175	102	300	15
	4" X 2½"Ⓡ	229	241	305	175	102	300	16.7
	3"	203	216	283	186	117	350	22
	4" X 3" Ⓒ	229	241	305	186	117	350	25
	6" X 3" Ⓡ	394	406	457	186	117	350	31.3
	4"	229	241	305	225	141	450	35
	6" X 4" Ⓒ	394	406	457	225	141	450	42.5
	8" X 4" Ⓡ	457	470	521	225	141	450	51.5
300	2"	216	232	216	168	95	250	15
	3" X 2"Ⓡ	283	298	283	168	95	250	20
	2½"	241	257	241	175	107	300	24
	3" X 2½"Ⓒ	283	298	283	175	107	300	28
	4" X 2½"Ⓡ	305	321	305	175	107	300	34
	3"	283	298	283	186	122	350	30
	4" X 3" Ⓒ	305	321	305	186	122	350	44
	6" X 3" Ⓡ	403	419	403	186	122	350	52
	4"	305	321	305	225	148	450	55
	6" X 4" Ⓒ	403	419	403	225	148	450	65
	8" X 4" Ⓡ	502	518	521	225	148	450	82
600	2"	292	295	292	195	100	500	33
	3" X 2"Ⓡ	356	359	356	195	100	500	37
	2½"	330	333	330	220	115	600	47
	3" X 2½"Ⓒ	356	359	356	220	115	600	48.8
	4" X 2½"Ⓡ	432	435	432	220	115	600	57.5
	3"	356	359	356	247	126	700	58
	4" X 3" Ⓒ	432	435	432	247	126	700	72
	6" X 3" Ⓡ	559	562	559	247	126	700	97.8
	4"	432	435	432	275	154	900	83
	6" X 4" Ⓒ	559	562	559	275	154	900	102.8
	8" X 4" Ⓡ	660	664	660	275	154	900	109.6
900	2"	368	371	368	217	118.5	500	39
	3" X 2"Ⓡ	381	384	381	217	118.5	500	44
	2½"	491	422	419	241	133	600	55
	3" X 2½"Ⓒ	381	384	381	241	133	600	58
	4" X 2½"Ⓡ	457	460	457	241	133	600	62.1
	3"	381	384	381	259	141	900	68
	4" X 3" Ⓒ	457	460	457	259	141	900	82
	6" X 3" Ⓡ	610	613	610	259	141	900	106.1
	4"	457	460	457	297	167	1000	98
	6" X 4" Ⓒ	610	613	610	297	167	1000	127
	8" X 4" Ⓡ	737	740	737	297	167	1000	171.1

ⒸRegular bore;ⓇReduece bore.
The weight information is only for RF End Ball Valve

PIPELINE TRUNNION BALL VALVE



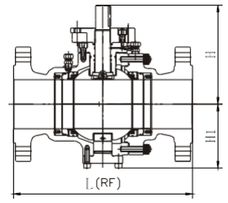


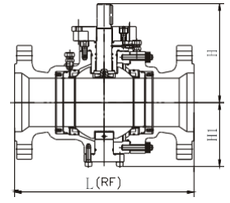


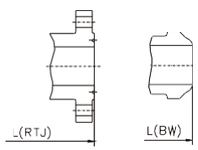
Pressure rating	Norminal Diameter	Flanged		Butt welding	H	H1	Weight (kg)
Class	NPS	L(RF)	L(RTJ)	L(BW)			
150	6"	394	406	457	280	193	74
	8" X 6" Ⓒ	457	470	521	280	193	83
	10" X 6" Ⓡ	533	546	559	280	193	95.2
	8"	457	470	521	345	217	111
	10" X 8" Ⓒ	533	546	559	345	217	123.4
	12" X 8" Ⓡ	610	622	635	345	217	142
	10"	533	546	559	395	270	217
	12" X 10" Ⓒ	610	622	635	395	270	235
	14" X 10" Ⓒ	686	699	762	395	270	253
	16" X 10" Ⓒ	762	775	838	395	270	277
	12"	610	622	635	527	323	385
	14" X 12" Ⓒ	686	699	762	527	323	402
	16" X 12" Ⓒ	762	775	838	527	323	426
	18" X 12" Ⓒ	864	876	914	527	323	450
	14"	686	699	762	570	355	457
	16" X 14" Ⓒ	762	775	838	570	355	481
	18" X 14" Ⓒ	864	876	914	570	355	505
	20" X 14" Ⓒ	914	927	991	570	355	536
	16"	762	775	838	498	398	723
	18" X 16"	864	876	914	498	398	765
	20" X 16"	914	927	991	498	398	832
300	6"	403	419	403	285	201	90
	8" X 6" Ⓒ	502	518	521	285	201	107
	10" X 6" Ⓡ	568	584	559	285	201	127
	8"	502	518	521	345	232	201
	10" X 8" Ⓒ	568	584	559	345	232	222
	12" X 8" Ⓡ	648	664	635	345	232	252
	10"	568	584	559	451	283	350
	12" X 10" Ⓒ	648	664	635	451	283	381
	14" X 10" Ⓒ	762	778	762	451	283	420
	16" X 10" Ⓒ	838	854	838	451	283	461
	12"	648	664	635	570	335	510
	14" X 12" Ⓒ	762	778	762	570	335	547
	16" X 12" Ⓒ	838	854	838	570	335	592
	18" X 12" Ⓒ	914	930	914	570	335	638
	14"	762	778	762	600	360	720
	16" X 14" Ⓒ	838	854	838	600	360	760
	18" X 14" Ⓒ	914	930	914	600	360	808
	20" X 14" Ⓒ	991	1010	991	600	360	884
	16"	838	854	838	638	398	1167
	18" X 16"	914	930	914	638	398	1257
	20" X 16"	991	1010	991	638	398	1365

ⒸRegular bore;ⓇReduece bore.
The weight information is only for RF End Ball Valve

PIPELINE TRUNNION BALL VALVE

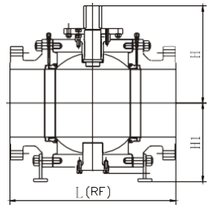




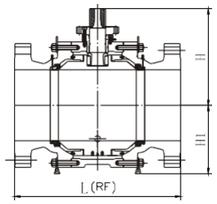


Pressure rating	Norminal Diameter	Flanged		Butt welding	H	H1	Weight (kg)
Class	NPS	L(RF)	L(RTJ)	L(BW)			
600	6"	559	562	559	305	198	174
	8" X 6" Ⓡ	660	664	660	305	198	198
	10" X 6" Ⓡ	787	791	787	305	198	244
	8"	660	664	660	365	252	339
	10" X 8" Ⓒ	787	791	787	365	252	386
	12" X 8" Ⓡ	838	841	838	365	252	420
	10"	787	791	787	484	299	515
	12" X 10" Ⓒ	838	841	838	484	299	545
	14" X 10" Ⓡ	889	892	889	484	299	576
	16" X 10" Ⓡ	991	994	991	484	299	648
	12"	838	841	838	580	343	960
	14" X 12" Ⓒ	889	892	889	580	343	992
	16" X 12" Ⓒ	991	994	991	580	343	1072
	18" X 12" Ⓡ	1092	1095	1092	580	343	1142
	14"	889	892	889	608	377	1250
	16" X 14" Ⓒ	991	994	991	608	377	1328
	18" X 14" Ⓒ	1092	1095	1092	608	377	1405
	20" X 14" Ⓡ	1194	1200	1194	608	377	1513
	16"	991	994	994	663	416	1415
	18" X 16"	1092	1095	1092	663	416	1615
	20" X 16"	1194	1200	1194	663	416	1692
900	6"	610	613	610	360	250	220
	8" X 6" Ⓒ	737	740	737	360	250	263
	10" X 6" Ⓡ	838	841	838	360	250	316
	8"	737	740	737	394	280	500
	10" X 8" Ⓡ	838	841	838	394	280	551
	12" X 8" Ⓡ	965	968	965	394	280	620
	10"	838	841	838	502	325	942
	12" X 10" Ⓡ	965	968	965	502	325	1010
	14" X 10" Ⓡ	1029	1038	1029	502	325	1054
	16" X 10" Ⓡ	1130	1140	1130	502	325	1143
	12"	965	968	965	592	380	1200
	14" X 12" Ⓒ	1029	1038	1029	592	380	1310
	16" X 12" Ⓒ	1130	1140	1130	592	380	1420
	18" X 12" Ⓡ	1219	1232	1219	592	380	1550
	14"	1029	1038	1029	675	395	1655
	16" X 14" Ⓒ	1130	1140	1130	675	395	1855
	18" X 14" Ⓒ	1219	1232	1219	675	395	-
	20" X 14" Ⓡ	1321	1334	1321	675	395	-
	16"	1130	1140	1130	762	426	1903
	18" X 16"	1219	1232	1219	762	426	2030
	20" X 16"	1321	1334	1321	762	426	2374
1500	6"	705	711	705	365	211	380
	8" X 6" Ⓒ	832	841	832	365	211	485
	10" X 6" Ⓡ	991	1000	991	365	211	635
	8"	832	841	832	475	274	750
	10" X 8" Ⓡ	991	1000	991	475	274	956
	12" X 8" Ⓡ	1130	1146	1130	475	274	1056
	10"	991	1000	991	578	310	1165
	12" X 10" Ⓡ	1130	1146	1130	578	310	1267
	14" X 10" Ⓡ	1257	1276	1257	578	310	1465
	16" X 10" Ⓡ	1387	1407	1384	578	310	1592
	12"	1130	1146	1130	696	485	1625
	14" X 12" Ⓒ	1257	1276	1257	696	485	1825
	16" X 12" Ⓒ	1384	1407	1384	696	485	1900
	14" Ⓡ	1257	1276	1257	761	510	1980
	16" X 14"	1384	1407	1384	761	510	2280

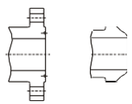
ⒸRegular bore;ⓇReduece bore.
The weight information is only for RF End Ball Valve



External supporting structure



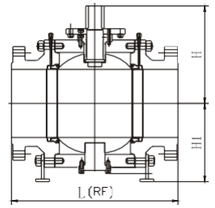
Internal supporting structure



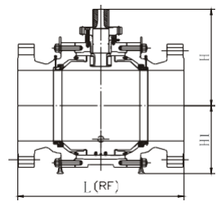
Pressure rating	Norminal Diameter	Flanged		Butt welding	H	H1	Weight (kg)	
Class	NPS	L(RF)	L(RTJ)	L(BW)			Support board	General
150	16"	762	775	838	498	398	739	723
	18" X 16" ©	864	876	914	498	398	812	773
	20" X 16" ©	914	927	991	498	398	906	863
	18"	864	876	914	640	437	930	879
	20" X 18" ©	914	927	991	640	437	1029	980
	20"	914	927	991	700	467	1617	1540
	○	1067	1080	1143	700	467	1900	1810
	22"	※991	-	※1092	735	499	2518	2398
	○	1067	1080	1143	735	499	2591	2468
	24"	1067	1080	1143	820	551	2787	2654
	○	1295	-	1397	820	551	3049	2904
	26"	1143	-	1245	892	624	3276	3120
	○	1245	-	1346	892	624	3557	3388
	28"	1245	-	1346	901	632	3183	3032
	○	1295	-	1397	901	632	3518	3350
	30"	1295	-	1397	962	715	3675	3350
	○	1372	-	1524	962	715	-	-
	○	1524	-	1727	962	715	3885	3700
	32"	1372	-	1524	1045	755	4725	4500
	34"	1473	-	1626	95	785	6073	5784
	36"	1524	-	1727	1117	836	7237	6892
	40"	※1753	-	※1753	1285	900	9347	8902
	42"	※1855	-	※2015	1330	935	10355	9862
	48"	※2083	-	※2225	1434	1050	16210	15438
	56"	※2250	-	※2489	1476	1306	25822	24592
300	16"	838	854	838	538	398	1330	1267
	○	914	930	914	538	398	1414	1347
	○	991	1010	991	538	398	1538	1465
	18"	914	930	914	625	437	1602	1526
	○	991	1010	991	625	437	1739	1656
	20"	991	1010	991	712	477	1966	1872
	○	1143	1165	1143	712	477	2365	2252
	22"	1092	1114	1092	799	495	2517	2397
	○	1143	1165	1143	799	495	3215	2507
	24"	1143	1165	1143	826	585	3158	3008
	○	1397	1422	1397	826	585	3945	3758
	26"	1245	1270	1245	862	630	3620	3416
	○	1346	1372	1346	862	630	3776	3596
	28"	1346	1372	1346	893	683	4061	3868
	○	1397	1422	1397	893	683	4261	4058
	30"	1397	1422	1397	968	715	5223	4974
	○	1524	1553	1524	968	715	-	-
	○	1727	1756	1727	968	715	6281	5982
	32"	1524	1553	1524	1008	785	5958	5674
	34"	1626	1654	1626	1073	836	6913	6584
	36"	1727	1756	1727	1100	875	7944	7565
	40"	※1850	-	※1930	1245	923	10117	9635
	42"	※1900	-	※2015	1345	958	11425	10881
	48"	※2170	-	※2225	1490	1108	18467	17558
	56"	※2300	-	※2489				

©Regular bore; ©Reduece bore, ※ L will be confirmed by client and factory
The weight information is only for RF End Ball Valve

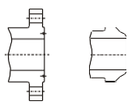
PIPELINE TRUNNION BALL VALVE



External supporting structure



Internal supporting structure

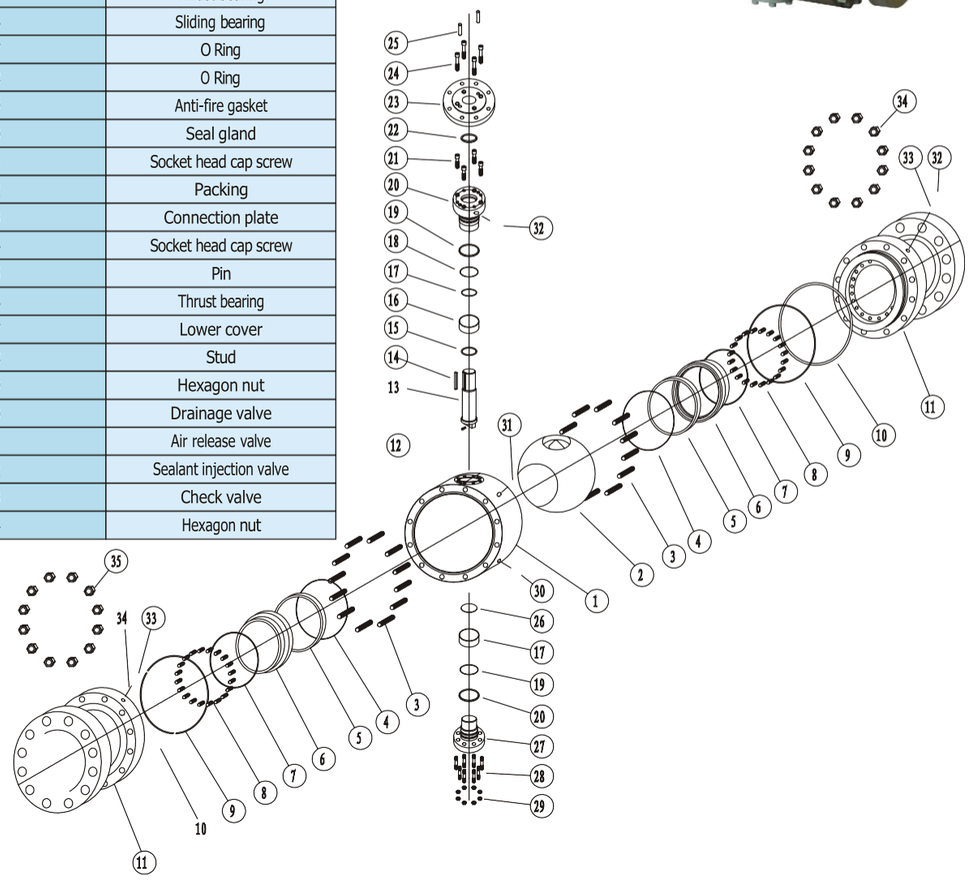


Pressure rating	Norminal Diameter	Flanged		Butt welding	H	H1	Weight (kg)	
Class	NPS	L(RF)	L(RTJ)	L(BW)			Support board	General
600	16"	991	994	991	643	416	1549	1475
	18" X 16" ©	1092	1095	1092	643	416	1695	1615
	20" X 16" ©	1194	1200	1194	643	416	1778	1692
	18"	1092	1095	1092	723	455	1828	1741
	20" X 18" ©	1194	1200	1194	723	455	1935	1843
	20"	1194	1200	1194	823	522	2320	2210
	○	1397	1407	1397	823	522	3235	3081
	22"	1295	1305	1295	845	592	3899	3714
	○	1397	1407	1397	845	592	4057	3864
	24"	1397	1407	1397	866	615	3665	3490
	○	1651	1664	1651	866	615	4270	4496
	26"	1448	1461	1448	924	630	4751	4525
	○	1549	1562	1549	924	630	-	-
	28"	1549	1562	1549	956	700	5405	5148
	○	1651	1664	1651	956	700	-	-
	30"	1651	1664	1651	1038	726	6056	5468
	○	1778	1794	1778	1038	726	-	-
	○	2083	2099	2083	1038	726	7415	7062
	32"	1778	1794	1778	1218	788	7253	6908
	34"	1930	1946	1930	1230	815	7778	7408
	36"	2083	2099	2083	1269	875	9182	8745
	40"	※2080	-	※2170	1342	945	12584	11985
	42"	※2175	-	-	1520	989	14805	14100
	48"	※2435	-	-	1655	1120	22699	21618
	56"	※2710	-	-				
900	16"	1130	1140	1130	727	406	1998	1903
	○	1219	1232	1219	727	406	2155	2050
	○	1321	1334	1321	727	406	2495	2374
	18"	1219	1232	1219	785	418	2415	2300
	○	1321	1334	1321	785	418	2730	2600
	20"	1321	1334	1321	839	561	3135	2985
	○	1549	1568	1549	839	561	3895	3708
	24"	1549	1568	1549	853	634	5295	5040
	○	※1880	※1092	※1880	853	634	7200	6850
	26"	※1651	※1674	※1651	909	725	6365	6060
	○	※1753	※1775	※1753	909	725	-	-
	28"	※1753	※1775	※1753	980	765	7635	7270
	○	※1880	※1902	※1880	980	765	-	-
	30"	※1880	※1902	※1880	1095	810	8846	8425
	○	※2032	※2054	※2032	1095	810	-	-
	○	※2286	※2315	※2286	1095	810	10778	10265
	32"	※2032	※2054	※2032	1270	840	10068	9589
	34"	※2159	※2188	※2159	1310	860	14250	13545
	36"	※2286	※2315	※2286	1445	893	15372	14640
1500	16"	1384	1407	1384	650	500	3718	3540
	○	※1537	※1559	※1537	650	500	4720	4496
	○	※1664	※1686	※1664	650	500	5020	4781
	18"	※1537	※1559	※1537	783	585	5065	4824
	○	※1664	※1686	※1664	783	585	6392	6088
	20"	※1664	※1686	※1664	880	635	7612	7250
	○	※2043	※2071	※2043	880	635	8737	8321
	24"	※2043	※2071	※2043	1285	720	11387	10845

©Regular bore; ©Reduece bore, ※ L will be confirmed by client and factory
The weight information is only for RF End Ball Valve

FORGED TRUNNION BALL VALVE (Splited body, side-entry)

1	Body
2	Ball
3	Stud
4	Anti-fire packing
5	Seat
6	Support ring
7	O Ring
8	Spring
9	O Ring
10	Anti-fire gasket
11	Bonnet
12	Anti-static device
13	Stem
14	Flat key
15	Thrust bearing
16	Sliding bearing
17	O Ring
18	O Ring
19	Anti-fire gasket
20	Seal gland
21	Socket head cap screw
22	Packing
23	Connection plate
24	Socket head cap screw
25	Pin
26	Thrust bearing
27	Lower cover
28	Stud
29	Hexagon nut
30	Drainage valve
31	Air release valve
32	Sealant injection valve
33	Check valve
34	Hexagon nut



PIPELINE TRUNNION BALL VALVE

FORGED TRUNNION BALL VALVE

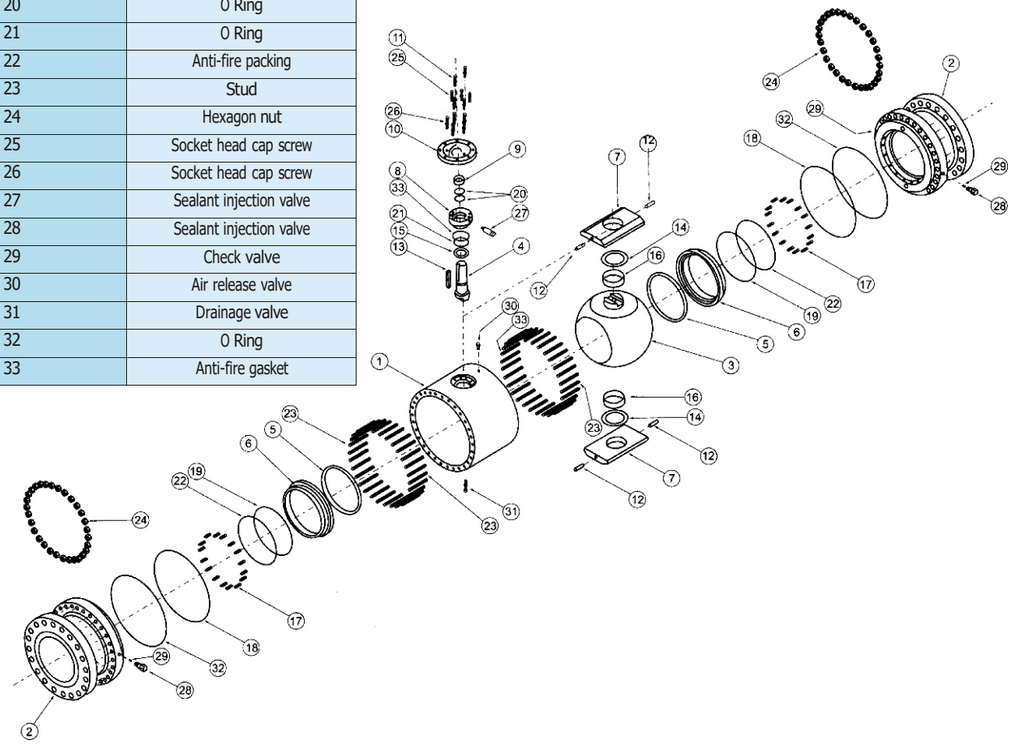
Part Materials And Main Parameters

Nominal diameter(in)			NPS 2~48				
Nominal pressure(Class)			Class150~Class900				
	No	Part Name	Material				
			Carbon Steel	Stainless Steel			
Materials of parts	1	Body	ASTM A105	ASTM A182 304	ASTM A182316	ASTM A182 304L	ASTM A182 316L
	2	Ball	ASTM A105 • ENP	ASTM A182 304	ASTM A182316	ASTM A182 304L	ASTM A182 316L
	3	Stud	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	4	Anti-fire packing	Graphite	Graphite	Graphite	Graphite	Graphite
	5	Seat	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL
	6	Support ring	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	7	O Ring	VITON	VITON	VITON	VITON	VITON
	8	Spring	17-7PH	17-7PH	17-7PH	17-7PH	17-7PH
	9	O Ring	VITON	VITON	VITON	VITON	VITON
	10	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	11	Bonnet	ASTM A105	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	12	Anti-static device	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	13	Stem	ASTM A182 F6a	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	14	Flat key	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045
	15	Thrust bearing	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE
	16	Sliding bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	17	O Ring	VITON	VITON	VITON	VITON	VITON
	18	O Ring	VITON	VITON	VITON	VITON	VITON
	19	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	20	Seal gland	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	21	Socket head cap screw	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	22	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
	23	Connection plate	ASTM A105	ASTM A182 304	ASTM A182316	ASTM A182304L	ASTM A182316L
	24	Socket head cap screw	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	25	Pin	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035
	26	Thrust bearing	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE
	27	Lower cover	ASTM A105 • ENP	ASTM A182 304	ASTM A182316	ASTM A182 304L	ASTM A182 316L
	28	Stud	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	29	Hexagon nut	A194 2HM	A194-8	A194 -8M	A194-8	A194-8M
	30	Drainage valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	31	Air release valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	32	Sealant injection valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	33	Check valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	34	Hexagon nut	A194 2HM	A194-8	A194 -8 M	A194-8	A194-8 M
Applicable service conditions		Applicable media	Water, steam, oil, gas, liquefied gas,natural gas,etc.	Nitric Acid	Nitric Acid	Strong Oxidizer	Urea
		Applicable temperature	≤120℃ (PTFE) ≤80℃ (NYLON) ≤250℃ (PEEK) ≤250℃ (PPL)				
Design and manufacturing			API 608、API 6D				
Face-to-face dimensions			ASME B16.10 、API 6D				
Type of connection			Flange	ASME B16.5/ASME B16.47		Butt welding	ASME B16.25
Pressure test			API 598、API 6D				
Transmission mode			Manual, worm and worm gear transmission, pneumatic, electric				

FORGED TRUNNION BALL VALVE (Splited body, side-entry)

1	Body
2	Bonnet
3	Ball
4	Stem
5	Seat
6	Seat ring
7	Bearing holder
8	Seal gland
9	Packing
10	Connection plate
11	Pin
12	Pin
13	Flat key
14	Thrust bearing
15	Thrust bearing
16	Sliding bearing
17	Spring
18	O Ring
19	O Ring
20	O Ring
21	O Ring
22	Anti-fire packing
23	Stud
24	Hexagon nut
25	Socket head cap screw
26	Socket head cap screw
27	Sealant injection valve
28	Sealant injection valve
29	Check valve
30	Air release valve
31	Drainage valve
32	O Ring
33	Anti-fire gasket

Internal supporting board structure



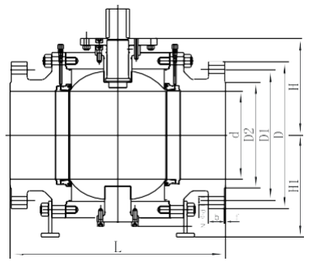
PIPELINE TRUNNION BALL VALVE

FORGED TRUNNION BALL VALVE

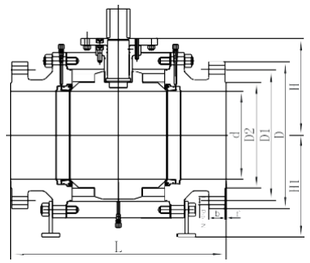
Part Materials And Main Parameters

Nominal diameter(in)			NPS 2～48				
Nominal pressure(Class)			Class150～Class2500				
Materials of parts	No	Part Name	Material				
			Carbon Steel	Stainless Steel			
	1	Body	ASTM A105	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	2	Bonnet	ASTM A105	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	3	Ball	ASTM A105 . ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	4	Stem	ASTM A182 F6a	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	5	Seat	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL
	6	Seat ring	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	7	Bearing holder	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	8	Seal gland	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	9	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
	10	Connection plate	ASTM A105	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	11	Pin	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035
	12	Pin	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035
	13	Flat key	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045
	14	Thrust bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	15	Thrust bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	16	Sliding bearing	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE
	17	Spring	17-7PH	17-7PH	17-7PH	17-7PH	17-7PH
	18	O Ring	VITON	VITON	VITON	VITON	VITON
	19	O Ring	VITON	VITON	VITON	VITON	VITON
	20	O Ring	VITON	VITON	VITON	VITON	VITON
	21	O Ring	VITON	VITON	VITON	VITON	VITON
	22	Anti-fire packing	Graphite	Graphite	Graphite	Graphite	Graphite
	23	Stud	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	24	Hexagon nut	A194 2HM	A194-8	A194 -8M	A194-8	A194-8M
	25	Socket head cap screw	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	26	Socket head cap screw	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	27	Sealant injection valve	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	28	Sealant injection valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	29	Check valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	30	Air release valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	31	Drainage valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	32	O Ring	VITON	VITON	VITON	VITON	VITON
	33	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
Applicable service conditions		Applicable media	Water, steam, oil, gas, liquefied gas,natural gas,etc.	Nitric Acid	Nitric Acid	Strong Oxidizer	Urea
		Applicable temperature	120℃ (PTFE) ≤80℃ (NYLON) ≤250℃ (PEEK) ≤250℃ (PPL)				
Design and manufacturing			API 608、API 6D				
Face-to-face dimensions			ASME B16.10、API 6D				
Type of connection			Flange	ASME B16.5/ASME B16.47		Butt welding	ASME B16.25
Pressure test			API 598、API 6D				
Transmission mode			Manual, worm and worm gear transmission, pneumatic, electric				

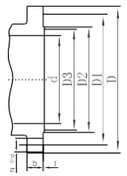
PIPELINE TRUNNION BALL VALVE



Extfernal supporting structure



Internal supporting structure

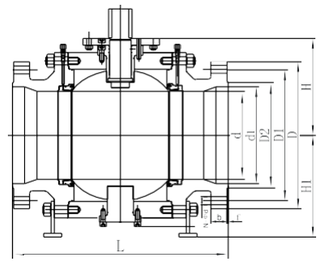


Pressure rating	Norminal Diameter		d	Flanged		Butt welding	Raised face flange							General		Support board		Weight(kg)	
Class	NPS	DN		L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N- d	H	H1	H	H1	General	Support board
150	2"	50	50	178	191	216	150	120.5	92	-	2	14.5	4- 19	93	88	-	-	19	-
	3"	80	75	203	216	283	190	152.5	127	-	2	17.5	4- 19	118.5	117	-	-	28	-
	4"	100	100	229	241	305	230	190.5	157	-	2	22.5	8- 19	143.5	137	-	-	50	-
	6"	150	150	394	406	457	280	241.5	216	-	2	24	8- 22	208	178.5	-	-	160	-
	8"	200	201	457	470	521	345	298.5	270	-	2	27	8- 22	248	222	248	235	270	284
	10"	250	252	533	546	559	405	362	324	-	2	29	12- 25	294	265	294	288	415	436
	12"	300	303	610	622	635	485	432	381	-	2	30.5	12- 25	344.5	308.5	345	330	660	693
	14"	350	334	686	699	762	535	476	413	-	2	33.5	12- 29	377	334	377	360	890	935
	16"	400	385	762	775	838	595	540	470	-	2	35	16- 29	418	375	418	400	1080	1134
	18"	450	436	864	876	914	635	578	533	-	2	38.5	16- 32	463	410	463	435	1480	1554
	20"	500	487	914	927	991	700	635	584	-	2	41.5	20- 32	502	458	502	484	1970	2069
	24"	600	589	1067	1080	1143	815	749.5	692	-	2	46.5	20- 35	586	534	586	568	3000	3150
	26"	650	633	1143	-	1245	870	806.5	749	-	2	68	24- 35	626	582	626	594	3612	3793
	28"	700	684	1245	-	1346	927	864	800	-	2	71	28- 35	644	605	644	658	4402	4622
	30"	750	735	1295	-	1397	984	914.5	857	-	2	75	28- 35	720	672	720	677	5112	5368
	32"	800	779	1372	-	1524	1060	978	914	-	2	81	28- 41	742	704	742	746	6667	7000
	36"	900	874	1524	-	1727	1168	1086	1022	-	2	90	32- 41	839	796	839	791	8627	9058
	40"	1000	976	1753	-	-	1289	1200	1124	-	2	90	36- 41	913.5	866	913.5	863	12313	12929
	42"	1050	1020	1855	-	-	1346	1257	1194	-	2	97	36- 41	943	881	943	937	14000	14700
	48"	1200	1166	2134	-	-	1511	1422	1359	-	2	108	44- 41	1097	1016	1097	1066	21470	22544
	56"	1400	1360	2489	-	-	1746	1651	1575	-	2	124	48- 48	1302	1186	1302	1253	33431	35103
300	2"	50	50	216	232	216	165	127	92	-	2	21	8- 19	93	88	-	-	22	-
	3"	80	75	283	298	283	210	168.5	127	-	2	27	8- 22	118.5	117	-	-	38	-
	4"	100	100	305	321	305	255	200	157	-	2	30.5	8- 22	143.5	137	-	-	60	-
	6"	150	150	403	419	457	320	270	216	-	2	35	12- 22	208	178.5	-	-	180	189
	8"	200	201	502	518	521	380	330	270	-	2	40	12- 25	248	222	248	235	295	310
	10"	250	252	568	584	559	445	387.5	324	-	2	46.5	16- 29	294	265	294	288	450	473
	12"	300	303	648	664	635	520	451	381	-	2	49.5	16- 32	344.5	308.5	345	330	700	735
	14"	350	334	762	778	762	585	514.5	413	-	2	52.5	20- 32	377	334	377	360	1160	1218
	16"	400	385	838	854	838	650	571.5	470	-	2	56	20- 35	423	380	423	345	1340	1407
	18"	450	436	914	930	914	710	628.5	533	-	2	59	24- 35	463	410	463	431	1610	1691
	20"	500	487	991	1010	991	775	686	584	-	2	62	24- 35	502	458	502	474	2200	2310
	24"	600	589	1143	1165	1143	915	813	692	-	2	68.5	24- 41	592	549	592	561	3460	3633
	26"	650	633	1245	-	1245	972	876.5	749	-	2	79	28- 45	633	590	633	601	4017	4218
	28"	700	684	1346	-	1346	1035	940	800	-	2	86	28- 45	680	737	680	736	4974	5223
	30"	750	735	1397	-	1397	1092	997	857	-	2	92	28- 48	730	682	730	681	5681	5965
	32"	800	779	1524	-	1524	1149	1054	914	-	2	98	28- 51	765	720	765	716	6837	7179
	36"	900	874	1727	-	1727	1270	1168	1022	-	2	105	32- 54	847	804	847	798	8700	9135
	40"	1000	976	1956	-	-	1238	1156	1086	-	2	114	32- 45	921	877	921	871	12299	12914
	42"	1050	1020	2083	-	-	1289	1206.5	1137	-	2	119	32- 45	936	900	936	890	14379	15098
	48"	1200	1166	2170	-	-	1476	1372	1302	-	2	134	32- 51	1093	1052	1093	1040	21482	22556
	56"	1400	1360	2743	-	-	1708	1600	1518	-	2	154	28- 60	1263	1216	1263	1203	34066	35769

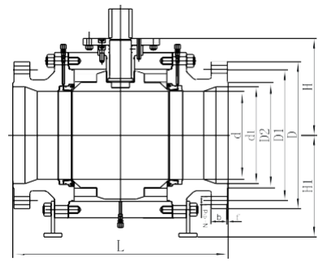
△ Please consult the factory:

Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

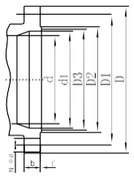
PIPELINE TRUNNION BALL VALVE



External supporting structure



Internal supporting structure

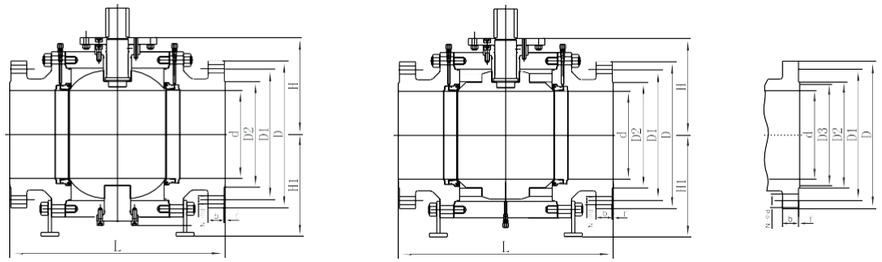


Pressure rating	Norminal Diameter		d	d1	Flanged		Butt welding	Raised face flange						General		Support board		Weight(kg)	
Class	NPS	DN			L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N-Φ d	H	H1	H	H1	General	Support board
150	3" X 2"	80	50	75	203	216	283	190	152.5	127	-	2	17.5	4-Φ 19	93	88	-	-	28	-
	4" X 3"	100	75	100	229	241	305	230	190.5	157	-	2	22.5	8-Φ 19	118.5	117	-	-	45	-
	6" X 4"	150	100	150	394	406	457	280	241.5	216	-	2	24	8-Φ 22	143.5	137	-	-	95	-
	8" X 6"	200	150	201	457	470	521	345	298.5	270	-	2	27	8-Φ 22	208	178.5	-	-	170	179
	10" X 8"	250	201	252	533	546	559	405	362	324	-	2	29	12-Φ 25	248	222	248	235	313	329
	12" X 10"	300	252	303	610	622	635	485	432	381	-	2	30.5	12-Φ 25	294	265	294	288	470	494
	14" X 10"	350	252	334	686	699	762	535	476	413	-	2	33.5	12-Φ 29	294	265	294	288	521	580
	14" X 12"	350	303	334	686	699	762	535	476	413	-	2	33.5	12-Φ 29	344.5	308.5	345	330	760	840
	16" X 12"	400	303	385	762	775	838	595	540	470	-	2	35	16-Φ 29	344.5	308.5	345	330	834	920
	16" X 14"	400	334	385	762	775	838	595	540	470	-	2	35	16-Φ 29	377	334	377	360	930	1020
	18" X 16"	450	385	436	864	876	914	635	578	533	-	2	38.5	16-Φ 32	418	375	418	400	1120	1210
	20" X 16"	500	385	487	914	927	991	700	635	584	-	2	41.5	20-Φ 32	418	375	418	400	1480	1570
	20" x 18"	500	436	487	914	927	991	700	635	584	-	2	41.5	20-Φ 32	463	410	463	431	1620	1710
	24" X 20"	600	487	589	1067	1080	1143	815	749.5	692	-	2	46.5	20-Φ 35	502	458	502	484	2270	2384
	30" X 24"	750	589	735	1295	-	1397	984	914.5	857	-	2	75	28-Φ 35	586	534	586	568	3730	3917
	36" X 30"	900	735	874	1524	-	1727	1168	1086	1022	-	2	90	32-Φ 41	720	672	720	677	6740	7077
300	3" X 2"	80	50	75	283	298	283	210	168.5	127	-	2	27	8-Φ 22	93	88	-	-	42	-
	4" X 3"	100	75	100	305	321	305	255	200	157	-	2	30.5	8-Φ 22	118.5	117	-	-	62	-
	6" X 4"	150	100	150	403	419	457	320	270	216	-	2	35	12-Φ 22	143.5	137	-	-	115	120.8
	8" X 6"	200	150	201	502	518	521	380	330	270	-	2	40	12-Φ 25	208	178.5	-	-	196	206
	10" X 8"	250	201	252	568	584	559	445	387.5	324	-	2	46.5	16-Φ 29	248	222	248	235	350	368
	12" X 10"	300	252	303	648	664	635	520	451	381	-	2	49.5	16-Φ 32	294	265	294	288	552	580
	14" X 10"	350	252	334	762	778	762	585	514.5	413	-	2	52.5	20-Φ 32	294	265	294	288	644	684
	14" X 12"	350	303	334	762	778	762	585	514.5	413	-	2	52.5	20-Φ 32	344.5	308.5	345	330	780	860
	16" X 12"	400	303	385	838	854	838	650	571.5	470	-	2	56	20-Φ 35	344.5	308.5	345	330	908	988
	16" X 14"	400	334	385	838	854	838	650	571.5	470	-	2	56	20-Φ 35	377	334	377	360	1105	1180
	18" X 16"	450	385	436	914	930	914	710	628.5	533	-	2	59	24-Φ 35	423	380	423	345	1500	1575
	20" X 16"	500	385	487	991	1010	991	775	686	584	-	2	62	24-Φ 35	423	380	423	345	1600	1700
	20" x 18"	500	487	436	991	1010	991	775	686	584	-	2	62	24-Φ 35	463	410	463	431	1910	2053
	24" X 20"	600	487	589	1143	1165	1143	915	813	692	-	2	68.5	24-Φ 41	502	458	502	474	2940	3087
	30" X 24"	750	589	735	1397	-	1397	1092	997	857	-	2	92	28-Φ 48	592	549	592	561	4430	4652
	36" X 30"	900	735	874	1727	-	1727	1270	1168	1022	-	2	105	32-Φ 54	730	682	730	681	7520	7896

△ Please consult the factory:

Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

PIPELINE TRUNNION BALL VALVE



Extfernal supporting structure

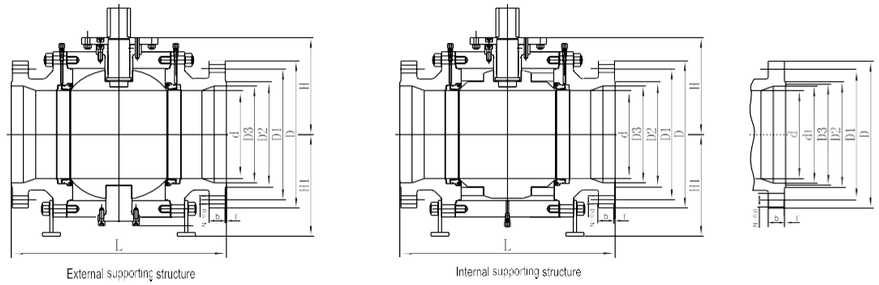
Internal supporting structure

Pressure rating	Norminal Diameter		d	Flanged		Butt welding	Raised face flange							General		Support board		Weight(kg)	
Class	NPS	DN		L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N-ϕd	H	H1	H	H1	General	Support board
600	2"	50	50	292	295	292	165	127	92	-	7	26	8-ϕ19	107	91.5	-	-	38	-
	3"	80	75	356	359	356	210	168.5	127	-	7	32	8-ϕ22	140	119	-	-	65	-
	4"	100	100	432	435	432	275	216	157	-	7	38.5	8-ϕ25	164	150	-	-	118	-
	6"	150	150	559	562	559	355	292	216	-	7	48	12-ϕ29	222	192.5	224	208	250	263
	8"	200	201	660	664	660	420	349	270	-	7	56	12-ϕ32	271	235	272	248	430	452
	10"	250	252	787	791	787	510	432	324	-	7	64	16-ϕ35	317.5	280	318	303	680	714
	12"	300	303	838	841	838	560	489	381	-	7	67	20-ϕ35	360	320	355	341	985	1034
	14"	350	334	889	892	889	605	527	413	-	7	70	20-ϕ39	390	350	390	370	1287	1351
	16"	400	385	991	994	991	685	603	470	-	7	77	20-ϕ41	440	395	400	415	1640	1722
	18"	450	436	1092	1095	1092	745	654	533	-	7	83	20-ϕ44	485	439	485	460	2268	2381
	20"	500	487	1194	1200	1194	815	724	584	-	7	89	24-ϕ44	533	490	533	510	2830	2972
	24"	600	589	1397	1407	1397	940	838	692	-	7	102	24-ϕ51	616	573	616	595	4400	4620
	26"	650	633	1448	-	1448	1016	914.5	749	-	7	108	28-ϕ51	643.5	612	643.5	635	5455	5728
	28"	700	684	1549	-	1549	1073	965	800	-	7	112	28-ϕ54	665	670	665	692	7610	7991
	30"	750	735	1651	-	1651	1130	1022	857	-	7	114	28-ϕ54	753	710	753	742	8420	8841
	32"	800	779	1778	-	1778	1194	1079.5	914	-	7	118	28-ϕ54	768	780	768	804	9230	9692
	36"	900	874	2083	-	2083	1314	1194	1022	-	7	124	28-ϕ67	861	840	861	865	13000	13650
900	2"	50	50	368	371	368	215	165	124	95.25	7.92	38.5	8-ϕ25	126.5	105	-	-	57	-
	3"	80	75	381	384	381	240	190.5	156	123.83	7.92	38.5	8-ϕ25	150	130	-	-	87	-
	4"	100	100	457	460	457	290	235	181	149.23	7.92	45	8-ϕ32	172.5	158	-	-	193	-
	6"	150	150	610	613	610	380	317.5	241	211.12	7.92	56	12-ϕ32	230	197	235	210	340	357
	8"	200	201	737	740	737	470	393.5	308	269.88	7.92	64	12-ϕ39	285	250	290	255	570	598.5
	10"	250	252	838	841	838	545	470	362	323.85	7.92	70	16-ϕ39	330	294	330	316	912	957.6
	12"	300	303	965	968	965	610	533.5	419	381	7.92	79.5	20-ϕ39	366	334	366	351	1325	1391
	14"	350	322	1029	1038	1029	640	559	467	419.1	11.13	86	20-ϕ42	415	368	415	376	1620	1701
	16"	400	373	1130	1140	1130	705	616	524	469.9	11.13	89	20-ϕ45	452	408	452	421	1990	2090
	18"	450	423	1219	1232	1219	785	686	594	533.4	12.7	102	20-ϕ51	501	461	501	463	2611	2742
	20"	500	471	1321	1334	1321	855	749.5	648	584.2	12.7	108	20-ϕ54	544	506	544	505	3880	4074
	24"	600	570	1549	1568	1549	1040	901.5	772	692.15	15.88	140	20-ϕ67	657	616	657	608	6296	6611
	26"	650	617	1651	-	1651	1086	952.5	749	-	7	124	20-ϕ73	700	635	700	625	7280	8050
	28"	700	665	1753	-	1753	1168	1022	800	-	7	143	20-ϕ79	727	685	727	673	9166	9624
	30"	750	712	1880	-	1880	1232	1086	857	-	7	149	20-ϕ79	760	722	760	706	11277	11841
	32"	800	760	2032	-	2032	1314	1156	914	-	7	159	20-ϕ86	795	755	795	734	12300	12915
	36"	900	855	2286	-	2286	1461	1289	1022	-	7	172	20-ϕ92	886	846	886	822	17500	18375

△ Please consult the factory:

Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

PIPELINE TRUNNION BALL VALVE



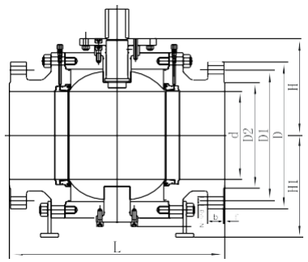
External supporting structure

Internal supporting structure

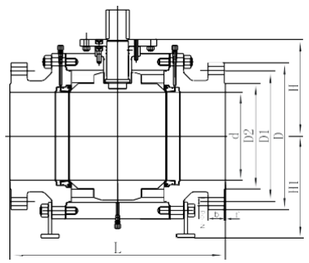
Pressure rating	Norminal Diameter		d	d1	Flanged		Butt welding	Raised face flange							General		Support board		Weight(kg)	
Class	NPS	DN			L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N-ϕd	H	H1	H	H1	General	Support board
600	3" X 2"	80	50	75	356	359	356	210	168.5	127	-	7	32	8-ϕ22	107	91.5	-	-	44	-
	4" X 3"	100	75	100	432	435	432	275	216	157	-	7	38.5	8-ϕ25	140	119	-	-	85	-
	6" X 4"	150	100	150	559	562	559	355	292	216	-	7	48	12-ϕ29	167	150	-	-	169	177
	8" X 6"	200	150	201	660	664	660	420	349	270	-	7	56	12-ϕ32	222	192.5	224	208	280	294
	10" X 8"	250	201	252	787	791	787	510	432	324	-	7	64	16-ϕ35	271	235	272	248	520	546
	12" X 10"	300	252	303	838	841	838	560	489	381	-	7	67	20-ϕ35	317.5	280	318	303	790	830
	14" X 10"	350	252	334	889	892	889	605	527	413	-	7	70	20-ϕ39	317.5	280	318	303	960	1050
	14" X 12"	350	303	334	889	892	889	605	527	413	-	7	70	20-ϕ39	360	320	355	341	1070	1180
	16" X 12"	400	303	385	991	994	991	685	603	470	-	7	77	20-ϕ41	360	320	355	341	1250	1370
	16" X 14"	400	334	385	991	994	991	685	603	470	-	7	77	20-ϕ41	390	350	390	370	1367	1490
	18" X 16"	450	385	436	1092	1095	1092	745	654	533	-	7	83	20-ϕ44	440	395	400	415	1840	1932
	20" X 16"	500	385	487	1194	1200	1194	815	724	584	-	7	89	24-ϕ44	440	395	400	415	2177	2340
	20" x 18"	500	436	487	1194	1200	1194	815	724	584	-	7	89	24-ϕ44	485	439	485	460	2390	2540
	24" X 20"	600	487	589	1397	1407	1397	940	838	692	-	7	102	24-ϕ51	533	490	533	510	3560	3738
	30" X 24"	750	589	735	1651	-	1651	1130	1022	857	-	7	114	28-ϕ54	616	573	616	595	5200	5460
	36" X 30"	900	735	874	2083	-	2083	1314	1194	1022	-	7	124	28-ϕ67	753	710	753	690	9900	10395
900	3" X 2"	80	50	75	381	384	381	240	190.5	156	123.83	7.92	38.5	8-ϕ25	126.5	105			56	
	4" X 3"	100	75	100	457	460	457	290	235	181	149.23	7.92	45	8-ϕ32	150	130	-	-	97	-
	6" X 4"	150	100	150	610	613	610	380	317.5	241	211.12	7.92	56	12-ϕ32	172.5	158	-	-	220	231
	8" X 6"	200	150	201	737	740	737	470	393.5	308	269.88	7.92	64	12-ϕ39	230	197	235	210	436	458
	10" X 8"	250	201	252	838	841	838	545	470	362	323.85	7.92	70	16-ϕ39	285	250	290	255	650	683
	12" X 10"	300	252	303	965	968	965	610	533.5	419	381	7.92	79.5	20-ϕ39	330	294	330	316	1050	1103
	14" X 10"	350	252	322	1029	1038	1029	640	559	467	419.1	11.13	86	20-ϕ42	330	294	330	316	1230	1390
	14" X 12"	350	303	322	1029	1038	1029	640	559	467	419.1	11.13	86	20-ϕ42	366	334	366	351	1435	1565
	16" X 12"	400	303	373	1130	1140	1130	705	616	524	469.9	11.13	89	20-ϕ45	366	334	366	351	1700	1820
	16" X 14"	400	322	373	1130	1140	1130	705	616	524	469.9	11.13	89	20-ϕ45	415	368	415	376	1820	2080
	18" X 16"	450	373	423	1219	1232	1219	785	686	594	533.4	12.7	102	20-ϕ51	452	408	452	421	2550	2678
	20" X 16"	500	373	471	1321	1334	1321	855	749.5	648	584.2	12.7	108	20-ϕ54	452	408	452	421	2630	2765
	20" x 18"	500	373	471	1321	1334	1321	855	749.5	648	584.2	12.7	108	20-ϕ54	501	461	501	463	3630	3900
	24" X 20"	600	471	570	1549	1568	1549	1040	901.5	772	692.15	15.88	140	20-ϕ67	544	506	544	505	5030	5282
	30" X 24"	750	570	712	1880	-	1880	1232	1086	857	-	7	149	20-ϕ79	657	616	657	608	8730	9167
	36" X 30"	900	712	855	2286	-	2286	1461	1289	1022	-	7	172	20-ϕ92	760	722	760	706	15385	16154

△ Please consult the factory:

Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.



Extfernal supporting structure

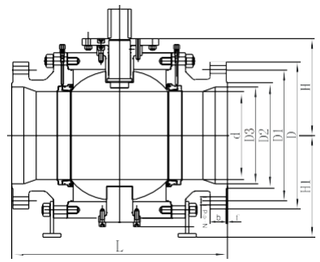


Internal supporting structure

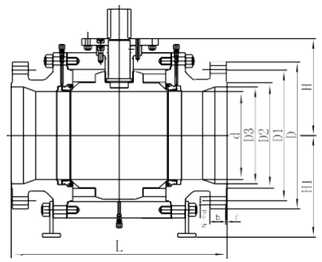
Pressure rating	Norminal Diameter		d	Flanged		Butt welding	Raised face flange							General		Support board		Weight(kg)	
Class	NPS	DN		L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N-Φ d	H	H1	H	H1	General	Support board
1500	2"	50	50	368	371	368	215	165	124	95.25	7.92	38.5	8-Φ25	126.5	105	-	-	57	-
	3"	80	75	470	473	470	265	203.2	168	136.53	7.92	48	8-Φ32	166	149	-	-	168	-
	4"	100	100	546	549	546	310	241.3	194	161.93	7.92	54	8-Φ35	219	178	-	-	230	-
	6"	150	144	705	711	705	395	317.5	248	211.14	9.53	83	12-Φ39	268	227	-	-	685	-
	8"	200	192	832	841	832	485	393.7	318	269.88	11.13	92	12-Φ45	303	267	305	270	993	1043
	10"	250	239	991	1000	991	585	482.6	371	323.85	11.13	108	12-Φ51	358	323	358	336	1781	1870
	12"	300	287	1130	1146	1130	675	571.5	438	381	14.27	124	16-Φ54	414	381	414	395	2280	2394
	14"	350	315	1257	1276	1257	750	635	489	419.1	15.88	134	16-Φ60	471	432	471	441	3000	3150
	16"	400	360	1384	1407	1384	825	704.8	546	469.9	17.48	146.5	16-Φ67	498	453	498	456	3816	4007
	18"	450	406	1537	1559	-	915	774.7	613	533.4	17.48	162	16-Φ73	570	530	570	535	6195	6505
	20"	500	454	1664	1686	-	985	831.8	673	584.2	17.48	178	16-Φ79	611	569	611	561	9075	9529
2500	2"	50	42	451	454	451	235	171.4	133	101.6	7.92	51	8-Φ29	149	123	-	-	140	-
	3"	80	62	578	584	578	305	228.6	168	127	9.53	67	8-Φ35	215	171	-	-	216	-
	4"	100	87	673	683	673	355	273	203	157.18	11.13	76.5	8-Φ42	245	206	-	-	328	-
	6"	150	131	914	927	914	485	368.3	279	228.6	12.7	108	8-Φ54	306	263	306	265	1030	1082
	8"	200	179	1022	1038	1022	550	438.2	340	279.4	14.27	127	12-Φ54	361	330	361	336	1570	1649
	10"	250	223	1270	1292	1270	675	539.8	425	342.9	17.48	166	12-Φ67	426	388	426	394	2550	2678
	12"	300	265	1422	1445	1422	760	619.1	495	406.4	17.48	185	16-Φ74	479	440	479	446	3872	4066

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

PIPELINE TRUNNION BALL VALVE



External supporting structure



Internal supporting structure

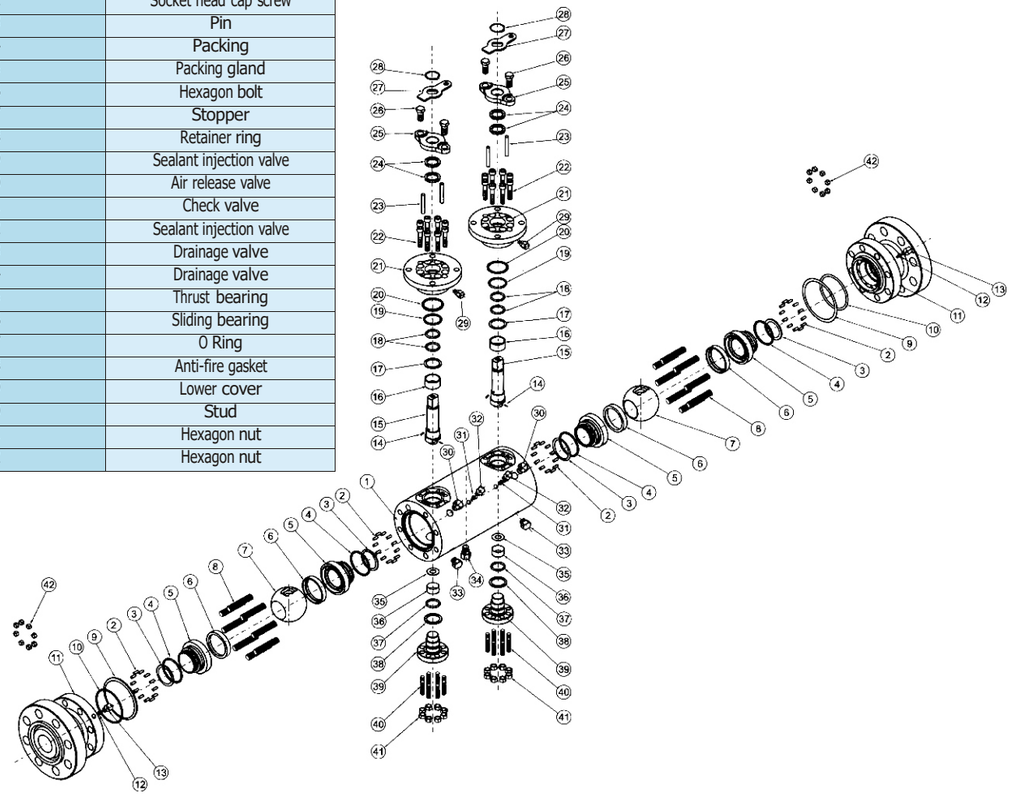
Pressure rating	Norminal Diameter		d	d1	Flanged		Butt welding	Raised face flange							General		Support board		Weight(kg)	
Class	NPS	DN			L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N-Φ d	H	H1	H	H1	General	Support board
1500	3" X 2"	80	50	75	470	473	470	265	203.2	168	136.53	7.92	38.5	8-Φ32	126.5	105	-	-	71	-
	4" X 3"	100	74	100	546	549	546	310	241.3	194	161.93	7.92	54	8-Φ35	166	149	-	-	195	205
	6" X 4"	150	100	144	705	711	705	395	317.5	248	211.14	9.53	83	12-Φ39	219	178	-	-	270	284
	8" X 6"	200	144	192	832	841	832	485	393.7	318	269.88	11.13	92	12-Φ45	268	227	-	-	586	615
	10" X 8"	250	192	239	991	1000	991	585	482.6	371	323.85	11.13	108	12-Φ51	303	267	305	270	1010	1061
	12" X 10"	300	239	287	1130	1146	1130	675	571.5	438	381	14.27	124	16-Φ54	358	323	358	336	1760	1848
	14" X 10"	350	239	315	1257	1276	1257	750	635	489	419.1	15.88	134	16-Φ60	358	323	358	336	2010	2238
	14" X 12"	350	287	315	1257	1276	1257	750	635	489	419.1	15.88	134	16-Φ60	414	381	414	395	2680	2940
	16" X 12"	400	287	360	1384	1407	1384	825	704.8	546	469.9	17.48	146.5	16-Φ67	414	381	414	395	2860	3180
	16" X 14"	400	315	360	1384	1407	1384	825	704.8	546	469.9	17.48	146.5	16-Φ67	471	432	471	441	3530	3850
	18" X 16"	450	360	406	1537	1559	-	915	774.7	613	533.4	17.48	162	16-Φ73	498	453	498	456	5030	5282
	20" X 16"	500	360	454	1664	1686	-	985	831.8	673	584.2	17.48	178	16-Φ79	498	453	498	456	-	-
	20" x 18"	500	406	454	1664	1686	-	985	831.8	673	584.2	17.48	178	16-Φ79	570	530	570	535	5380	5790
2500	3" X 2"	80	42	62	578	584	578	305	228.6	168	127	9.53	67	8-Φ35	149	123	-	-	157	165
	4" X 3"	100	62	87	673	683	673	355	273	203	157.18	11.13	76.5	8-Φ42	215	171	-	-	260	273
	6" X 4"	150	87	131	914	927	914	485	368.3	279	228.6	12.7	108	8-Φ54	245	206	-	-	548	575
	8" X 6"	200	131	179	1022	1038	1022	550	438.2	340	279.4	14.27	127	12-Φ54	306	263	306	265	1100	1155
	10" X 8"	250	179	223	1270	1292	1270	675	539.8	425	342.9	17.48	166	12-Φ67	361	330	361	336	1890	1985
	12" X 10"	300	223	265	1422	1445	1422	760	619.1	495	406.4	17.48	185	12-Φ74	426	388	426	394	2850	2993

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

DOUBLE BLOCK AND BLEED VALVE

DOUBLE BLOCK AND BLEED VALVE

1	Body
2	Spring
3	Anti-fire packing
4	0 Ring
5	Seat ring
6	Ball
7	Seat
8	Stud
9	Anti-fire gasket
10	0 Ring
11	Bonnet
12	Check valve
13	Sealant injection valve
14	Anti-static device
15	Stem
16	Sliding bearing
17	Thrust bearing
18	0 Ring
19	0 Ring
20	Anti-fire gasket
21	Seal gland
22	Socket head cap screw
23	Pin
24	Packing
25	Packing gland
26	Hexagon bolt
27	Stopper
28	Retainer ring
29	Sealant injection valve
30	Air release valve
31	Check valve
32	Sealant injection valve
33	Drainage valve
34	Drainage valve
35	Thrust bearing
36	Sliding bearing
37	0 Ring
38	Anti-fire gasket
39	Lower cover
40	Stud
41	Hexagon nut
42	Hexagon nut

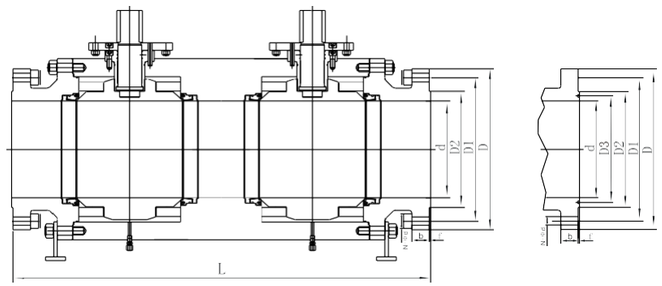


DOUBLE BLOCK AND BLEED VALVE

Part Materials And Main Parameters

Nominal diameter(in)			NPS 2~16				
Nominal pressure(Class)			Class150~Class2500				
Materials of Parts	No	Part Name	Material				
			Carbon Steel	Stainless Steel			
	1	Body	ASTM A105	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	2	Spring	17-7PH	17-7PH	17-7PH	17-7PH	17-7PH
	3	Anti-fire packing	Graphite	Graphite	Graphite	Graphite	Graphite
	4	0 Ring	VITON	VITON	VITON	VITON	VITON
	5	Seat ring	ASTM A105• ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	6	Ball	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL	PTFE/NYLON/PEEK/PPL
	7	Seat	ASTM A105• ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	8	Stud	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	9	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	10	0 Ring	VITON	VITON	VITON	VITON	VITON
	11	Bonnet	ASTM A105	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	12	Check valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	13	Sealant injection valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	14	Anti-static device	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	15	Stem	ASTM A182 F6a	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	16	Sliding bearing	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE
	17	Thrust bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	18	0 Ring	VITON	VITON	VITON	VITON	VITON
	19	0 Ring	VITON	VITON	VITON	VITON	VITON
	20	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	21	Seal gland	ASTM A105• ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	22	Socket head cap screw	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	23	Pin	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035
	24	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
	25	Packing gland	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB
	26	Hexagon bolt	A193 B7M	A320 B8	A320 B8	A320 B8	A320 B8M
	27	Stopper	A3 • HZn	A3 • HZn	A3 • HZn	A3 • HZn	A3 • HZn
	28	Retainer ring	65Mn	65Mn	65Mn	65Mn	65Mn
	29	Sealant injection valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	30	Air release valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	31	Check valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	32	Sealant injection valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	33	Drainage valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	34	Drainage valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	35	Thrust bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	36	Sliding bearing	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE
	37	0 Ring	VITON	VITON	VITON	VITON	VITON
	38	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	39	Lower cover	ASTM A105• ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	40	Stud	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	41	Hexagon nut	A194 2HM	A194-8	A194-8 M	A194-8	A194-8 M
	42	Hexagon nut	A194 2HM	A194-8	A194-8 M	A194-8	A194-8 M
Applicable service conditions		Applicable media	Water, steam, oil, gas, liquefied gas,natural gas,etc.	Nitric Acid	Nitric Acid	Strong Oxidizer	Urea
		Applicable temperature	≤120℃ (PTFE) ≤80℃ (NYLON) ≤250℃ (PEEK) ≤250℃ (PPL)				
Design and manufacturing			API 608、API 6D				
Face-to-face dimensions			ASME B16.10 、API 6D				
Type of connection			Flange	ASME B16.5/ASME B16.47		Butt welding	ASME B16.25
Pressure test			API 598、API 6D				
Transmission mode			Manual, worm and worm gear transmission, pneumatic, electric				

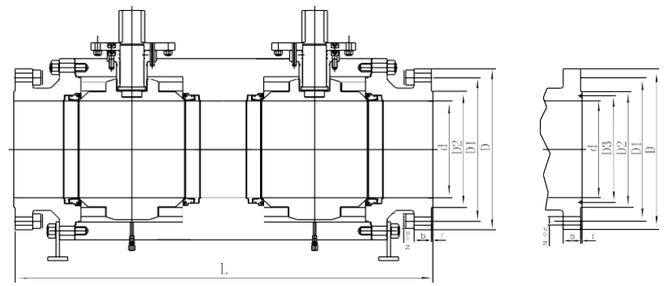
DOUBLE BLOCK AND BLEED VALVE



Pressure rating	Norminal Diameter		d	Flanged		Butt welding	Raised face flange							H	H1	Weight
Class	NPS	DN		L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N- d			(Kg)
150	2"	50	50	356	369	394	150	120.5	92	-	2	14.5	4- 19	93	88	△
	3"	80	75	457	470	537	190	152.5	127	-	2	17.5	4- 19	118.5	117	△
	4"	100	100	502	514	578	230	190.5	157	-	2	22.5	8- 19	143.5	137	△
	6"	150	150	787	799	850	280	241.5	216	-	2	24	8- 22	208	178.5	△
	8"	200	201	902	915	966	345	298.5	270	-	2	27	8- 22	248	235	△
	10"	250	252	991	1004	1017	405	362	324	-	2	29	12- 25	294	288	△
	12"	300	303	1130	1142	1155	485	432	381	-	2	30.5	12- 25	344.5	330	△
	14"	350	334	1245	1258	1321	535	476	413	-	2	33.5	12- 29	377	360	△
	16"	400	385	1372	1385	1448	595	540	470	-	2	35	16- 29	418	400	△
300	2"	50	50	394	410	394	165	127	92	-	2	14.5	4- 19	93	88	△
	3"	80	75	495	510	495	210	168.5	127	-	2	17.5	4- 19	118.5	117	△
	4"	100	100	568	584	568	255	200	157	-	2	22.5	8- 19	143.5	137	△
	6"	150	150	826	842	826	320	270	216	-	2	24	8- 22	208	178.5	△
	8"	200	201	991	1007	991	380	330	270	-	2	27	8- 22	248	235	△
	10"	250	252	1054	1070	1054	445	387.5	324	-	2	29	12- 25	294	288	△
	12"	300	303	1194	1210	1194	520	451	381	-	2	30.5	12- 25	345	330	△
	14"	350	334	1346	1362	1346	585	514.5	413	-	2	33.5	12- 29	377	360	△
	16"	400	385	1473	1489	1473	650	571.5	470	-	2	35	16- 29	418	400	△
600	2"	50	50	470	473	470	165	127	92	-	7	26	8- 19	107	91.5	△
	3"	80	75	610	613	610	210	168.5	127	-	7	32	8- 22	140	119	△
	4"	100	100	762	765	762	275	216	157	-	7	38.5	8- 25	164	150	△
	6"	150	150	978	981	978	355	292	216	-	7	48	12- 29	224	208	△
	8"	200	201	1143	1147	1143	420	349	270	-	7	56	12- 32	272	248	△
	10"	250	252	1372	1376	1372	510	432	324	-	7	64	16- 35	318	303	△
	12"	300	303	1448	1451	1448	560	489	381	-	7	67	20- 35	355	341	△
	14"	350	334	1549	1552	1549	605	527	413	-	7	70	20- 39	390	370	△
	16"	400	385	1778	1781	1778	685	603	470	-	7	77	20- 41	400	415	△

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

DOUBLE BLOCK AND BLEED VALVE



Pressure rating	Norminal Diameter		d	Flanged		Butt welding	Raised face flange							H	H1	Weight
Class	NPS	DN		L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N- d			(Kg)
900	2"	50	50	610	613	610	215	165	124	95.25	7.92	38.5	8- 25	126.5	105	△
	3"	80	75	660	663	660	240	190.5	156	123.83	7.92	38.5	8- 25	150	130	△
	4"	100	100	826	829	826	290	235	181	149.23	7.92	45	8- 32	172.5	158	△
	6"	150	150	1054	1057	1054	380	317.5	241	211.12	7.92	56	12- 32	230	210	△
	8"	200	201	1295	1298	1295	470	393.5	308	269.88	7.92	64	12- 39	290	255	△
	10"	250	252	1473	1476	1473	545	470	362	323.85	7.92	70	16- 39	330	316	△
	12"	300	303	1651	1654	1651	610	533.5	419	381	7.92	79.5	20- 39	366	351	△
	14"	350	322	1880	1889	1880	640	559	467	419.1	11.13	86	20- 42	415	376	△
	16"	400	373	1930	1940	1930	705	616	524	469.9	11.13	89	20- 45	452	421	△
1500	2"	50	50	610	613	610	215	165	124	95.25	7.92	38.5	8- 25	126.5	105	△
	3"	80	75	826	829	826	265	203.2	168	136.53	7.92	48	8- 32	166	149	△
	4"	100	100	965	968	965	310	241.3	194	161.93	7.92	54	8- 35	219	178	△
	6"	150	144	1232	1238	1232	395	317.5	248	211.14	9.53	83	12- 39	268	234	△
	8"	200	192	1448	1457	1448	485	393.7	318	269.88	11.13	92	12- 45	303	270	△
	10"	250	239	1778	1787	1778	585	482.6	371	323.85	11.13	108	12- 51	358	336	△
	12"	300	287	2083	2099	2083	675	571.5	438	381	14.27	124	16- 54	414	395	△
	14"	350	315	2286	2305	2286	750	635	489	419.1	15.88	134	16- 60	471	441	△
	16"	400	360	2422	2445	2422	825	704.8	546	469.9	17.48	146.5	16- 67	498	456	△
2500	2"	50	42	762	765	762	235	171.4	133	101.6	7.92	51	8- 29	149	123	△
	3"	80	62	1029	1153	1029	305	228.6	168	127	9.53	67	8- 35	215	171	△
	4"	100	87	1143	1562	1143	355	273	203	157.18	11.13	76.5	8- 42	245	206	△
	6"	150	131	1549	1559	1549	485	368.3	279	228.6	12.7	108	8- 54	306	265	△
	8"	200	179	1880	1896	1880	550	438.2	340	279.4	14.27	127	12- 54	361	336	△

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

DESIGN STRUCTURAL FEATURES

1. Integral Valve Structure

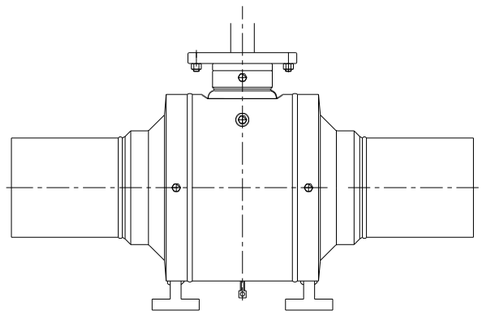
It is welded by forged steel. The forging materials are subjected to ultrasonic examination according to ASME nondestructive flaw detection requirements.The welding slope on the connection face is subjected to liquid penetration examination.

13. Corrosion Resistance and Sulfide Stress Resistance

Certain corrosion allowance is left for the body wall thickness. The carbon steel stem , fixed shaft,ball,seat and seat ring are subjected to chemical nickel plating according to ASTM B733 and B656. In addition, various corrosion resistant materials are available for users to select.According to customer repuirements, the valve materials can be selected according to NACE MR 01 75/ISO 15156 or NACE MR 0103, and strict quality control and quality inspection should be carried out during the manufacturing so as to fully meet the requirements in the standards and meet the service conditions in sulfurization environment.

15. Welding Of Transition Pipe

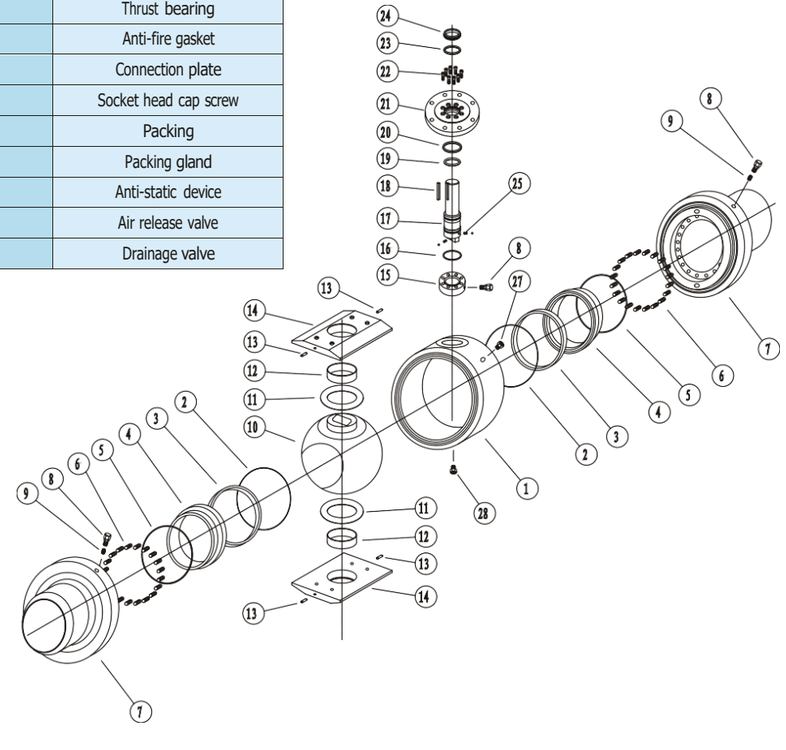
During the manufacturing of the fully welded pipeline ball valve, the transition pipe can be welded for the wdlding ends valve. The transition pipe can be supplied by users or by company according to user requirements. Please indicate the transition pipe diameter and length A when placing orders.



FULL WELDED TRUNNION BALL VALVE

FULL WELDED BALL VALVE

1	Body
2	Anti-fire packing
3	Seat
4	Seat ring
5	O Ring
6	Spring
7	Bonnet
8	Sealant injection valve
9	Check valve
10	Ball
11	Thrust gasket
12	Sliding bearing
13	Pin
14	Bearing holder
15	Seal gland
16	Thrust bearing
17	Stem
18	flat key
19	Thrust bearing
20	Anti-fire gasket
21	Connection plate
22	Socket head cap screw
23	Packing
24	Packing gland
25	Anti-static device
26	Air release valve
27	Drainage valve

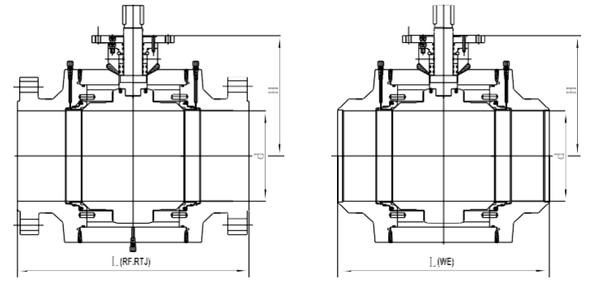


FULLY WELDED PIPELINE BALL VALVE

Part Materials And Main Parameters

Nominal diameter(in)			NPS 6~~48				
Nominal pressure(Class)			Class150~~Class1500				
	No	Part Name	Carbon Steel	Stainless Steel			
Materials of parts	1	Body	ASTM A105	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	2	Anti-fire packing	Graphite	Graphite	Graphite	Graphite	Graphite
	3	Seat	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL
	4	Seat ring	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	5	O Ring	VITON	VITON	VITON	VITON	VITON
	6	Spring	17-7PH	17-7PH	17-7PH	17-7PH	17-7PH
	7	Bonnet	ASTM A105	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	8	Sealant injection valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	9	Check valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	10	Ball	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	11	Thrust gasket	PTFE	PTFE	PTFE	PTFE	PTFE
	12	Sliding bearing	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE
	13	Pin	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035	ANSI 1035
	14	Bearing holder	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	15	Seal gland	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	16	Thrust bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	17	Stem	ASTM A182 F6a	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	18	flat key	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045
	19	Thrust bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	20	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	21	Connection plate	ASTM A105	ASTM A182 304	ASTM A182316	ASTM A182 304L	ASTM A182 316L
	22	Socket head cap screw	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	23	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
	24	Packing gland	ASTM A182 F6a	ASTM A182 F6a	ASTM A182 F6a	ASTM A182 F6a	ASTM A182 F6a
	25	Anti-static device	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	26	Air release valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	27	Drainage valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
Applicable media			Water, steam, oil, gas, liquefied gas,natural gas,etc.	Nitric Acid	Nitric Acid	Strong Oxidizer	Urea
Applicable temperature			≤ ℃ 、≤ ℃ 、≤ ℃ 、≤ ℃				
Design and manufacturing			、				
Face-to-face dimensions			、 、				
Type of connection			Flange	ASME B16.5/ASME B16.47		Butt welding	ASME B16.25
Pressure test			API 598、API 6D				
Transmission mode			Manual, worm and worm gear transmission, pneumatic, electric				

FULL WELDED TRUNNION BALL VALVE

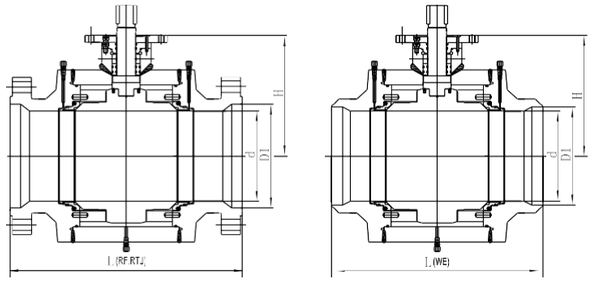


Pressure rating	Norminal Diameter		d	Flanged		Butt welding	H	Weight(kg)	
Class	NPS	DN		L(RF)	L(RTJ)	L(BW)		WE	RF
150	6"	150	150	394	406	457	225	185	220
	8"	200	201	457	470	521	258	250	290
	10"	250	252	533	546	559	310	400	430
	12"	300	303	610	622	635	350	550	620
	14"	350	334	686	699	762	382	820	900
	16"	400	385	762	775	838	421	1100	1220
	18"	450	436	864	876	914	468	1400	1550
	20"	500	487	914	927	991	510	1750	1950
	24"	600	589	1067	1080	1143	592	2800	3050
	26"	650	633	1143	-	1245	635	2900	3250
	28"	700	684	1245	-	1346	675	3400	3700
	30"	750	735	1295	-	1397	723	4800	5300
	32"	800	779	1372	-	1524	751	5500	6000
	36"	900	874	1524	-	1727	858	7550	8370
	40"	1000	976	1753	-	1956	930	10290	11320
300	6"	150	150	403	419	457	225	185	230
	8"	200	201	502	518	521	258	250	300
	10"	250	252	568	584	559	310	400	460
	12"	300	303	648	664	635	350	550	670
	14"	350	334	762	778	762	382	820	1000
	16"	400	385	838	854	838	421	1100	1320
	18"	450	436	914	930	914	468	1400	1650
	20"	500	487	991	1010	991	510	1750	2000
	24"	600	589	1143	1165	1143	592	2800	2550
	26"	650	633	1245	-	1245	635	2900	3300
	28"	700	684	1346	-	1346	675	3400	3750
	30"	750	735	1397	-	1397	723	4800	5500
	32"	800	779	1524	-	1524	751	5500	6500
	36"	900	874	1727	-	1727	858	7980	8800
	40"	1000	976	1956	-	1956		10290	11900

△ Please consult the factory:

Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,and weight will not be notified otherwise.

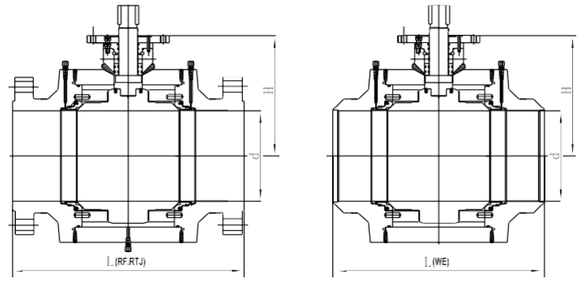
FULL WELDED TRUNNION BALL VALVE



Pressure rating	Norminal Diameter		d	D1	Flanged		Butt welding	H	Weight(kg)	
Class	NPS	DN			L(RF)	L(RTJ)	L(BW)		WE	RF
150	8" X 6"	200	150	201	457	470	521	225	△	△
	10" X 8"	250	201	252	533	546	559	258	△	△
	12" X 10"	300	252	303	610	622	635	310	△	△
	14" X 10"	350	252	334	686	699	762	310	△	△
	14" X 12"	350	303	334	686	699	762	350	△	△
	16" X 12"	400	303	385	762	775	838	350	△	△
	16" X 14"	400	334	385	762	775	838	382	△	△
	18" X 16"	450	385	436	864	876	914	421	△	△
	20" X 16"	500	385	487	914	927	991	421	△	△
	20" x 18"	500	436	487	914	927	991	468	△	△
	24" X 20"	600	487	589	1067	1080	1143	510	△	△
	30" X 24"	750	589	735	1295	-	1397	592	△	△
	36" X 30"	900	735	874	1524	-	1727	723	△	△
300	8" X 6"	200	150	201	502	518	521	225	△	△
	10" X 8"	250	201	252	568	584	559	258	△	△
	12" X 10"	300	252	303	648	664	635	310	△	△
	14" X 10"	350	252	334	762	778	762	310	△	△
	14" X 12"	350	303	334	762	778	762	350	△	△
	16" X 12"	400	303	385	838	854	838	350	△	△
	16" X 14"	400	334	385	838	854	838	382	△	△
	18" X 16"	450	385	436	914	930	914	421	△	△
	20" X 16"	500	385	487	991	1010	991	421	△	△
	20" x 18"	500	436	487	991	1010	991	468	△	△
	24" X 20"	600	487	589	1143	1165	1143	510	△	△
	30" X 24"	750	589	735	1397	1422	1397	592	△	△
	36" X 30"	900	735	874	1727	1756	1727	723	△	△

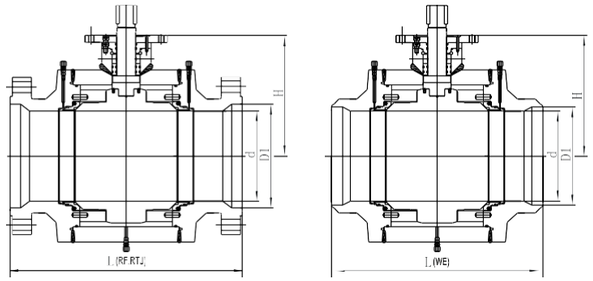
△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,and weight will not be notified otherwise.

FULL WELDED TRUNNION BALL VALVE



Pressure rating	Norminal Diameter		d	Flanged		Butt welding	H	Weight(kg)	
Class	NPS	DN		L(RF)	L(RTJ)	L(BW)		WE	RF
600	6"	150	150	559	562	559	255	250	330
	8"	200	201	660	664	660	290	340	450
	10"	250	252	787	791	787	320	570	710
	12"	300	303	838	841	838	380	850	1000
	14"	350	334	889	892	889	410	1100	1370
	16"	400	385	991	994	991	435	1350	1650
	18"	450	436	1092	1095	1092	495	2100	2400
	20"	500	487	1194	1200	1194	535	2600	3000
	24"	600	589	1397	1407	1397	642	3700	4300
	26"	650	633	1448	-	1448	665	3900	4500
	28"	700	684	1549	-	1549	704	4200	4900
	30"	750	735	1651	-	1651	745	6000	6900
	32"	800	779	1778	-	1778	785	6800	8000
	36"	900	874	2083	-	2083	875	9570	10850
900	6"	150	150	610	613	610	255	330	430
	8"	200	201	737	740	737	290	400	520
	10"	250	252	838	841	838	320	640	820
	12"	300	303	965	968	965	380	900	1050
	14"	350	322	1029	1038	1029	410	1020	1400
	16"	400	373	1130	1140	1130	435	1350	2050
	18"	450	423	1219	1232	1219	495	2600	3400
	20"	500	471	1321	1334	1321	535	3700	4200
	24"	600	570	1549	1568	1549	642	4400	5400
1500	6"	150	144	705	711	705	255	375	565
	8"	200	192	832	841	832	290	415	505
	10"	250	239	991	1000	991	320	525	640
	12"	300	287	1130	1146	1130	380	780	950
	14"	350	315	1257	1276	1257	410	1145	1380

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,and weight will not be notified otherwise.



Pressure rating	Norminal Diameter		d	D1	Flanged		Butt welding	H	Weight(kg)	
Class	NPS	DN			L(RF)	L(RTJ)	L(BW)		WE	RF
600	8" X 6"	200	150	201	660	664	660	255	△	△
	10" X 8"	250	201	252	787	791	787	290	△	△
	12" X 10"	300	252	303	838	841	838	320	△	△
	14" X 10"	350	252	334	889	892	889	380	△	△
	14" X 12"	350	303	334	889	892	889	380	△	△
	16" X 12"	400	303	385	991	994	991	380	△	△
	16" X 14"	400	334	385	991	994	991	410	△	△
	18" X 16"	450	385	436	1092	1095	1092	435	△	△
	20" X 16"	500	385	487	1194	1200	1194	435	△	△
	20" x 18"	500	436	487	1194	1200	1194	495	△	△
	24" X 20"	600	487	589	1397	1407	1397	535	△	△
	30" X 24"	750	589	735	1651	-	1651	642	△	△
	36" X 30"	900	735	874	2083	-	2083	745	△	△
900	8" X 6"	200	150	201	737	740	737	255	△	△
	10" X 8"	250	201	252	838	841	838	290	△	△
	12" X 10"	300	252	303	965	968	965	320	△	△
	14" X 10"	350	252	322	1029	1038	1029	320	△	△
	14" X 12"	350	303	322	1029	1038	1029	380	△	△
	16" X 12"	400	303	373	1130	1140	1130	380	△	△
	16" X 14"	400	322	373	1130	1140	1130	410	△	△
	18" X 16"	450	373	423	1219	1232	1219	435	△	△
	20" X 16"	500	373	471	1321	1334	1321	435	△	△
	20" x 18"	500	423	471	1321	1334	1321	495	△	△
	24" X 20"	600	471	570	1549	1568	1549	535	△	△
1500	8" X 6"	200	144	192	832	841	832	255	△	△
	10" X 8"	250	192	239	991	1000	991	290	△	△
	12" X 10"	300	239	287	1130	1146	1130	320	△	△
	14" X 10"	350	239	315	1257	1276	1257	320	△	△
	14" X 12"	350	287	315	1257	1276	1257	380	△	△
	16" X 12"	400	287	360	1384	1407	1384	380	△	△

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,and weight will not be notified otherwise.

USAGE

The top entry ball valve is mainly used on pipelines and industrial systems. It has such advantages as top online maintenance function,small fluid resistance, simple structure, reliable sealing, convenient operation and maintenance,rapid on-off operation, flexible opening and closing, etc. The driving modes include manual operation, worm and worm gear transmission, pneumatic operation and electric operation. The connection ends can be flange or butt welding.

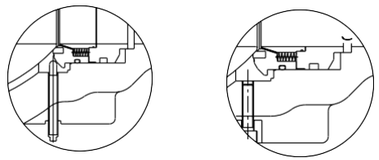
DESIGN STRUCTURAL FEATURES

1. Integral structure

The body adopts the integral structure, so as to ensure that it has enough strength and rigidity under the maximum rated working pressure. The valve trims have been carefully designed and selected to ensure reliability under various service conditions. The sufficient wall thickness and the connection bolts of high strength are very helpful to the maintenance and servicing of valves and are able to endure pipeline stress.

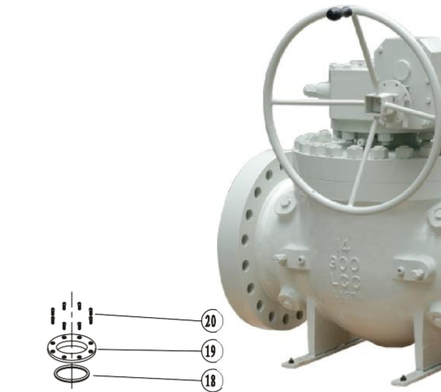
2. Top Entry Structure

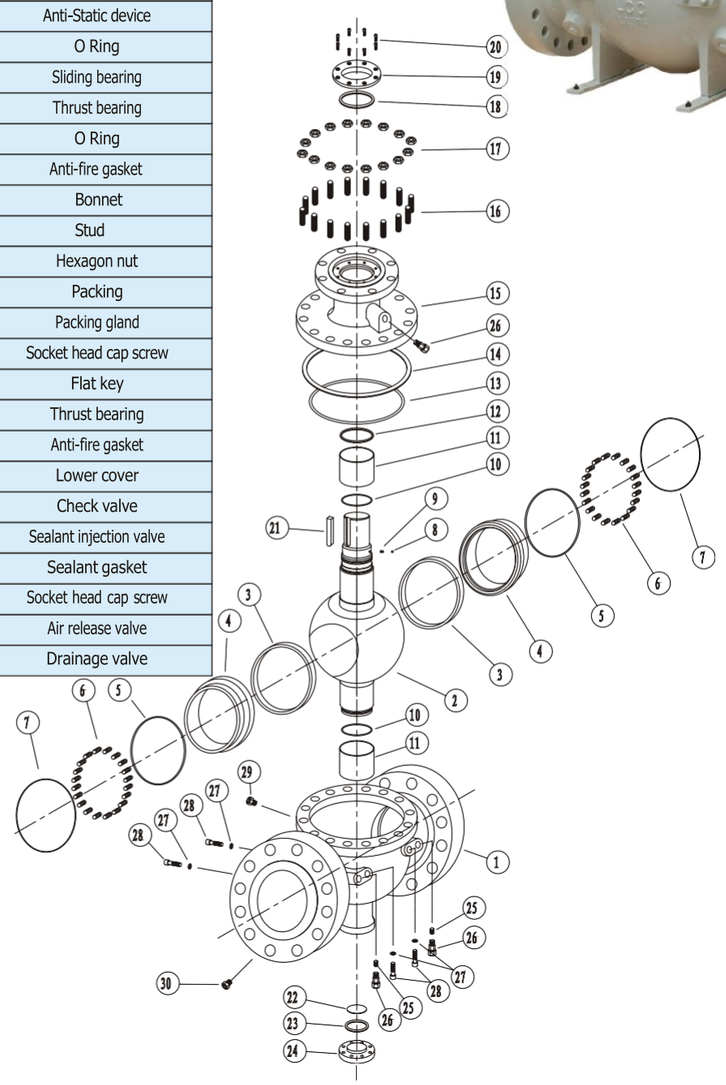
The valve adopts the top entry structure. The most distinctive difference between this kind of valve and others is that the online maintenance function can be realized without the need of removing the valve from the pipeline.The seat adopts the concession type seat structure.and the rear end of the seat retainer is set as obilque angle to prevent impurities accumulated on the seat from influencing the concession of seat.



TOP ENTRY BALL AVLVE

1	Body
2	Ball
3	Seat
4	Seat ring
5	O Ring
6	Spring
7	Anti-fire packing
8	Anti-Static device
9	O Ring
10	Sliding bearing
11	Thrust bearing
12	O Ring
13	Anti-fire gasket
14	Bonnet
15	Stud
16	Hexagon nut
17	Packing
18	Packing gland
19	Socket head cap screw
20	Flat key
21	Thrust bearing
22	Anti-fire gasket
23	Lower cover
24	Check valve
25	Sealant injection valve
26	Sealant gasket
27	Socket head cap screw
28	Air release valve
29	Drainage valve





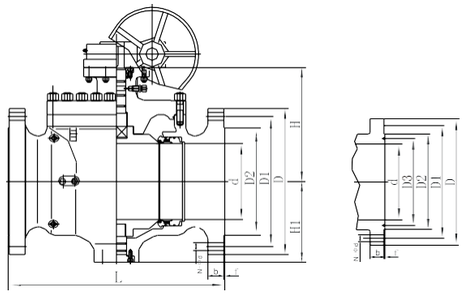
TOP-ENTRY TRUNNION BALL VALVE

TOP ENTRY BALL VALVE

Part Materials And Main Parameters

Nominal diameter(in)			NPS 2~36				
Nominal pressure(Class)			Class150~Class900				
Materials of parts	No	Part Name	Material				
			Carbon Steel	Stainless Steel			
	1	Body	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M	ASTM A351 CF3	ASTM A351 CF3M
	2	Ball	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	3	Seat	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL	PTFE/NYOLN/PEEK/PPL
	4	Seat ring	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	5	O Ring	VITON	VITON	VITON	VITON	VITON
	6	Spring	17-7PH	17-7PH	17-7PH	17-7PH	17-7PH
	7	Anti-fire packing	Graphite	Graphite	Graphite	Graphite	Graphite
	8	Anti-Static device	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	9	O Ring	VITON	VITON	VITON	VITON	VITON
	10	Sliding bearing	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE	Metal+PTFE
	11	Thrust bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	12	O Ring	VITON	VITON	VITON	VITON	VITON
	13	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	14	Bonnet	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M	ASTM A351 CF3	ASTM A351 CF3M
	15	Stud	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	16	Hexagon nut	A194 2HM	A194-8	A194 -8M	A194-8	A194-8M
	17	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
	18	Packing gland	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	19	Socket head cap screw	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	20	Flat key	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045	ANSI 1045
	21	Thrust bearing	PTFE	PTFE	PTFE	PTFE	PTFE
	22	Anti-fire gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	23	Lower cover	ASTM A105 • ENP	ASTM A182 304	ASTM A182 316	ASTM A182 304L	ASTM A182 316L
	24	Check valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	25	Sealant injection valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	26	Sealant gasket	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite	SST+Graphite
	27	Socket head cap screw	A193 B7M	A320 B8	A320 B8M	A320 B8	A320 B8M
	28	Air release valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
	29	Drainage valve	Combined parts	Combined parts	Combined parts	Combined parts	Combined parts
Applicable service conditions		Applicable media	Water, steam, oil, gas, liquefied gas,natural gas,etc.	Nitric Acid	Nitric Acid	Strong Oxidizer	Urea
		Applicable temperature	≤120℃ (PTFE) ≤80℃ (NYLON) ≤250℃ (PEEK) ≤250℃ (PPL)				
Design and manufacturing			API 608、API 6D				
Face-to-face dimensions			ASME B16.10 、API 6D				
Type of connection			Flange	ASME B16.5/ASME B16.47		Butt welding	ASME B16.25
Pressure test			API 598、API 6D				
Transmission mode			Manual, worm and worm gear transmission, pneumatic, electric				

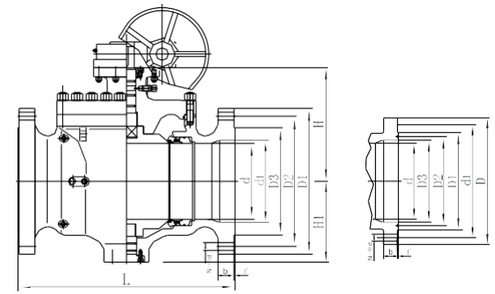
TOP-ENTRY TRUNNION BALL VALVE



Pressure rating	Norminal Diameter		d	Flanged		Butt welding	Raised face flange							H	H1	Weight (kg)
Class	NPS	DN		L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N- d			
150	2"	50	50	292	295	292	150	120.5	92	-	2	14.5	4- 19	130	102	△
	3"	80	75	283	298	283	190	152.5	127	-	2	17.5	4- 19	163	150	△
	4"	100	100	432	435	432	230	190.5	157	-	2	22.5	8- 19	177	175	△
	6"	150	150	559	562	559	280	241.5	216	-	2	24	8- 22	240	231	△
	8"	200	201	660	664	660	345	298.5	270	-	2	27	8- 22	266	256	△
	10"	250	252	787	791	787	405	362	324	-	2	29	12- 25	324	303.5	△
	12"	300	303	838	841	838	485	432	381	-	2	30.5	12- 25	383	353	△
	14"	350	334	889	892	889	535	476	413	-	2	33.5	12- 29	390	403	△
	16"	400	385	991	994	991	595	540	470	-	2	35	16- 29	435	453	△
	18"	450	436	1092	1095	1092	635	578	533	-	2	38.5	16- 32	522	502	△
	20"	500	487	1194	1200	1194	700	635	584	-	2	41.5	20- 32	565	556	△
	24"	600	589	1397	1407	1397	815	749.5	692	-	2	46.5	24- 35	618	602	△
	26"	650	633	1448	-	1448	870	806.5	749	-	2	68	24- 35	660	658	△
	28"	700	684	1549	-	1549	927	864	800	-	2	71	28- 35	690	712	△
	30"	750	735	1651	-	1651	984	914.5	857	-	2	75	28- 35	770	761	△
	32"	800	779	1778	-	1778	1060	978	914	-	2	81	28- 41	838	815	△
	36"	900	874	2083	-	2083	1168	1086	1022	-	2	90	32- 41	910	866	△
300	2"	50	50	292	295	292	165	127	92	-	2	21	8- 19	130	102	△
	3"	80	75	283	298	283	210	168.5	127	-	2	27	8- 22	163	150	△
	4"	100	100	432	435	432	255	200	157	-	2	30.5	8- 22	177	175	△
	6"	150	150	559	562	559	320	270	216	-	2	35	12- 22	240	231	△
	8"	200	201	660	664	660	380	330	270	-	2	40	12- 25	266	256	△
	10"	250	252	787	791	787	445	387.5	324	-	2	46.5	16- 29	324	303.5	△
	12"	300	303	838	841	838	520	451	381	-	2	49.5	16- 32	383	353	△
	14"	350	334	889	892	889	585	514.5	413	-	2	52.5	20- 32	390	403	△
	16"	400	385	991	994	991	650	571.5	470	-	2	56	20- 35	440	453	△
	18"	450	436	1092	1095	1092	710	628.5	533	-	2	59	24- 35	535	502	△
	20"	500	487	1194	1200	1194	775	686	584	-	2	62	24- 35	575	556	△
	24"	600	589	1397	1407	1397	915	813	692	-	2	68.5	24- 41	640	602	△
	26"	650	633	1448	-	1448	972	876.5	749	-	2	79	28- 45	680	658	△
	28"	700	684	1549	-	1549	1035	940	800	-	2	86	28- 45	720	712	△
	30"	750	735	1651	-	1651	1092	997	857	-	2	92	28- 48	808	761	△
	32"	800	779	1778	-	1778	1149	1054	914	-	2	98	28- 51	860	815	△
	36"	900	874	2083	-	2083	1270	1168	1022	-	2	105	32- 54	935	866	△

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

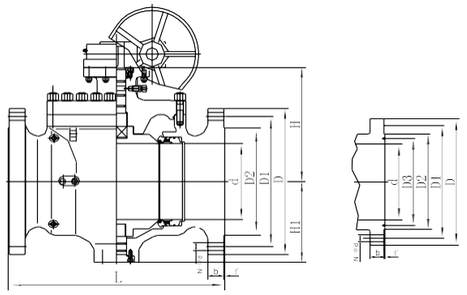
TOP-ENTRY TRUNNION BALL VALVE



Pressure rating	Norminal Diameter		d	d1	Flanged		Butt welding	Raised face flange							H	H1	Weight (kg)
Class	NPS	DN			L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N- d			
150	3" X 2"	80	50	75	283	298	283	190	152.5	127	-	2	17.5	4- 19	130	102	△
	4" X 3"	100	75	100	432	435	432	230	190.5	157	-	2	22.5	8- 19	163	150	△
	6" X 4"	150	100	150	559	562	559	280	241.5	216	-	2	24	8- 22	177	175	△
	8" X 6"	200	150	201	660	664	660	345	298.5	270	-	2	27	8- 22	240	231	△
	10" X 8"	250	201	252	787	791	787	405	362	324	-	2	29	12- 25	266	256	△
	12" X 10"	300	252	303	838	841	838	485	432	381	-	2	30.5	12- 25	324	303.5	△
	14" X 10"	350	252	334	889	892	889	535	476	413	-	2	33.5	12- 29	324	303.5	△
	14" X 12"	350	303	334	889	892	889	535	476	413	-	2	33.5	12- 29	383	353	△
	16" X 12"	400	303	385	991	994	991	595	540	470	-	2	35	16- 29	383	353	△
	16" X 14"	400	334	385	991	994	991	595	540	470	-	2	35	16- 29	390	403	△
	18" X 16"	450	385	436	1092	1095	1092	635	578	533	-	2	38.5	16- 32	435	453	△
	20" X 16"	500	385	487	1194	1200	1194	700	635	584	-	2	41.5	20- 32	435	453	△
	20" x 18"	500	436	487	1194	1200	1194	700	635	584	-	2	41.5	20- 32	522	502	△
	24" X 20"	600	487	589	1397	1407	1397	815	749.5	692	-	2	46.5	20- 35	565	556	△
	30" X 24"	750	589	735	1651	-	1651	984	914.5	857	-	2	75	28- 35	618	602	△
	36" X 30"	900	735	874	2083	-	2083	1168	1086	1022	-	2	90	32- 41	770	761	△
300	3" X 2"	80	50	75	283	298	283	210	168.5	127	-	2	27	8- 22	130	102	△
	4" X 3"	100	75	100	432	435	432	255	200	157	-	2	30.5	8- 22	163	150	△
	6" X 4"	150	100	150	559	562	559	320	270	216	-	2	35	12- 22	177	175	△
	8" X 6"	200	150	201	660	664	660	380	330	270	-	2	40	12- 25	240	231	△
	10" X 8"	250	201	252	787	791	787	445	387.5	324	-	2	46.5	16- 29	266	276	△
	12" X 10"	300	252	303	838	841	838	520	451	381	-	2	49.5	16- 32	324	303.5	△
	14" X 10"	350	252	334	889	892	889	585	514.5	413	-	2	52.5	20- 32	324	303.5	△
	14" X 12"	350	303	334	889	892	889	585	514.5	413	-	2	52.5	20- 32	383	353	△
	16" X 12"	400	303	385	991	994	991	650	571.5	470	-	2	56	20- 35	383	353	△
	16" X 14"	400	334	385	991	994	991	650	571.5	470	-	2	56	20- 35	390	403	△
	18" X 16"	450	385	436	1092	1095	1092	710	628.5	533	-	2	59	24- 35	440	453	△
	20" X 16"	500	385	487	1194	1200	1194	775	686	584	-	2	62	24- 35	440	453	△
	20" x 18"	500	436	487	1194	1200	1194	775	686	584	-	2	62	24- 35	535	502	△
	24" X 20"	600	487	589	1397	1407	1397	915	813	692	-	2	68.5	24- 41	575	556	△
	30" X 24"	750	589	735	1651	-	1651	1092	997	857	-	2	92	28- 48	640	602	△
	36" X 30"	900	735	874	2083	-	2083	1270	1168	1022	-	2	105	32- 54	808	761	△

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

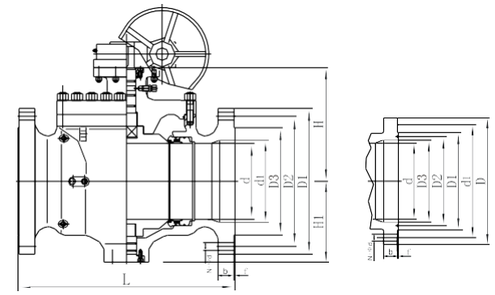
TOP-ENTRY TRUNNION BALL VALVE



Pressure rating	Norminal Diameter		d	Flanged		Butt welding	Raised face flange							H	H1	Weight (kg)
Class	NPS	DN		L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N- d			
600	2"	50	50	292	295	292	165	127	92	-	7	26	8- 19	142	110	△
	3"	80	75	356	359	356	210	168.5	127	-	7	32	8- 22	188	165	△
	4"	100	100	432	435	432	275	216	157	-	7	38.5	8- 25	205	193	△
	6"	150	150	559	562	559	355	292	216	-	7	48	12- 29	255	242	△
	8"	200	201	660	664	660	420	349	270	-	7	56	12- 32	282	268	△
	10"	250	252	787	791	787	510	432	324	-	7	64	16- 35	369	339	△
	12"	300	303	838	841	838	560	489	381	-	7	67	20- 35	402	300	△
	14"	350	334	889	892	889	605	527	413	-	7	70	20- 39	410	320	△
	16"	400	385	991	994	991	685	603	470	-	7	77	20- 41	467	360	△
	18"	450	436	1092	1095	1092	745	654	533	-	7	83	20- 44	560	430	△
	20"	500	487	1194	1200	1194	815	724	584	-	7	89	24- 44	633	490	△
	24"	600	589	1397	1407	1397	940	838	692	-	7	102	24- 51	692	536	△
900	2"	50	50	368	371	368	215	165	124	95.25	7.92	38.5	8- 25	160	112	△
	3"	80	75	381	384	381	240	190.5	156	123.83	7.92	38.5	8- 25	213	168	△
	4"	100	100	457	460	457	290	235	181	149.23	7.92	45	8- 32	232	197.5	△
	6"	150	150	610	613	610	380	317.5	241	211.12	7.92	56	12- 32	289	258	△
	8"	200	201	737	740	737	470	393.5	308	269.88	7.92	64	12- 39	319	294	△
	10"	250	252	838	841	838	545	470	362	323.85	7.92	70	16- 39	407	372	△
	12"	300	303	965	968	965	610	533.5	419	381	7.92	79.5	20- 39	443	329	△
	14"	350	322	1029	1038	1029	640	559	467	419.1	11.13	86	20- 42	467	345	△
	16"	400	373	1130	1140	1130	705	616	524	469.9	11.13	89	20- 45	527	388	△
	18"	450	423	1219	1232	1219	785	686	594	533.4	12.7	102	20- 51	632	463	△
	20"	500	471	1321	1334	1321	855	749.5	648	584.2	12.7	108	20- 54	715	527	△
	24"	600	570	1549	1568	1549	1040	901.5	772	692.15	15.88	140	20- 67	782	573	△

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

TOP-ENTRY TRUNNION BALL VALVE



Pressure rating	Norminal Diameter		d	d1	Flanged		Butt welding	Raised face flange							H	H1	Weight (kg)
Class	NPS	DN			L(RF)	L(RTJ)	L(BW)	D	D1	D2	D3	f	b	N- d			
600	3" X 2"	80	50	75	356	359	356	210	168.5	127	-	7	32	8- 22	142	110	△
	4" X 3"	100	75	100	432	435	432	275	216	157	-	7	38.5	8- 25	188	165	△
	6" X 4"	150	100	150	559	562	559	355	292	216	-	7	48	12- 29	205	193	△
	8" X 6"	200	150	201	660	664	660	420	349	270	-	7	56	12- 32	255	242	△
	10" X 8"	250	201	252	787	791	787	510	432	324	-	7	64	16- 35	282	268	△
	12" X 10"	300	252	303	838	841	838	560	489	381	-	7	67	20- 35	369	339	△
	14" X 10"	350	252	334	889	892	889	605	527	413	-	7	70	20- 39	369	339	△
	14" X 12"	350	303	334	889	892	889	605	527	413	-	7	70	20- 39	402	300	△
	16" X 12"	400	303	385	991	994	991	685	603	470	-	7	77	20- 41	402	300	△
	16" X 14"	400	334	385	991	994	991	685	603	470	-	7	77	20- 41	410	320	△
	18" X 16"	450	385	436	1092	1095	1092	745	654	533	-	7	83	20- 44	467	360	△
	20" X 16"	500	385	487	1194	1200	1194	815	724	584	-	7	89	24- 44	467	360	△
	20" x 18"	500	436	487	1194	1200	1194	815	724	584	-	7	89	24- 44	560	430	△
	24" X 20"	600	487	589	1397	1407	1397	940	838	692	-	7	102	24- 51	633	490	△
900	3" X 2"	80	50	75	381	384	381	240	190.5	156	123.83	7.92	38.5	8- 25	160	112	△
	4" X 3"	100	75	100	457	460	457	290	235	181	149.23	7.92	45	8- 32	213	168	△
	6" X 4"	150	100	150	610	613	610	380	317.5	241	211.12	7.92	56	12- 32	232	197.5	△
	8" X 6"	200	150	201	737	740	737	470	393.5	308	269.88	7.92	64	12- 39	289	258	△
	10" X 8"	250	201	252	838	841	838	545	470	362	323.85	7.92	70	16- 39	319	294	△
	12" X 10"	300	252	303	965	968	965	610	533.5	419	381	7.92	79.5	20- 39	407	372	△
	14" X 10"	350	252	322	1029	1038	1029	640	559	467	419.1	11.13	86	20- 42	407	372	△
	14" X 12"	350	303	334	1029	1038	1029	640	559	467	419.1	11.13	86	20- 42	443	329	△
	16" X 12"	400	303	373	1130	1140	1130	705	616	524	469.9	11.13	89	20- 45	443	329	△
	16" X 14"	400	334	385	1130	1140	1130	705	616	524	469.9	11.13	89	20- 45	467	345	△
	18" X 16"	450	373	423	1219	1232	1219	785	686	594	533.4	12.7	102	20- 51	527	388	△
	20" X 16"	500	373	471	1321	1334	1321	855	749.5	648	584.2	12.7	108	20- 54	527	388	△
	20" x 18"	500	423	471	1321	1334	1321	855	749.5	648	584.2	12.7	108	20- 54	632	463	△
	24" X 20"	600	471	570	1549	1568	1549	1040	901.5	772	692.15	15.88	140	20- 67	715	527	△

△ Please consult the factory:
Note: The weight valve is only for flanged valve. Please consult our factory for higher nominal diameter or weight. Any modification to size H,H1 and weight will not be notified otherwise.

CONFIGURATION OF BALL VALVE DRIVING DEVICE

CONFIGURATION OF VALVE PNEUMATIC DEVICE

Our company can reasonably allocate pneumatic device for the ball valve according to ball valve type, pressure, diameter, temperature, working medium, working requirements, or according to user requirements. The configuration of accessories shall also be taken into consideration when the pneumatic device is configured. The accessories of pneumatic device generally include: air supply treatment triplex parts (pressure reducing valve, filter, atomizer), solenoid valve, air reversing valve, electropneumatic positioner, limit switch, speed regulator, equalizing valve, hand operating mechanism, etc.

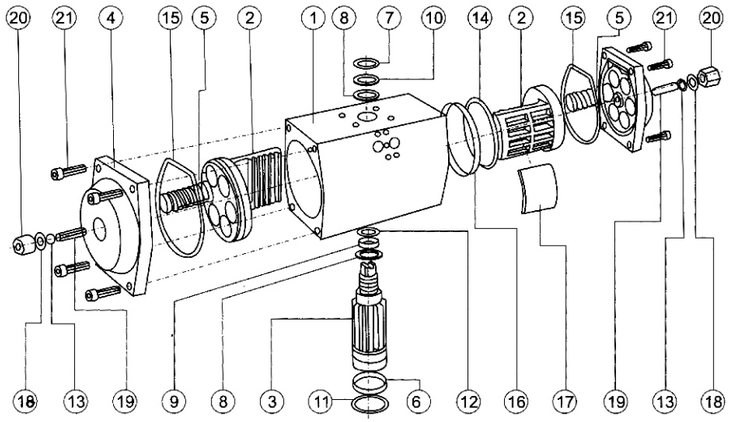
Output Torque of Double Acting Pneumatic Device

Type	Air Pressure,Mpa						
	0.2	0.3	0.4	0.5	0.6	0.7	0.8
	Output Torque, N.m						
GTD40	3.7	5.6	7.4	9.3	11.2	13.0	14.9
GTD52	7.9	11.8	15.7	19.6	23.6	27.5	31.4
GTD65	14.7	22.1	29.5	36.8	44.2	51.5	58.9
GTD80	26.0	39.0	52.0	65.1	78.1	91.1	104.0
GTD90	37.6	56.5	75.3	94.1	112	131	150
GTD100	58.0	87	116	145	174	203	232
GTD115	84.5	126	169	211	253	295	338
GTD125	108	163	217	272	326	381	435
GTD145	159	239	318	398	478	557	637
GTD160	223	334	446	557	669	780	892
GTD190	367	550	734	917	1101	1284	1467
GTD210	538	807	1075	1344	1613	1882	2151
GTD255	1057	1587	2115	2644	3172	3701	4230
GTD300	1656	2470	3293	4117	4940	5764	6587
GTD350	2490	3735	4981	6226	7471	8717	9962

CONFIGURATION OF BALL VALVE DRIVING DEVICE

OUTPUT TORQUE OF SINGLE ACTING(SPRING RETURN) PNEUMATIC DEVICE

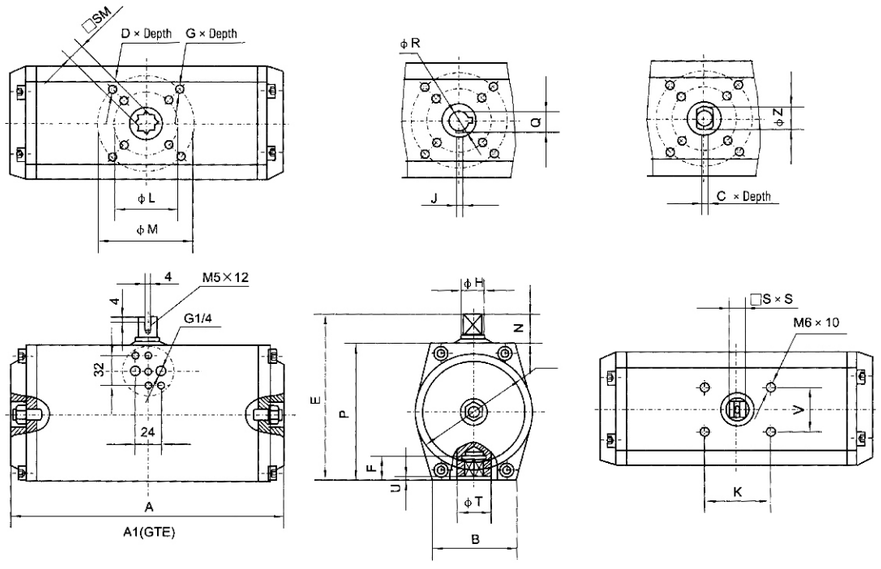
Type	Spring QTY	Air Pressure, Mpa						Spring-return	
		Output Torque,N.m							
		Start	End	Start	End	Start	End	Start	End
GTE65	8	15.0	7.9	22.3	15.2			14.2	7.1
	10			20.6	11.7	27.9	19.1	17.8	8.9
	12			18.8	8.1	26.2	15.5	21.3	10.7
GTE80	8	25.1	16.2	38.1	29.3			22.8	14.0
	10			34.6	23.6	47.6	36.6	28.5	17.5
	12			31.1	17.9	44.1	30.9	34.2	21.0
GTE90	8	32.8	20.9	51.6	39.8			35.5	23.7
	10			45.7	30.9	64.5	49.7	44.4	29.6
	12			39.8	22.0	58.6	40.8	53.3	35.5
GTE100	8	56.1	26.5	85.1	55.5			60.7	31.1
	10			77.3	40.3	106	69.4	75.9	38.9
	12			69.6	25.2	98.6	54.2	91.0	46.6
GTE115	8	77.9	45.4	120	87.6			81.4	48.8
	10			108	67.3	150	109	101	61.1
	12			95.8	46.9	138	89.2	122	73.3
GTE125	8	101	65.7	155	120			97.7	62.2
	10			140	95.7	194	150	122	77.7
	12			124	71.3	179	125	146	93.2
GTE145	8	135	83.7	215	163			155	103
	10			189	124	269	204	194	129
	12			163	85.7	243	165	233	155
GTE160	8	201	134	312	246			199	133
	10			279	196	391	307	249	166
	12			246	146	357	258	299	199
GTE190	8	317	213	500	397			336	233
	10			442	313	626	496	420	291
	12			384	228	567	412	505	349
GTE210	8	465	309	734	578			497	341
	10			648	454	917	723	621	427
	12			563	330	832	559	745	512
GTE255	8	945	670	1474	1199			915	640
	10			1314	970	1843	1499	1144	800
	12			1154	741	1683	1270	1373	961
GTE300	8	1491	838	2314	1662			1631	979
	10			2069	1254	2893	2077	2039	1223
	12			1825	846	2648	1669	2447	1468
GTE350	8	2181	1404	3427	2650			2330	1554
	10			3038	2067	4284	3312	2913	1942
	12			2650	1484	3895	2730	3496	2331



Typical structure and spare parts of gear and rack dual piston type pneumatic device

1、Shell
2、Piston
3、Rotary shaft
4、End cover
5、Spring/spring seat
6、Lower bearing
7、Elastic retainer ring
8、Washer in the shaft
9、Upper bearing
10、Flat washer above the shaft
11、O ring below the shaft
12、O ring below the shaft
13、Bolt O seal ring
14、Piston O ring
15、End cover seal ring
16、Piston guide ring
17、piston bearing bush
18、End cover flat washer
19、Adjusting bolt
20、Hexagon nut

Outline and connection dimensions



CONFIGURATION OF BALL VALVE DRIVING DEVICE

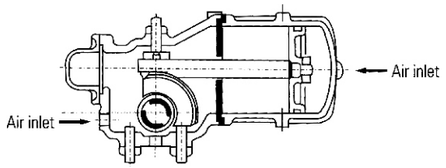
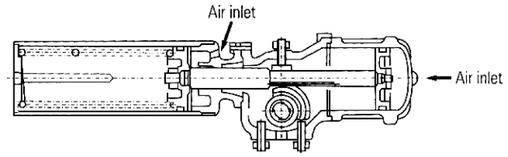
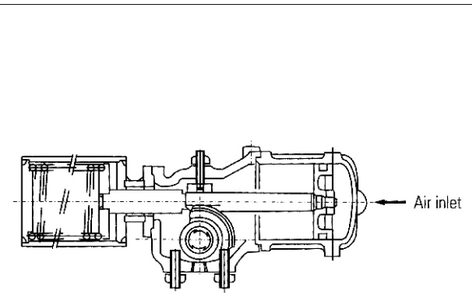
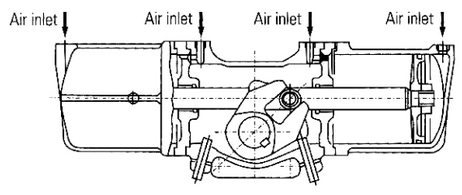
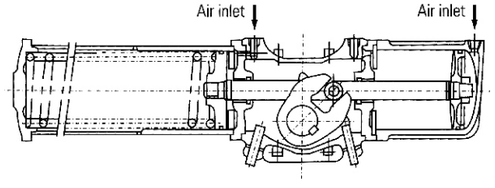
OUTLINE AND CONNECTION DIMENSIONS

Type	A	A1	B	C X depth	D X depth	E	F	G X depth	H	J	K	L
GTD/GTE40	104	-	45	8 X 12	M6 X 10	82	14	-	12	-	50.8	F04 ϕ42
GTD/GTE52	140	-	50	8 X 12	M6 X 10	96	14	M5 X 8	16	3.0	50.8	F03 ϕ36
GTD/GTE65	164	178	62	10 X 13	M8 X 13	102	16	M6 X 10	18	3.0	50.8	F05 ϕ50
GTD/GTE80	190	214	65	10 X 15	M8 X 13	130	18	M6 X 10	18	5.0	50.8	F05 ϕ50
GTD/GTE90	210	246	74	10 X 15	M8 X 13	140	18	M6 X 10	18	5.0	50.8	F05 ϕ50
GTD/GTE100	247	295	90	14 X 22	M10 X 16	156	25	M8 X 13	24	5.0	50.8	F07 ϕ70
GTD/GTE115	276	340	94	14 X 22	M10 X 16	177	25	M8 X 13	24	5.0	50.8	F07 ϕ70
GTD/GTE125	308	398	103	20 X 24	M10 X 16	182	25	M8 X 13	30	5.0	50.8	F07 ϕ70
GTD/GTE140	348	438	110	20 X 24	M12 X 16	216	29	M10 X 16	38	8.0	70.8	F10 ϕ102
GTD/GTE160	378	478	110	28 X 30	M12 X 16	233	29	M10 X 16	38	8.0	70.8	F10 ϕ102
GTD/GTE190	432	562	128	28 X 30	M12 X 16	282	29	M10 X 16	50	8.0	70.8	F10 ϕ102
GTD/GTE210	524	724	135	32 X 34	M16 X 24	305	40	M16 X 24	50	8.0	150	F14 ϕ140
GTD/GTE255	648	928	159	40 X 40	M20 X 24	352	50	M20 X 24	75	10.0	150	F16 ϕ165
GTD/GTE300	715	1033	196	40 X 40	M20 X 24	400	50	M20 X 24	85	12	150	F16 ϕ165
GTD/GTE350	795	1129	220	50 X 50	M20 X 24	458	70	M16 X 24	105	12	150	F25 ϕ200

Type	M	N	P	Q	R	□S X S	□SW	T	U	V	W	Y深	Z
GTD/GTE40	-	22	60	-	-	9 X 9	11 X 11	20	2.0	35	50	-	12
GTD/GTE52	F05 ϕ50	22	74	14.2	12.7	10 X 10	11 X 11	23	2.0	35	62	32	12
GTD/GTE65	F07 ϕ70	22	90	14.2	12.7	13 X 13	14 X 14	29	2.0	35	75	32	16
GTD/GTE80	F07 ϕ70	22	108	18.4	15.88	13 X 13	17 X 17	33	2.0	35	91	32	16
GTD/GTE90	F07 ϕ70	22	118	18.4	15.88	13 X 13	17 X 17	38	2.5	35	101	32	16
GTD/GTE100	F10 ϕ102	22	134	21.6	19.05	16 X 16	22 X 22	46	2.5	35	112	45	22
GTD/GTE115	F10 ϕ102	25	149	21.6	19.05	16 X 16	22 X 22	52	3.0	35	127	45	22
GTD/GTE125	F10 ϕ102	25	160	24.8	22.23	22.3 X 22.3	22 X 22	55	3.0	35	139	45	30
GTD/GTE140	F12 ϕ125	35	181	32.1	28.58	28.6 X 28.6	27 X 27	65	3.5	35	159	45	30
GTD/GTE160	F12 ϕ125	35	198	32.1	28.58	28.6 X 28.6	27 X 27	70	3.5	35	176	45	42
GTD/GTE190	F12 ϕ125	50	232	32.1	28.58	36 X 36	36 X 36	80	4.0	35	206	45	42
GTD/GTE210	160 X 100	50	255	35.3	31.75	36 X 36	36 X 36	92	4.0	60	228	45	48
GTD/GTE255	200 X 120	50	302	37.4	33.34	46 X 46	46 X 46	125	4.0	60	275	50	60
GTD/GTE300	200 X 140	50	350	45.3	41.28	46 X 46	46 X 46	135	4.5	60	324	65	80
GTD/GTE350	260 X 160	50	408	54.8	50.8	60 X 60	60 X 60	158	4.5	60	380	70	100

Type Ag,Aw,C Pneumactic Devices

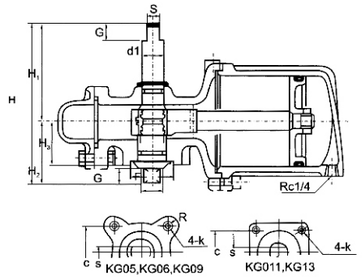
Refer to the following table for specifications and structural features of pneumatic device

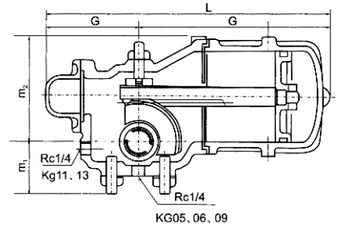
KG	Double acting type, single cylinder, single piston. Air pressure: 0.3~0.7MPa. Transmission mechanism: gear and reack mechanism, used for small size valves.	
KG-S	Single acting spring return standard type. Air pressure: 0.3~0.7MPa. Transmission mechanism: gear and rack mechanism with single cylinder and single piston. The fully closed indepent spring cylinder is safe and reliable.	
KG-D	Single acting spring return standard type. Air pressure: 0.3~0.7MPa. Transmission mechanism: gear and rack mechanism with double piston and high capacity	
KG-R	Single acting spring return low pressure type. Air pressure: 0.21~0.6MPa. Transmission mechanism: gear and rack mechanism with double piston and high capacity	
KW C	Double acting type, double cylinder. Air pressure: 0.3~0.7Mpa. Transmission mechanism: fork mechanism. High Capacity, usde for middle and large size valves. The output torque is similar to the operating torque of middle and large size valves.	
KW-S KW-L C-S	Single acting spring return type, with spring set in one cylinder. S for standard type, air pressure: 0.3~0.7MPa. L for low pressure type, air pressure: 0.28~ 0.46MPa. Transmission mechanism: fork mechanism.	

CONFIGURATION OF BALL VALVE DRIVING DEVICE

MAIN DIMENSIONS AND WEIGHT:

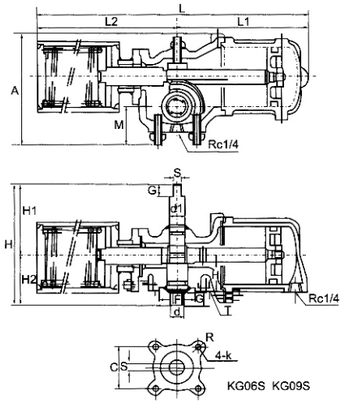
Double action type(kg)

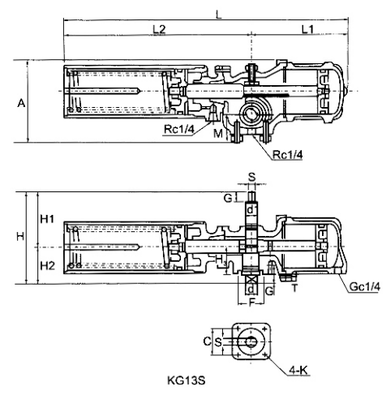




Type	Size, mm																		Weight
	m1	m2	L	I1	I2	C	H	H1	H2	H3	F	d	d1	S	G	K	R		Kg
KG05	27	58	108	95	51	-	17.5	-	-	-	-	-	-	-	-	-	-		-
KG06	42	78	200	136	64	45	131	78	53	38	36	14	16	8	13	M6	7.5		3.5
KG09	47	105	270	181	89	50	156	95	61	43	40	20	20	12	16	M8	10		6.5
KG11	70	126	327	222	105	80	214	131	83	50	60	34	35	22	28	M12	12		13
KG13	70	155	450	257	148	80	224	131	93	60	60	34	35	22	28	M12	12		19

Single action type (KG-S、KG-D)

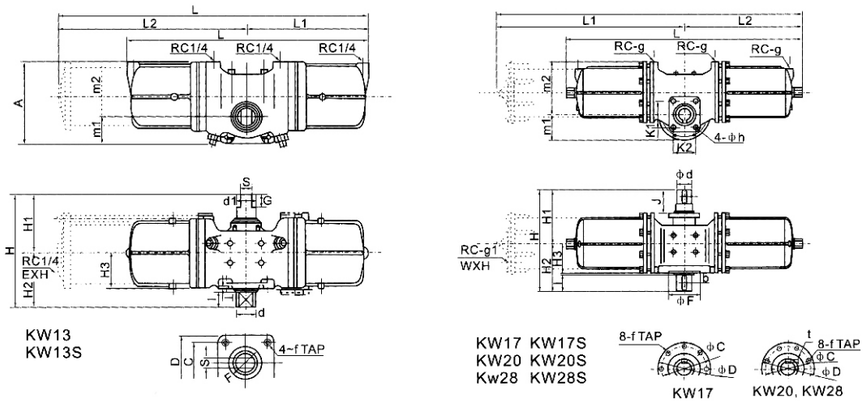




Specification	Size, mm																		Weight
	L	I1	I2	A	m1	C	H	H1	H2	H3	F	d	d1	S	G	K	R	T	Kg
KG06S	329	136	193	120	42	45	131	78	53	38	36	14	16	8	13	M6	7.5	3	6
KG09S	463	181	282	152	47	50	156	95	61	43	40	20	20	12	16	M8	10	3	12
KG13S	683	257	426	225	70	80	224	131	93	60	60	34	35	22	28	M12	12	8	31

Specification	Size, mm																	Weight
	A	M	L	I1	I2	H	H1	H2	H3	d	d1	S	G	G	C	K	F	Kg
KG06D	120	42	419	136	283	131	78	53	38	14	16	8	13	13	45	M6	36	7
KG09D	152	47	536	181	355	156	95	61	43	20	20	12	16	16	50	M8	40	14
KG13D	225	70	847	257	590	224	131	93	60	34	35	22	28	28	80	M12	60	43

KW、JW-S MODEL:



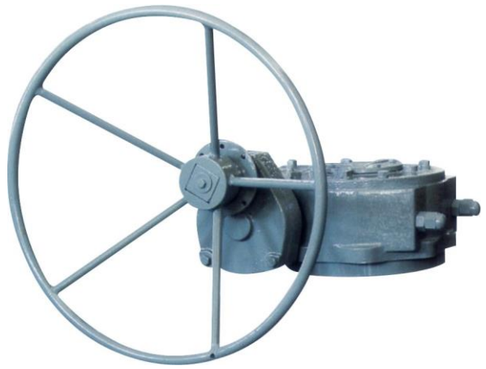
Specification		Kw13	KW13S	Kw17	KW17S	Kw20	KW20S	Kw28	KW28S
Size,mm	A	200	200	-	-	-	-	-	-
	m1	68	68	95	95	115	115	158	158
	m2	132	132	176	176	232	232	302	302
	L	574	810	755	988	1060	1415	1360	1840
	L1	-	287	-	378	-	530	-	680
	L2	-	523	-	610	-	885	-	1160
	H	285	285	381	381	457	457	578	578
	H1	157	157	209	209	244	244	305	305
	H2	128	128	172	172	213	213	273	273
	H3	85	85	105	105	130	130	165	165
	C	100	100	Φ160	Φ160	Φ200	Φ200	Φ280	Φ280
	D	132	132	Φ190	Φ190	Φ230	Φ230	Φ316	Φ316
	f	M16	M16	M16	M16	M16	M16	M20	M20
	g	-	-	3/8	3/8	3/8	3/8	1/2	1/2
	g1	-	-	-	1/4	-	3/8	-	1/2
	Φd	44	44	50	50	64	64	85	85
	d1	45	45	-	-	-	-	-	-
	S	27	27	-	-	-	-	-	-
	I	38	38	60	60	75	75	100	100
	Φ F	80	80	120	120	140	140	220	220
	T	4	4	-	-	-	-	-	-
	b	-	-	12	12	18	18	24	24
	t	-	-	3.5	3.5	6	6	9	8
	j	-	-	99	99	109	109	137	137
	K1	-	-	110	110	120	120	210	210
	K2	-	-	80	80	100	100	-	-
	Φh	-	-	19	19	23	23	27	27
Weight(kg)Weight		35.8	55.4	75	102.5	130	181	275	398

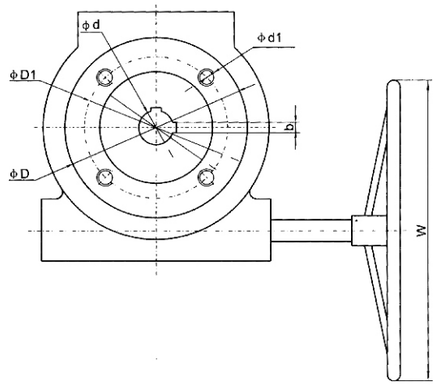
CONFIGURATION OF BALL VALVE DRIVING DEVICE

CONFIGURATION OF BALL VALVE ELECTRIC DEVICE

Our company can determine the operating torque of the ball valve according to ball valve model, specification, actual working pressure, working temperature and medium, and select electric device of suitable model and specification for users by taking into consideration the factors such as ball valve rotation speed, explosion-proof performance, voltage, current, working environment, romote control, intelligent control requirement, outline dimensions, price, after service and etc. The electric device can also be allocated according to user requirements. As there are many factors to be taken into consideration for the configuration of electric device, we hope that users can commuicate with us timely and sufficiently when placing orders so as to ensure correct and reasonable configuration of ball valve electric device.

CONFIGURATION OF BALL VALVE WORM AND WORM GEAR TRANSMISSION DEVICE





Type	Output torque	Ratio	Size,mm						Flange No	Weight
	N.m		d	d1	D1	b	N-d1	W	F	Kg
WQT07	950	54:1	30	150	125	8	4-M12	320	12	8
WQT08	1300	50:1	35	210	165	10	4-M20	350	16	37
WQT17	2200	72:1	45	210	165	14	4-M20	350	16	39
WQT18	2200	72:1	45	255	197	14	8-M16	400	20	48
WQT27	3300	68:1	55	210	165	16	4-M20	350	16	37
WQT28	3300	68:1	55	300	254	16	8-M16	500	25	72
WQT37	4200	85:1	60	300	254	18	8-M16	500	25	72
WQT38	10050	275:1	70	300	254	20	8-M16	500	25	90
	10050	275:1	70	350	298	20	8-M20	500	30	116
WQT39	13800	380:1	80	350	298	22	8-M20	350	30	116
WQT47	16500	455:1	90	415	356	25	8-M30	500	35	195
WQT48	22000	664:1	100	425	356	28	8-M30	500	35	200
WQT58	43700	1281:1	130	530	406	32	8-M36	600	40	300

CONFIGURATION OF BALL VALVE DRIVING DEVICE

BALL VALVE FLOW COEFFICIENT(CV)

Nominal diameter(in)	NPS	Class150~Class600		Class900		Class1500		Class2500	
		Full Bore	Reduced Bore	Full Bore	Reduced Bore	Full Bore	Reduced Bore	Full Bore	Reduced Bore
15	1/2"	24	14	24	14	24	14	24	14
20	3/4"	55	31	55	31	55	31	55	31
25	1"	100	55	100	55	100	55	100	55
32	1 1/2"	160	85	160	85	160	85	160	85
40	1 1/4"	260	123	260	123	260	123	260	123
50	2"	450	218	450	218	450	218	310	160
80	3"	1200	490	1200	490	1200	490	600	240
100	4"	2200	880	2200	880	2200	880	1520	680
150	6"	5150	1980	5150	1980	3850	1840	2800	1500
200	8"	9500	3500	9500	3500	7800	3200	5500	2800
250	10"	15000	5460	15000	5460	12300	4900	98800	4300
300	12"	24000	7900	24000	7900	20200	7100	15200	6100
350	14"	28000	10700	25000	9940	22800	9500	-	-
400	16"	37000	14000	34000	13100	30500	12300	-	-
450	18"	48000	18000	44200	17000	-	-	-	-
500	20"	58000	22000	53500	20600	-	-	-	-
600	24"	91000	31500	76500	29500	-	-	-	-
650	26"	100000	37000	-	-	-	-	-	-
700	28"	120000	43000	-	-	-	-	-	-
750	30"	141000	49000	-	-	-	-	-	-
800	32"	165000	56000	-	-	-	-	-	-
900	36"	205000	71000	-	-	-	-	-	-
1000	40"	266500	-	-	-	-	-	-	-
1200	48"	383000	-	-	-	-	-	-	-