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TAIKE VALVE CO., LTD

FLUID CONTROL SOLUTIONS



TKYCO

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**FLUID CONTROL
SOLUTIONS**

全方位流体控制解决方案

中外合资 Sino Foreign Joint Venture



Company Profile 企业简介

泰科阀门有限公司是一家集研发、设计、开发制造为一体的企业，拥有多处生产基地，引进先进的制造工艺和管理体系，通过国家ISO9001质量体系认证和ISO14001环境管理体系认证。

泰科阀门有限公司长期以来从事暖通、给排水、消防系统产品，市政工程、火灾产品等行业，具有很高的知名度和影响力。

泰科阀门有限公司一贯坚持以产品质量为企业生命的宗旨，给客户适合的产品和快捷的售前售后服务。

Tkyco Valve Co., Ltd. is an enterprise integrating R&D, design, development and manufacturing. It has many production bases, introduces advanced manufacturing technology and management system, and has passed the national ISO9001 quality system certification and ISO14001 environmental management system certification.

Tkyco Valve Co., Ltd. has long been engaged in HVAC, water supply and drainage, fire protection system products, municipal engineering, fire products and other industries, with high popularity and influence.

Tkyco Valve Co., Ltd. has always adhered to the purpose of taking product quality as the life of the enterprise, providing customers with suitable products and fast pre-sales and



Production Workshop 生产车间

我公司拥有高精度的数控机床和加工中心，先进的设备及检测仪器，精良的工艺以及严格完善的质量管理体系，并聚集具有专业技术精英和领先水平的科技队伍，充分利用新技术、新工艺、新材料保证产品的稳定性和可靠性，产品质量取源于制造手段的先进，精品意识源于不断创新。

Our company has high-precision CNC machine tools and processing centers, advanced equipment and testing instruments, excellent technology and strict and perfect quality management system, and gathers professional technical elites and leading scientific and technological teams to make full use of new technologies, new processes and new materials to ensure the stability and reliability of products. The product quality comes from the advanced manufacturing means, High quality consciousness comes from continuous innovation.



Forged Steel Floating Ball Valve



Design specification

Design basis: API6D/BS5351/ASMEB16.34

Structural length: ASMEB16.10

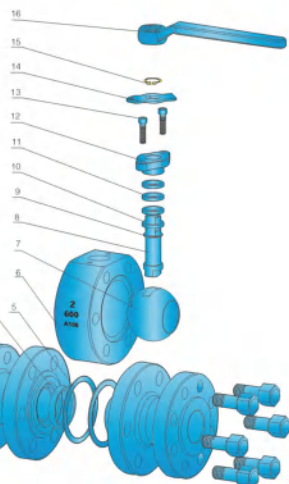
Flange ruler: ASME B16.5

Test and inspection: API598

Note: The size of valve connecting flanges and butt welding ends can be designed and manufactured according to user requirements.

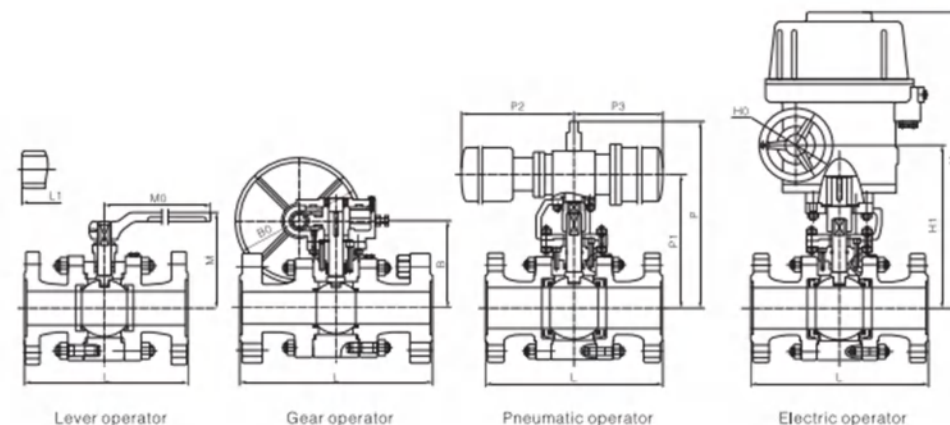
Material table of main parts

NO.	Part name	Material
		ASTM
1	gasket	Flexible graphite + stainless steel
2	Valve seat	PTFE
3	dextrosoma	A105
4	nut	A194-2H
5	stud	A193-B7
6	Valve body	A105
7	sphere	A105+ENP
8	Valve stem	A182-F6a
9	gasket	PTFE
10	Packing pad	A276-410
11	filler	Flexible graphite
12	Packing gland	A216-WCB
13	bolt	A193-B7
14	Locating plate	Carbon steel
15	retainer	AISI1566
16	controller	A47-66732510



Note: The material of this part of the sulfur resistant valve is ASTM(A182-304+Ni.P); The material of this part of the sulfur resistant valve is ASTM(A276-321); The material of the main parts and sealing surface of series valves can be designed and selected according to the actual working conditions or the special requirements of users.

Forged Steel Floating Ball Valve



Host to shape and connection dimensions

PN1.6/2.5MPa CLASS 150

DN	mm	15	20	25	40	50	65	80	100	125	150	200
NPS	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8
Francois	L	108	117	127	165	178	190	203	229	356	394	457
Butt welding	L1	140	152	165	190	216	241	282	305	381	403	419
Manual operation	H	73	78	86	102	130	142	191	200	226	242	285
	W	130	130	160	180	230	400	400	460	750	750	900
	Kg	3	4	6	12	15	19	22	46	65	85	127
Worm gear drive	H	/	/	/	/	/	/	/	/	/	260	300
	W						/			/	400	600
	Model number	/	/		/	/			/		A	B
pneumatic	Kg	/	/			/			/		110	175
	H	203	234	242	326	354	366	415	485	607	623	742
	H1	125	139	147	195	223	235	284	328	398	414	498
	L1	326	326	347	420	426	426	590	523	610	610	885
	L2	136	136	181	181	257	257	257	287	378	378	530
	Model number	AG06	AG09	AG09	AG13	AG13	AG13	AG13	AW13	AW17	AW17	AW20
power-driven	Kg	6.1	6.3	8.1	14.1	16.6	38.0	42.1	53.0	93.5	105.2	207.8
	H	/	/			432	443	454	493	574	646	678
	H1					337	348	359	398	424	496	528
	W					190	190	190	190	400	400	400
	Model number					Q60-1	Q60-1	Q60-1	Q60-1	Q120-1	Q120-1	Q120-1
	Kg					23	25	60	75	97	162	226

Forged Steel Floating Ball Valve



Main appearance and connection dimensions

PN4.0MPa CLASS300

DN	mm	15	20	25	40	50	65	80	100	125	150	200
NPS	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8
Francois	L	140	152	165	190	216	241	282	305	381	403	502
Butt welding	L1	140	152	165	190	216	241	282	305	381	403	502
Manual operation	H	73	80	86	102	136	164	191	223	240	253	307
	W	140	140	180	230	240	400	400	750	750	900	1000
	Kg	4	6	6.8	11.2	18.3	32	38	78	85	102	125
Worm gear drive	H	/	/	/	/	/	/	/	/	/	325	387
	W	/	/	/	/	/	/	/	/	/	400	600
	Model number										A	B
Pneumatic	Kg	/	/	/	/	/	/	/	/	/	148	196
	H	204	236	242	326	359	388	415	508	621	675	824
	H1	126	141	147	195	228	257	284	351	412	466	580
	L1	326	326	347	420	426	426	590	523	610	610	885
	L2	136	136	181	181	257	257	257	287	378	378	530
Power-driven	Model number	AG06	AG09	AG09	AG13	AG13	AG13	AG13	AW13	AW17	AW17	AW20
	Kg	6.2	6.4	8.5	16.9	20.6	42.5	52.7	77.9	107.0	130	220
	H	/	/	/	/	432	443	454	493	574	646	678
	H1	/	/	/	/	337	348	359	398	424	496	528
	W	/	/	/	/	190	190	190	190	400	400	400
	Model number					Q60-1	Q60-1	Q60-1	Q60-1	Q120-1	Q120-1	Q120-1
	Kg					23	35	60	75	100	170	245

Main appearance and connection dimensions

PN6.4/10.0MPa CLASS 600

DN	mm	15	20	25	40	50	65	80	100
NPS	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4
Francois	L	165	190	216	241	292	330	356	406(432)*
Butt welding	L1	165	190	216	241	292	330	356	406(432)*
Manual operation	H	73	80	86	110	142	171	185	220
	W	160	160	230	400	400	650	650	800
	Kg	4.5	6.2	7.5	12.5	26.1	38	44	65
Worm gear drive	H	/	/	/	/	/	/	182	217
	W	/	/	/	/	/	/	280	400
	Model number							0	A
pneumatic	Kg	/	/	/	/	/	/	50	95
	H	229	236	242	266	366	395	470	601
	H1	134	141	147	171	235	264	313	392
	L1	283	283	283	350	590	590	523	610
	L2	136	181	181	181	257	257	287	378
power-driven	Model number	Ag09	Ag09	Ag09	Ag 09	Ag13	Ag13	Ag13	Aw17
	Kg	6.5	6.8	9.3	17.8	33.6	45.1	55.3	81.3
	H	/	/	/	/	500	520	545	558
	H1	/	/	/	/	350	370	395	408
	W	/	/	/	/	190	190	190	190
	Model number					Q120-1	Q120-1	Q120-1	Q120-1
	Kg					26	41	72	92

The size in *0 in the table is PN10.0MPa Class 600.

Cast Steel Floating Ball Valve



Technical specification

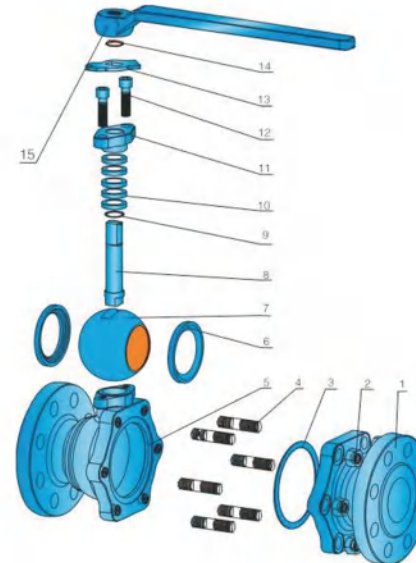
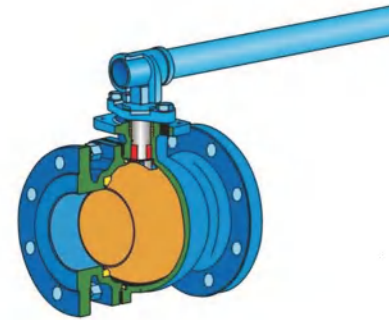
Design standard: API 6D/BS5351/ASME B1 6.34

Construction length: ASME B1 6.10

Flange size: ASME B1 6.5

Test and verification: API 598

Note: The size of valve connecting flanges and butt welding ends can be designed and manufactured according to user requirements.

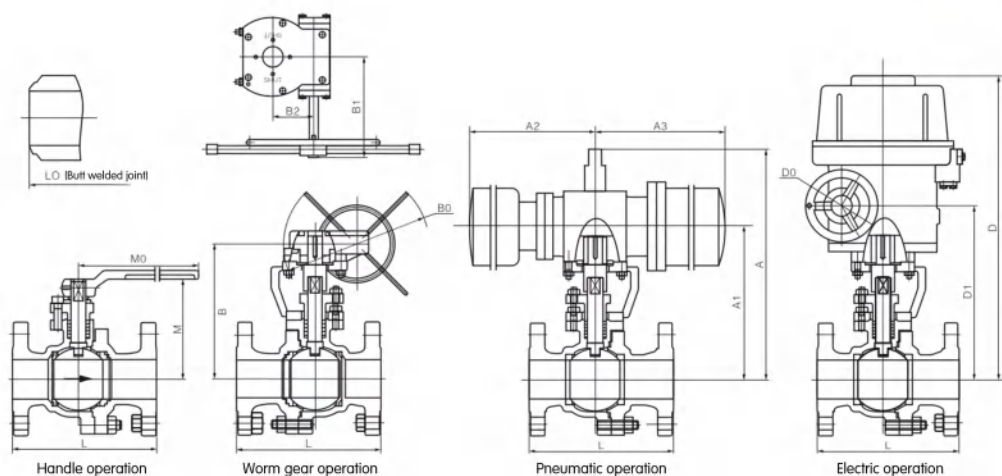


Material table of main parts

NO.	Part name	Material		
		Carbon steel series	Stainless steel series	Low temperature series
1	dextrosoma	A216 WCB	A351-CF8, CF8M, CF3, CF3M	A352LCB, LCC
2	nut	A1942H	A1948M	A1944
3	gasket	Flexible graphite + stainless steel		
4	stud	A193-B7 A193-B8 A320L7M		
5	Valve body	A216 WCB	A351-CF8, CF8M, CF3, CF3M	A352LCB, LCC
6	Valve seat	PTFE, RPTFE, Sintering carbon fibre, Metal-Rubber groupware		
7	sphere	A105+HCr/ENP	A182 F304 A182 F316	A350LF2 A350 LF3+ENP
8	Valve stem	A182 F6a	A182F304, 316	A182 F6a
9	gasket	A182F6a		A182F6a
10	Packing gasket	Flexible graphite		
11	Packing gland	A216 WCB	A351 CF8, CF8M	A351CF8
12	Screws	A193 B7	A193B8, B8M	A320 L7
13	Locating plate	GB/T700 Q235A+Zn(Cr)		
14	retainer	A216 WCB		
15	controller	GB/T 122265Mn		

Note: The material of this part of the sulfur resistant valve is ASTM(A182-304+Ni.P)
The material of this part of the sulfur resistant valve is ASTM(A276-321); The material of the main parts and sealing surface of series valves can be designed and selected according to the actual working conditions or the special requirements of users.

Full Bore Floating Ball Valve



Main appearance and connection dimensions

PN1.6MPa CLASS150

DN	mm	15	20	25	40	50	65	80	100	125	150	200
NPS	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8
L	RF	108	117	127	165	178	190	203	229	356	394	457
Lo	BW	140	152	165	190	216	241	283	305	381	457	521
Manual operation	M	59	63	75	95	107	142	152	178	252	272	342
	M0	130	130	160	230	230	400	400	650	1050	1050	1410
Worm gear and worm	B	/	/	/	/	/	/	/	/	292	398	
	B0	/	/	/	/	/	/	/	/	400	600	
	B1	/	/	/	/	/	/	/	/	350	350	
	B2	/	/	/	/	/	/	/	/	115.5	115.5	
pneumatic	A	200	204	257	264	340	370	389	594	646	646	781
	A1	122	126	162	169	209	239	258	337	437	437	537
	A3	326	326	347	420	426	426	590	523	610	610	885
	A4	136	136	181	181	257	257	257	287	378	378	530
power-driven		/	/	/	/	472	486	579	595	650	739	799
	D1	/	/	/	/	377	391	484	500	500	589	649
	D0	/	/	/	/	190	190	190	190	400	400	400
weight Kg (RF)	Manual operation	2.5	3	5	7	10	15	19	33	58	93	160
	pneumatic	10	15.7	19.5	42.8	46.9	50.5	70	92.7	160.7	183.5	276
	power-driven	/	/	/	/	32	35.6	44	55	93	128	195

Note: Dimensions of connection flange and welded end are shown in the attached table (A, E).

Full Bore Floating Ball Valve



Main appearance and connection dimensions

PN2.5/4.0MPa CLASS300

DN	mm	15	20	25	40	50	65	80	100	125	150	200
NPS	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8
L	RF	140	152	165	190	216	241	283	305	381	403	502
Lo	BW	140	152	165	190	216	241	283	305	381	457	521
Manual operation	M	59	63	75	95	107	142	152	178	252	272	342
	M0	130	130	160	230	230	400	400	650	1050	1050	1410
Worm gear and worm	B	/	/	/	/	/	/	/	/	/	292	398
	B0	/	/	/	/	/	/	/	/	/	400	600
	B1	/	/	/	/	/	/	/	/	/	350	421
	B2	/	/	/	/	/	/	/	/	/	115.5	171
Pneumatic hydraulic	A	200	204	257	264	340	379	452	594	646	744	920
	A1	122	126	162	169	209	248	295	375	437	500	615
	A3	326	326	347	420	426	426	590	523	610	610	885
	A4	136	136	181	181	257	257	257	287	378	378	530
power-driven		/	/	/	/	472	486	579	595	650	739	799
	D1	/	/	/	/	377	391	484	500	500	589	649
	D0	/	/	/	/	190	190	190	190	400	400	400
weight Kg (RF)	Manual operation	3	4	6	11	15	24	30	55	81	118	200
	pneumatic	10	15.7	20	40.9	43.9	51.9	68	99.4	177.5	207.5	381
	power-driven	/	/	/	/	29	37	42	77	116	143	235

Note: Dimensions of connection flange and welded end are shown in the attached table (A, E).

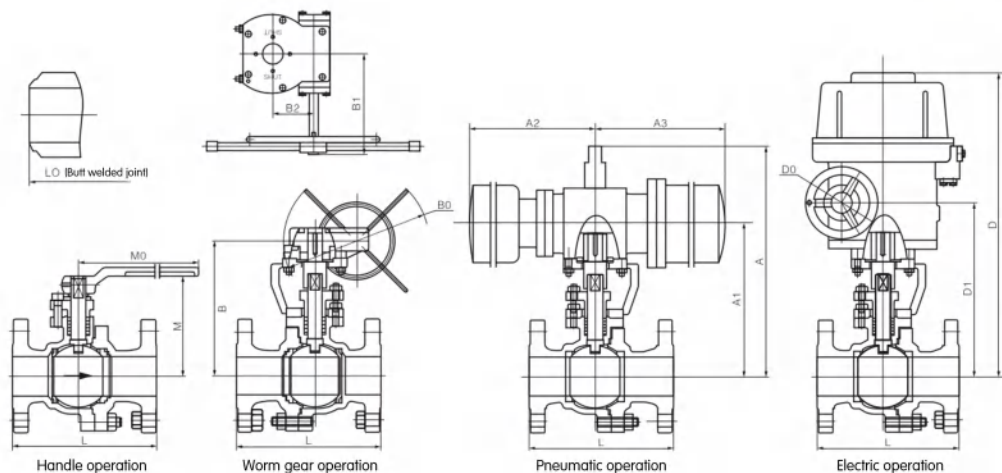
Main appearance and connection dimensions

PN6.4/10.0MPa CLASS 600

DN	mm	15	20	25	40	50	65	80	100
NPS	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4
L	RF	165	190	216	241	292	330	356	406 (432)
Lo	BW	165	190	216	241	292	330	356	406 (432)
Manual operation	M	59	63	75	95	142	154	184	209
	M0	160	160	230	400	400	650	650	1050
Worm gear and worm	B	/	/	/	/	/	/	292	398
	B0	/	/	/	/	/	/	400	600
	B1	/	/	/	/	/	/	350	421
	B2	/	/	/	/	/	/	115.5	171
Pneumatic hydraulic	A	200	204	241	264	340	379	452	584
	A1	122	145	146	169	209	248	295	375
	A3	283	283	283	350	590	590	523	610
	A4	136	136	181	181	257	257	287	378
power-driven		/	/	/	/	472	599	599	632
	D1	/	/	/	/	377	491	449	472
	D0	/	/	/	/	190	190	190	190
weight Kg (RF)	Manual operation	8	11	15	19	25	32	48	76
	pneumatic	17.2	21	24	32	68	75	101.3	177.5
	power-driven	/	/	/	/	60	67	83	111

Note: The size in () brackets in the table is the structure length of PN10.0(CLASS600). Dimensions of connection flanges and welded ends are shown in Appendix (A, E)

Reduced Bore Floating Ball Valve



Reduced Bore Floating Ball Valve



Main appearance and connection dimensions

PN2.5/4.0MPa CLASS300

DN	mm	20	25	40	50	65	80	100	125	150	200
NPS	in	3/4x 1/2	1x3/4	1' /2x1' /	2x1' /2	2 1/2x2	3x2 1/2	4x3	5x4	6x4	8x6
do		15	20	32	40	50	65	80	100	100	150
L	RF	152	165	190	216	241	283	305	381	403	502
Lo	BW	152	165	190	216	241	283	305	381	457	521
Manual operation	M	59	63	75	95	107	142	152	178	178	272
	M0	130	130	160	230	230	400	400	650	650	1050
Worm gear and worm	B										292
	B0										400
	B1										350
	B2										115.5
Pneumatic hydraulic	A	200	204	257	264	340	379	452	594	594	744
	A1	122	126	162	169	209	248	295	375	375	500
	A3	326	326	347	420	426	426	590	523	523	610
	A4	136	136	181	181	257	257	257	287	287	378
power-driven	D					472	486	579	595	595	739
	D1					377	391	484	500	500	589
	D0					190	190	190	190	190	400
	D2										
weight Kg (RF)	Manual operation	3	4	7	9	14	19	25	32	40	84.0
	pneumatic	10	15.7	21	40.9	45.9	50.9	68	87.4	95.4	186.5
	power-driven					31	36	42	49	57	119

Note: Dimensions of connection flange and welded end are shown in the attached table (A, E).

Main appearance and connection dimensions

PN1.6MPa CLASS150

DN	mm	20	25	40	50	65	80	100	125	150	200
NPS	in	3/4x 1/2	1x3/4	1/2x1 1/4	2x1 1/2	2 1/2x2	3x2 1/2	4x3	5x4	6x4	8x6
do		15	20	32	40	50	65	80	100	100	150
L	RF		127	140	178	190	203	229	381	394	457
Lo	BW	152	165	190	216	241	283	305	381	457	521
Manual operation	M	59	63	75	95	107	142	152	178	178	272
	M0	130	130	160	230	230	400	400	650	650	1050
Worm gear and worm	B	/	/	/	/	/	/	/	/	/	292
	B0				/						400
	B1				/		/	/	/	/	350
	B2	/	/	/	/	/	/	/	/	/	115.5
pneumatic	A	200	204	257	264	340	379	452	594	594	744
	A1	122	126	162	169	209	248	295	375	375	500
	A3	326	326	347	420	426	590	523	523	610	
	A4	136	136	181	181	257	257	287	287	378	
power-driven		/	/	/	/	472	486	579	595	595	739
	D1					377	391	484	500	500	589
	D0					190	190	190	190	190	400
weight Kg (RF)	Manual operation	3	4	7	9	14	19	25	32	40	84.0
	pneumatic	10	15.7	21	40.9	45.9	50.9	68	87.4	95.4	186.5
	power-driven	/	/	/	/	31	36	42	49	57	119

Note: Dimensions of connection flange and welded end are shown in the attached table (A, E).

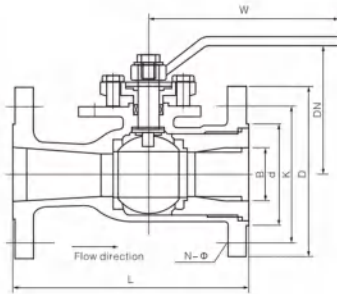
Main appearance and connection dimensions

PN6.4/10.0MPa CLASS 600

DN	mm	20	25	40	50	65	80	100	150
NPS	in	3/4x 1/2	1x3/4	1 1/2x1 1/4	2x1 1/2	2 1/2x2	3x2 1/2	4x3	6x4
do		15	20	32	40	50	65	80	100
L	RF	190	216	241	292	330	356	406 (432)	495 (559)
Lo	BW	190	216	241	292	330	356	406 (432)	495 (559)
Manual operation	M	59	63	75	95	142	154	184	209
	M0	160	160	230	400	400	650	650	1050
Worm gear and worm	B							292	398
	B0							400	600
	B1							350	421
	B2	/	/	/	/	/	/	115.5	171
Pneumatic hydraulic	A	200	204	241	264	340	379	452	584
	A1	122	145	146	169	209	248	295	375
	A3	283	283	283	350	590	590	523	610
	A4	136	181	181	181	257	257	287	378
power-driven		/	/	/	/	472	599	599	632
	D1					377	491	449	472
	D0	/	/	/	/	190	190	190	190
weight Kg (RF)	Manual operation	8	11	15	19	25	48	76	85
	pneumatic	15	22.7	29	33	39	91	119	187.5
	power-driven	/	/	/	/	60	83	111	120

Note: Dimensions of connection flange and welded end are shown in the attached table (A, E).

ANSI Integrated Type Reduced Ball Valve



Main performance specification

Nominal pressure	PN	Class150/300	
Strength test pressure (MPa)	PT	3.0/7.5	
Low pressure seal test pressure (MPa)	0.6		
High pressure seal test pressure (MPa)	2.2/5.5		
Applicable medium	C	P	R
	Water, oil, gas	Nitric acids	Acetic acids
Applicable temperature	-40~180℃		

Main parts materials

Part name	C	P	R
Valve body	WCB	1Cr18Ni9Ti CF8	1Cr18Ni12Mo2Ti CF8M
bonnet	WCB	1Cr18Ni9Ti CF8	1Cr18Ni12Mo2Ti CF8M
Valve body	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
Valve stem	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
Sealing ring	Polytetrafluoroethylene		
filler	Polytetrafluoroethylene		

Main appearance and connection dimensions

Unit:mm

SIZE	B	W	L		K	N- Φ
1/2	15	120	108	89	60.5	4x15
3/4	20	120	117	98	70	4x15
1	25	140	127	108	79.5	4x15
1 1/4	32	160	140	117	89	4x15
1 1/2	40	180	165	127	98.5	4x15
2	50	200	178	152	120.5	4x19
2 1/2	65	240	190	78	139.5	4x19
3	80	260	203	190	152.5	4x19
4	100	320	229	229	190.5	8x19
5	125	600	356	254	216	8x22
6	150	600	394	279	241.3	8x22
8	200	800	457	343	298.5	8x25
10	250	1000	533	406	362	12x25
12	300	1200	610	483	431.8	12x25

Trunnion Mounted Ball Valve



Fixed ball valve structure features

1) Automatic pressure relief knot loosening

When the pressure of the middle cavity is abnormally increased, the ball valve with single seal structure has the function of automatic pressure relief, while the ball valve with double seal structure is relieved by the additional pressure relief device on the valve body.

2) Sealed emergency rescue

Valves are designed with an auxiliary seat emergency sealing system. As shown in the figure. When the soft seal is damaged or cannot be sealed in an emergency, emergency sealing can be carried out by injecting the appropriate sealant into the auxiliary sealing system. Emergency seals can also be used to flush and lubricate the seat area if necessary to keep it clean. The same stem can also be designed with auxiliary functions of the emergency sealing system.

3) Fireproof structure

According to the working conditions and the needs of users. Ball valves can be designed for fire protection. The fire resistance design of the ball valve implements the provisions of AP607 and GB/T6899 and other standards. Once a fire occurs and the soft sealing ring is burned, the fire resistance structure of the ball valve can prevent a large amount of leakage of the medium and prevent the further expansion of the fire.

4) Anti-static structure

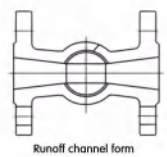
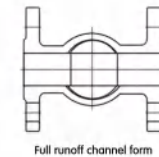
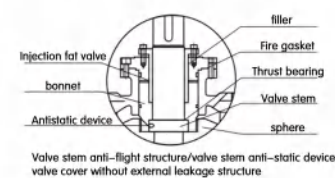
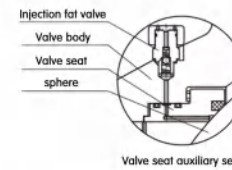
Electrostatic charges accumulate on the sphere. In order to prevent electrostatic sparks, an anti-static device is set on the valve, and the charge accumulated on the ball is exported through the electrostatic channel between the ball and the valve stem and the valve stem and the valve body.

5) Locking device

A lockable structure is designed at the fully open and fully closed two-point positions of the manual ball valve. In this way, undue switching caused by misoperation and unpredictable line vibration can be prevented. Especially in the production line of petroleum and chemical drugs with flammable media, and when valves are distributed outdoors, the advantages and practical effects of this design are particularly good.

6) Full diameter structure and reduced diameter structure

In order to meet the different needs of users, the company's ball valve products have two series of full diameter and reduced diameter (as shown in the figure). The inner diameter of the full diameter ball valve is consistent with the inner diameter of the pipeline, which is convenient for pipeline cleaning, and the weight of the reduced diameter series ball valve is relatively light, but the fluid resistance is only about 1/7 of the same caliber globe valve, so the application prospect of the reduced diameter series ball valve is broad.



7) Release device of valve body

According to user requirements or device system requirements, the valve body of the ball valve is installed with a discharge valve. Once both ends of the valve are closed. Backlogs in the valve chamber can be discharged through a discharge valve in the body, which has a double cut-off and bleed (DBB) function. Another function of the valve body drain valve is to flush and discharge long-term sediment in the valve body.

8) Anti-abrasion

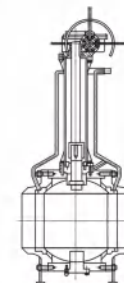
The valve body wall thickness design leaves a certain corrosion allowance, carbon steel valve stem, fixed shaft, ball, seat and bottom cover are according to ASTM B733 and B656 surface chemical coating. In addition, there are a variety of anti-corrosion materials for users to choose. G "International standard" paint is used on the valve surface to meet the requirements of various environmental conditions.

9) Resistance to curing stress cracking

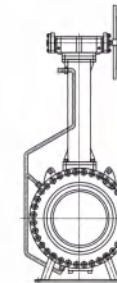
Our company produces a series of anti-sulfur ball valves, valve contact media materials (including fasteners) are selected according to the requirements of the American Institute of Corrosion Engineers standard NACE MR3175, and in the manufacturing process for strict quality control and quality testing, in order to fully comply with the provisions of the standard, and meet the vulcanization environmental conditions of the process requirements.

10) Lengthening rod device

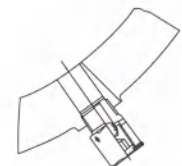
For the buried ball valve, the length device can be provided, including the length of the valve stem, grease injection valve, discharge valve, etc. The user shall specify in the order length requirements and length (length generally refers to the distance from the center of the valve channel to the center of the operating device).



Extended rod device



Extended rod device



bleeder

Trunnion Mounted Ball Valve



Fixed ball valve torque table (N.M)

The torque values listed in the following table can be used in the selection of the drive device. The characteristics of the medium, the opening frequency of the internals and valves need to be taken into account. If the anticorrosive internals are used to clean the valve of the lubricating medium, the torque can be reduced by 20%. For harsh media, such as slurry, granular media, and for oxygen, torque may increase by 50%. The operating torque of the reduced valve is used according to the operating torque requirement of the valve corresponding to the diameter of its reduced opening.

Size		PN(Mpa)					CLASS							
DN	in	1.6	2.5	4.0	6.4	10.0	150	300	400	600	900	150	2500	
50	2	25	30	50	100	190	57	99	/	168	228	390	589	
65	2 1/2	50	60	100	200	360	/	/	/	/	/	/	/	
80	3	65	80	150	300	460	122	212	/	360	512	831	1577	
100	4	125	140	250	400	770	192	335	467	572	946	1524	1965	
125	5	250	300	450	650	1050	/	/	/	/	/	/	/	
150	6	340	400	585	890	1980	274	544	650	912	1784	2934	5501	
200	8	485	680	996	1500	3280	832	1250	1806	2177	4116	7215	11786	
250	10	810	1140	1690	2560	5250	1105	1736	2638	3093	5910	11128	13222	
300	12	1310	1870	2800	4290	7200	1502	2388	2929	4282	10137	16103	20075	
350	14	1910	2740	4110	6320	9860	1946	3224	3971	7458	14141	24518	/	
400	16	2860	4150	6300	9750	14500	3164	5139	6307	9310	18866	29630	/	
450	18	4500	6500	8900	13500	16900	3793	6194	7609	14639	22400	34392	/	
500	20	5860	7800	12000	18600	19000	4769	7826	9623	20011	28544	40198	/	
550	22	/	/	/	/	/	5695	9454	11651	24785	42427	/	/	
600	24	8920	13210	20380	31820	42500	7529	12958	15900	31226	43276	65351	/	
650	26	/	/	/	/	/	8693	14394	17727	35184	47580	/	/	
700	28	13320	19380	30670	48020	58000	9832	15620	20182	38987	52486	/	/	
750	30	/	/	/	/	/	11172	18703	23086	41832	56210	/	/	
800	32	24000	35420	55200	68830	82000	12494	21030	25985	45199	60849	/	/	
850	34	/	/	/	/	/	21148	31558	33000	48401	65244	/	/	
900	36	34960	52870	82700	134000	/	22987	34170	36045	52262	70355	/	/	
1000	40	43420	66700	102820	162210	/	26059	39115	43990	60197	/	/	/	
1050	42	/	/	/	/	/	28149	42414	50300	65496	/	/	/	
1200	48	/	/	/	/	/	42776	71868	80302	118938	/	/	/	
1350	54	/	/	/	/	/	70276	91238	116000	144342	/	/	/	
1400	56	/	/	/	1	1	85654	108550	129900	169230	/	/	/	
1500	60	/	/	/	/	/	116000	122820	178200	216270	/	/	/	

Product performance specification

Performance specification		Nominal pressure(MPa)					Pressure rating(class)						
		1.6	2.5	4.0	6.4	10.0	150	300	400	600	900	1500	2500
Test pressure (Mpa)	Strength test	2.4	3.75	6.0	9.6	15.0	2.93	7.58	10.0	15.0	22.5	37.5	63.0
	Seal test	1.76	2.75	4.4	7.04	11.0	2.07	5.52	7.31	11.03	16.5	27.5	46.2
	Air pressure test	0.6MPa											
Applicable temperature		-196℃~550℃(Note: Different working conditions temperature, choose different materials)											
Applicable medium	Common type	Water, steam, oil, liquefied gas, natural gas, etc											
	Sulfur resistant type	Containing H2S, CO natural gas, oil, etc											

Trunnion Mounted Ball Valve



Fixed ball valve flow coefficient table

The flow coefficient of the valve is an indicator to measure the flow capacity of the valve, and the larger the flow coefficient value, the smaller the pressure loss when the fluid passes through the valve. The flow coefficient value varies with the size, type and structure of the valve, and different types and different specifications of the valve should be tested separately in order to determine the flow coefficient value of the valve. For valves of the same structure, the direction of fluid flow through the valve is different, and the flow coefficient value also changes. This change is usually caused by different pressure recovery.

The following table shows the flow coefficient of a fixed ball valve. The Cv value represents the number of U.S. gallons per minute of +60F(+16) of water flowing through the valve at 1 precise inch 2(0.006894757MPa) pressure drop.

CV value

DN		2"FB	3"RB	3"FB	4"RB	4"FB	6"RB	6"FB	6"RB
Pressure rating	150	500	180	1350	545	2500	790	5300	1945
	300	500	195	1350	535	2500	765	5300	1945
	600	500	180	1350	550	2500	745	5300	2220
	900	500	187	1350	512	2500	740	5300	2035
	1500	330	187	1350	510	2500	742	4167	2033
	2500	301	180	743	505	1460	735	2603	1502
DN		8"FB	10"RB	10"FB	12"RB	12"FB	14"BB	14"FB	16"RB
Pressure rating	200	250x200	250	300x250	300	350x300	350	400x300	
	150	10500	4050	17500	6900	26300	13100	31850	14600
	300	10500	4040	17500	7100	26300	13200	30050	14580
	600	10500	4065	17500	7150	26300	14350	28400	14350
	900	10500	4061	17500	7136	26300	14290	26803	14313
	1500	8013	4051	13309	7117	17073	14180	24276	14247
DN		16"FB	18"RB	18"FB	20"RB	20"FB	22"FB	24"BB	24"FB
Pressure rating	400	450x400	450	500x400	500	550	600x500	600	
	150	43300	/	57300	27750	74500	89700	44700	112300
	300	41700	/	55370	28050	72300	85350	44650	109150
	600	38150	/	50950	29500	65600	77600	48900	98150
	900	36705	/	48703	29443	62504	/	48713	86252
	1500	33215	/	43402	29253	55931	/	/	/
DN		26"FB	28"FB	30"RB	30"FB	32"FB	34"FB	36"RB	36"FB
Pressure rating	550	700	750x600	750	800	850	900x750	900	
	150	128300	151750	76000	179300	199750	225000	123000	258300
	300	123050	146050	75900	171200	187700	214900	121550	243500
	600	114050	136500	73850	158900	175000	196500	118300	226300
Pressure rating	900	102940	121201	71500	140093	159420	181137	103083	226033
	1500	40"FB	42"FB	48	54	56	60	/	/
	1000	1050	1200	1350	1400	1500	/	/	/
	150	323000	343000	480500	/	/	/	/	/
Pressure rating	300	309000	340000	460300	/	/	/	/	/
	600	28500	309000	438500	/	/	/	/	/
	900	/	/	/	/	/	/	/	/

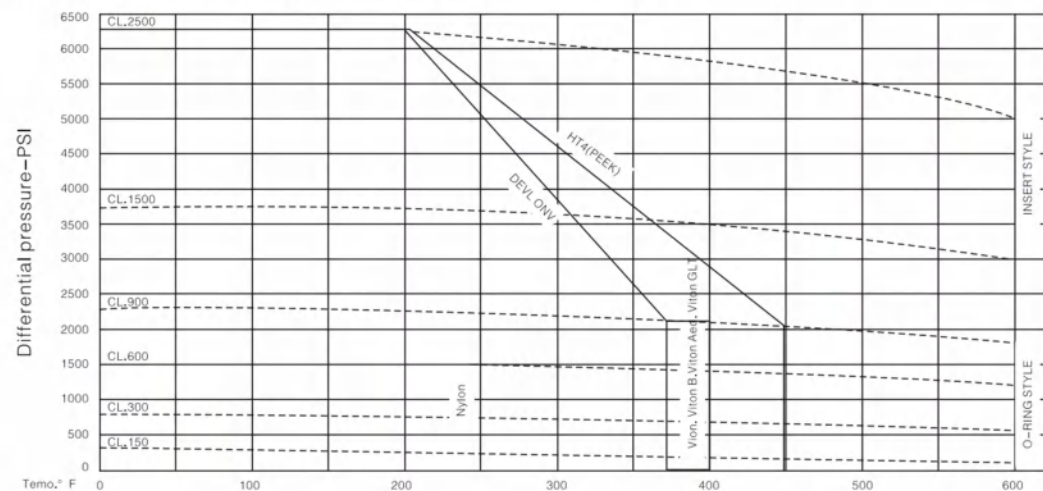
Trunnion Mounted Ball Valve



Sealed valve seat material performance data sheet

Test standard	Test item	unit	PEEK	MOLON	DEVLON	PPL	PTFE	PTFE+graphite	PTFE+graphite	NYLON66
D638	Tensile strength23°C/-40°C	MPa	93.08	75/100	79.92/109.52	72	24.82	25	24.2	60/80
D638	Elongation at break23°C	%	50	10/30	5.37	6/8	300	150	105	60
D785	hardness	Shaw Brothers D Shaw Brothers R	120	78 110/120	78/80 114	80	56	58	65	78 118
D790	Bending strength	MPa	166.71	140	121.55	176	/		23.7	117
D621	Coincidence down deformation 24hours	%	~0	1.2	1.0/2.0	0.78	14/48	8.8	5.5	1.4
E831	Coefficient of linear expansion	1/K	0.48x10 ⁻⁴	0.6x10 ⁻⁴	1.1x10 ⁻⁴	0.43x10 ⁻⁴	1.2x10 ⁻⁴	1x10 ⁻⁴	1x10 ⁻⁴	0.7x10 ⁻⁴
E648	Thermal deformation temperature 1.82MPa/0.46MPa	°C	160	150/190	93 209	163	55 132	63	78	90 235
D792	density	G/cm ³	1.34~1.36	1.15	1.14	1.48	2.20	2.22	2.1	1.12
D570	24hours Water absorption	%	0.13	0.7	0.1	0.2	0.01	0.015	0.015	1.2
D695	Tensile strength	MPa	142	140	140	117	35	45	52	/
D695	Compressive strength	MPa		120	88.9	/	11.7		/	75.8

Pressure — temperature characteristic value of the seal valve seat

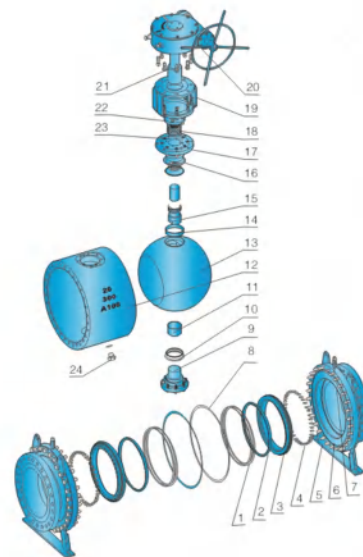
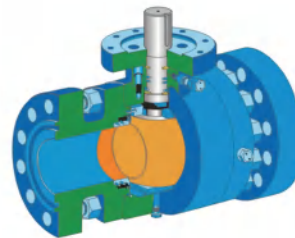


The above table gives the temperature and pressure values of nylon, devlon, PEEK, viton and other materials, among which the temperature and pressure values of 150lb, 300lb, 600lb are also applicable to O-type seals

Forging Steel Trunnion Type Ball Valve



Technical specification:
Design standard: API6D
Structure length: API6D ASMEB16.10
Connection size: ASMEB16.5ASME B16.47
Test and inspection: API598



Material table of main parts

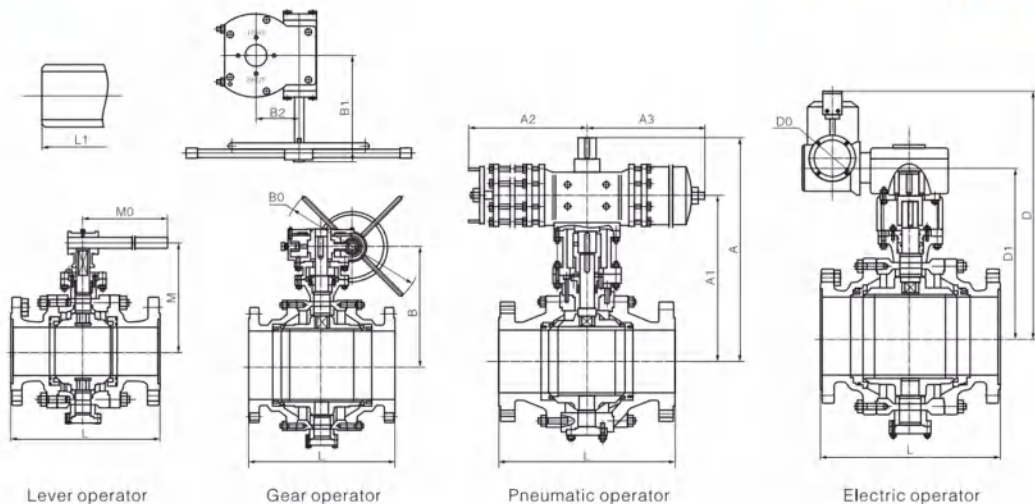
NO.	Part Name	material
		ASTM
1	O-ring	Viton
2	Sealing ring	PTFE
3	Valve seat	A105+ENP
4	spring	InconelX-750
5	stud	A193-B7
6	Left and right sides	A105
7	Injection fat valve	Assembled
8	gasket	Flexible graphite + stainless steel
9	Lower stem	Flexible graphite + stainless steel
10	gasket	A182-F6a
11	bushing	F304+PTFE
12	Valve body	A105
13	sphere	A105+ENP
14	bushing	F304+PTFE
15	Upper valve stem	A182-F6a
16	gasket	Flexible graphite + stainless steel
17	bonnet	A105
18	filler	Flexible graphite + stainless steel
19	support	A216-WCB
20	Driving device	Assembled
21	Connecting sleeve	A1SIC1045
22	Packing gland	A216-WCB
23	Locating pin	A276-410
24	Blowdown plug	A105+ZN

Note:

- series valve connecting flange end size can be designed and manufactured according to user requirements.
- DN>1000 (40') valve design standard according to the "Long haul pipeline valve Technical conditions"

Note: "The material of this part of the sulfur resistant valve is ASTM(A276-321); "The material of this part of the sulfur-resistant valve is ASTM(A182-304, CF8+Ni.P); The material of the main parts and sealing surface of series valves can be designed and selected according to the actual working conditions or the special requirements of users.

Full Bore Trunnion Mounted Ball Valve



Main appearance and connection dimensions

PN1.6/2.5MPa CLASS150

Size	L				d	Manual operation		Worm gear drive				pneumatic				power-driven			weight(kg)	
DN	NPS	RF	BW	RJ		M	MO	B	B0	B1	B2	A	A1	A3	A4	D	D1	D0	RF	WE
50	2	178	216	191	49	107	230			/	/	217	174	89	181	/	/	/	12	11
65	2 1/2	191	241	203	62	125	400	/	/	/	/	308	248	148	257	/	/	/	16	15.3
80	3	203	283	216	74	152	400	/	/	/	/	318	258	148	257	/	/	/	22	21.3
100	4	229	305	241	100	178	650	/	/	/	/	407	322	287	287	/	/	/	35	34
125	5	356	381	/	125	252	1050	/	/	/	/	480	395	287	287	/	/	/	58	55.4
150	6	394	457	406	150	272	1050	378	400	200	106	562	457	378	378	554	337	508	74	72
200	8	457	521	470	201	/	/	421	400	200	108	700	595	378	378	606	421	508	205	201
250	10	533	559	546	252	/	/	482	400	200	108	735	630	378	378	667	482	508	322	310
300	12	610	635	622	303	/	/	549	600	330	144	858	728	530	530	734	549	508	460	447
350	14	686	762	699	334	/	/	582	600	330	144	1013	883	530	530	784	582	508	576	536
400	16	762	838	775	385	/	/	687	800	370	220	1319	1154	680	680	889	687	508	864	814
450	18	864	914	876	436	/	/	730	800	370	220	1389	1224	680	680	981	730	305	1280	1210
500	20	914	991	927	487	/	/	772	800	370	220	1459	1294	680	680	1023	772	305	1600	1500
600	24	1067	1143	1080	589	/	/	995	800	515	279	1060	915	1455	1455	1268	995	305	3540	3000
650	26	1143	1245	/	633	/	/	1022	800	515	279	1234	1089	1455	1455	1334	1071	305	3930	3240
700	28	1245	1346	/	684	/	/	1088	800	515	279	1140	980	1665	1665	1459	1155	305	4500	3710
750	30	1295	1397	/	735	/	/	1153	800	515	279	1195	1035	1665	1665	1515	1211	305	5370	4530
800	32	1372	1524	/	779	/	/	1223	800	570	368	1338	1149	1960	1960	1649	1316	458	5940	4870
850	34	1473	1626	/	830	/	/	1307	800	570	368	/	/	/	/	1694	1361	458	6615	5305
900	36	1524	1727	/	874	/	/	1374	800	570	368	/	/	/	/	1766	1433	458	7540	6010
1000	40	1753	1956	/	976	/	/	1468	960	575	220	/	/	/	/	1854	1521	458	9320	7400
1050	42	1855	2083	/	1020	/	/	1532	960	575	220	/	/	/	/	2036	1586	610	14450	12150
1200	48	2134	2388	/	1166	/	/	1670	960	575	220	/	/	/	/	2185	1735	610	19200	16000

Note: See Appendix (A) for dimensions of connection flange and welded end.

In column L of the table, RF represents the structural length of the convex flange, BW represents the welded structural length, and RJ represents the structural length of the ring connection form.

Full Bore Trunnion Mounted Ball Valve



Main appearance and connection dimensions

PN4.0MPa CLASS300

Size		L			d	Manual operation		Worm gear drive				pneumatic				power-driven			weight(kg)			
DN	NPS	RF	BW	RJ		M	MO	B	30	B1	B2	A	A1	A3	A4	D	D1	D0	RF	WE		
50	2	216	216	232	49			107	230					234	174	148	257				15	11
65	2 1/2	241	241	257	62			125	400	/	/	/	/	308	248	148	257			/	24	18
80	3	28.3	283	298	74			152	400	/	/	/	/	343	258	287	287				30	22
100	4	305	305	321	100			178	650	/	/	/	/	407	322	287	287	/			55	45
125	5	381	381		125			252	1050			/	/	500	395	378	378				87	69
150	6	403	457	419	150			272	1050	378	400	200	106	562	457	378	378	522	337	508	118	98
200	8	502	521	517	201			/	/	421	400	200	108	700	595	378	378	606	421	508	255	225
250	10	568	559	584	252			/	/	482	600	330	108	760	630	530	530	667	482	508	370	330
300	12	648	635	664	303			/	/	549	600	330	144	858	728	530	530	751	549	508	533	493
350	14	762	762	778	334			/	/	582	800	370	144	1048	883	680	680	784	582	305	640	600
400	16	838	838	854	385			/	/	687	800	370	220	1319	1154	680	680	983	687	305	1030	930
450	18	914	914	930	436			/	/	730	800	370	220	1369	1224	1455	1455	981	730	305	1542	1402
500	20	991	991	1010	487			/	/	772	800	515	220	1459	1294	1455	1455	1045	772	305	2100	1900
600	24	1143	1143	1165	589			/	/	995	800	515	279	1075	915	1665	1665	1268	995	305	3430	2860
650	26	1245	1245	1270	633			/	/	1022	800	515	279	1249	1089	1665	1665	1375	1071	305	4340	3620
700	28	1346	1346	1372	684			/	/	1088	800	515	279	1140	980	1665	1665	1459	1155	305	4960	4140
750	30	1397	1397	1422	735			/	/	1153	800	515	279	1195	1035	1960	1960	1515	1211	305	5950	4960
800	32	1524	1524	1553	779			/	/	1223	800	570	368	1338	1149	1960	1960	1649	1316	458	6760	5640
850	34	1626	1626	1654	830			/	/	1307	800	570	368	/	/	/	/	1694	1361	458	8280	6900
900	36	1727	1727	1756	874			/	/	1374	960	570	368	/	/	/	/	1883	1433	458	9640	8040
1000	40	1930	1930		976			/	/	1468	960	575	220	/	/	/	/	1971	1521	458	11730	9680
1050	42	2032	2032		1020			/	/	1532	960	630	220	/	/	/	/	2036	1586	610	16300	13700
1200	48	2388	2388		1166			/	/	1670	960	630	220	/	/	/	/	2255	1735	610	20160	16800

Main appearance and connection dimensions

PN6.4-10.0MPa CLASS600

Size	L				d	Manual operation		Worm gear drive				pneumatic				power-driven			weight(kg)	
N	NPS	RF	BW	RJ		M	MO	B	30	B1	B2	A	A1	A3	A4	D	D1	D0	RF	WE
50	2	292	292	295	49	107	400	/	/	/	/	234	174	148	148	/	/	/	35	29
65	2 1/2	330	330	333	62	125	650	/	/	/	/	333	248	287	287	/	/	/	38	31
80	3	356	356	359	74	152	650	/	/	/	/	343	258	287	287	/	/	/	55	45
100	4	432	432	435	100	178	1050	/	/	/	/	407	322	287	287	/	/	/	102	78
125	5	508	508		125			/	/	/	/	500	395	378	378				160	120
150	6	559	559	562	150	/	/	389	400	200	108	562	457	378	378	522	337	508	232	182
200	8	660	660	664	201		/	449	600	330	144	725	595	530	530	606	421	508	390	310
250	10	787	787	791	252	/	/	497	600	330	144	760	630	530	530	684	482	508	710	590
300	12	838	838	841	303			550	800	370	220	893	728	680	680	751	549	508	960	790
350	14	889	889	892	334	/	/	582	800	370	220	1048	883	1455	1455	784	582	305	1700	1490
400	16	991	991	994	385			687	800	370	220	1319	1154	1455	1455	960	687	305	1970	1720
450	18	1092	1092	1095	436	/	/	730	800	515	279	1384	1224	1665	1665	1003	730	305	2180	1830
500	20	1194	1194	1200	487			780	800	515	279	1459	1294	1665	1665	1045	772	305	3250	2770
600	24	1397	1397	1407	589		/	995	800	515	279	1075	915	1665	1665	1328	995	305	4880	4030
650	26	1448	1448	1461	633	/	/	1038	800	515	279	1249	1089	1960	1960	1375	1071	305	5830	4840
700	28	1549	1549	1562	684	/	/	1088	800	570	368	1140	980	1960	1960	1459	1155	305	670	5610
750	30	1651	1651	1664	735			1157	800	570	368			/	/	1661	1211	305	7450	6210
800	32	1778	1778	1794	779			1190	800	570	368		/	/		1766	1316	458	8470	7060
850	34	1930	1930	1946	830			1246	960	575	220					1694	1361	458	10360	8640
900	36	2083	2083	2099	874	/	/	1292	960	575	220	/				1883	1433	458	12080	10070
1000	40	2337	2337		976			1361	960	575	220					1971	1521	458	15420	12850
1050	42	2387	2387	/	1020	/	/	1423	960	575	220	/	/	/	/	2036	1586	610	18180	15150
1200	48	2540	2540		1166			1568	960	630	295					2255	1735	610	25260	21050

Full Bore Trunnion Mounted Ball Valve



Main appearance and connection dimensions

PN15.0MPa CLASS900

Size		L				d	Manual operation		Worm gear drive				pneumatic				power-driven			weight(kg)	
DN	NPS	RF	BW	RJ			M	MO	B	BO	B1	B2	A	A1	A3	A4	D	D1	DO	RF	WE
50	2	368	368	371	49		123	650					234	174	148	257				50	40
65	2 1/2	419	419	422	62		136	800					308	248	148	257				75	60
80	3	381	381	384	74				185	400	200	106	343	258	287	287				92	70
100	4	457	457	460	100				225	400	200	108	427	322	378	378				146	109
125	5																				
150	6	610	610	613	150				389	600	330	144	587	457	530	530	522	337	508	339	264
200	8	737	737	740	201				449	600	330	144	725	595	530	530	606	421	508	640	540
250	10	838	838	841	252				497	800	370	220	795	630	680	680	684	482	508	960	800
300	12	965	965	968	303				550	800	370	220	837	728	1455	1455	822	549	508	1330	1110
350	14	1029	1029	1038	322				582	800	370	220	1048	883	1455	1455	855	582	305	1640	1370
400	16	1130	1130	1140	373				687	800	515	279	1314	1154	1665	1665	991	687	305	2240	1910
450	18	1219	1219	1232	423				730	800	515	279	1384	1224	1665	1665	1003	730	305	2770	2310
500	20	1321	1321	1334	471				780	800	515	279	1459	1294	1665	1665	1105	772	305	3740	3120
600	24	1549	1549	1568	570				995	800	515	279	1075	915	1960	1960	1445	995	305	5560	4640
650	26	1651	1651	1674	617				1038	800	570	368	1249	1089	1960	1960	1521	1071	305	7070	5880
700	28	1753	1753	1775	665				1088	800	570	368	1140	980	1960	1960	1605	1155	305	8070	6730
750	30	1880	1880	1902	712				1157	800	570	368					1661	1211	305	9680	8070
800	32	2032	2032	2054	760				1190	960	575	220					1766	1316	458	11000	9170
850	34	2159	2159	2188	808				1246	960	575	220					1881	1361	458	13470	11230
900	36	2286	2286	2315	855				1292	960	575	220					1953	1433	458	15700	13090
1000	40	2410	2410	2438	959				1361	960	630	295					1971	1521	458	20040	16700
1050	42	2515	2515	2540	1003				1423	960	630	295					2036	1586	610	23620	19690
1200	48	2620	2620		1155				1568	960	630	295					2255	1735	610	32830	27360

Main appearance and connection dimensions

PN25.0MPa CLASS1500

Size		L				d	Worm gear drive				pneumatic				power-driven			weight(kg)	
DN	NPS	RF	BW	RJ			B	BO	B1	B2	A	A1	A3	A4	D	D1	DO	RF	WE
50	2	368	368	371	49		154	400	200	106	259	174	287	287				50	40
65	2 1/2	419	419	422	62		169	400	200	108	333	248	287	287				75	60
80	3	470	470	473	74		187	600	330	144	363	258	378	378				117	82
100	4	546	546	549	100		217	600	330	144	452	322	530	530				216	150
125	5																		
150	6	705	705	711	144		346	800	370	220	587	457	530	530	522	337	508	532	414
200	8	832	832	841	192		384	800	370	220	760	595	680	680	623	421	508	870	677
250	10	991	991	1000	239		452	800	370	220	739	630	1455	1455	755	482	508	1467	1132
300	12	1130	1130	1146	287		512	800	515	279	837	728	1455	1455	822	549	508	2270	1777
350	14	1257	1257	1276	315		561	800	515	279	1043	883	1665	1665	886	582	305	3240	2589
400	16	1384	1384	1407	360		601	800	515	279	1314	1154	1665	1665	1020	687	305	4645	3782
450	18	1537	1537	1559	371		688	800	515	279	1384	1224	1665	1665	1003	730	305	6035	4812
500	20	1664	1664	1686	416		727	800	570	368	1459	1294	1960	1960	1272	772	305	8077	6555
600	24	1943	1943	1972	498		803	800	570	368	1075	915	1960	1960	1445	995	305	12357	9900

Main appearance and connection dimensions

PN42.0MPa CLASS2500

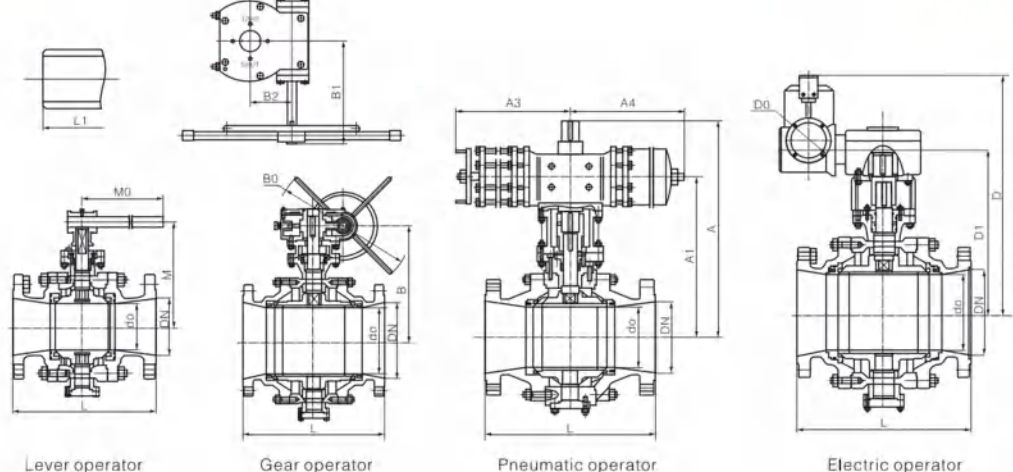
Size		L				d	Worm gear drive				pneumatic				power-driven			weight(kg)	
DN	NPS	RF	BW	RJ			B	BO	B1	B2	A	A1	A3	A4	D	D1	DO	RF	WE
50	2	451	451	454	42		174	600	330	144	259	174	287	287				93	70
65	2 1/2	508	508	540	52		198	600	330	144	353	248	378	378				152	
80	3	578	578	584	62		224	800	370	220	388	258	530	530				215	162
100	4	673	673	683	87		268	800	370	220	452	322	530	530				385	322
150	6	914	914	927	131		371	800	370	220	622	457	680	680	539	337	508	830	755
200	8	1022	1022	1038	179		420	800	515	279	704	595	1455	1455	694	421	508	1435	1105
250	10	1270	1270	1292	223		540	800	515	279	739	630	1455	1455	755	482	508	2220	1720
300	12	1422	1422	1445	265		638	800	515	279	888	728	1665	1665	853	549	305	3050	2370
350	14	1540	1540	1569	241		663	800	515	279	992	883	1455	1455	886	582	305	3350	2610
400	16	1567	1567	1596	276		764	800	570	368	1314	1154	1665	1665	1020	687	305	5375	4397
450	18	1825	1825	1854	311		847	800	570	368	1384	1224	1960	1960	1003	730	305	5800	4870
500	20	1875	1875	1904	343		867	800	570	368	1459	1294	1960	1960	1272	772	305	8612	7035
600	24	2257	2257	2286	413		1060	960	575	220					1445	995	305	12747	10875

Reduced Bore Trunnion Mounted Ball Valve



Main appearance and connection dimensions

PN1.6MPa CLASS150



Main appearance and connection dimensions

PN1.6MPa CLASS150

Size		L				d	Manual		Worm gear drive				Pneumatic				Power-driven			Weight(kg)	
DN	NPS	RF	BW	RJ			M	MO	B	BO	B1	B2	A	A1	A3	A4	D	D1	DO	RF	WE
50	2	368	368	371	49		107	230					217	174	89	181				19	15
80	3x2	203	283	216	49		107	230					318	258	148	257				32	24
100	4x3	229	305	241	74		152	400					407	322	287	287				55	48
150	6x4	394	457	406	100		178	650					562	457	378	378	554	337	508	73	69
200	8x6	457	521	470	150		272	1050					700	595	378	378	606	421	508	122	110
250	10x8	533	559	546	201				421	400	200	108	735	630	378	378	667	482	508	310	297
300	12x10	610	635	622	252				482	400	200	108	858	728	530	530	734	549	508	470	430
350	14x12	686	762	699	303				549	600	330	144	888	758	530	530	774	589	508	590	540
400	16x14	762	838	775	336				607	600	330	144	888	758	530	530	774	589	508	590	540
450	18x16	864	914	876	385				687	800	370	220	1319	1154	680	680	889	687	508	830	760
500	20x18	914	991	927	435				713	800	370	220	1354	1180	680	680	909	708	508	1040	940
600	24x20	1067	1143	1080	487				772	800	370	220	1459	1294	680	680	1023	772	305	1650	1110

Main appearance and connection dimensions

Reduced Bore Trunnion Mounted Ball Valve



Main appearance and connection dimensions

PN10.0MPa CLASS600

Size		L			d	Manual operation		Worm gear drive				pneumatic				power-driven			weight(kg)	
DN	NPS	RF	BW	RJ		M	M0	B	B0	B1	B2	A	A1	A3	A4	D	D1	D0	RF	WE
80	3x2	356	356	359	49	107	400	/	/	/	/	234	174	148	257	/	/	/	44	34
100	4x3	432	432	435	74	152	650	/	/	/	/	343	258	287	287	/	/	/	89	65
150	6x4	559	559	562	100	178	1050	/	/	/	/	407	322	287	287	/	/	/	160	110
200	8x6	660	660	664	150	/	/	389	400	200	108	500	457	378	378	522	337	508	310	240
250	10x8	787	787	791	201	/	/	449	600	330	144	562	595	378	378	606	421	508	570	500
300	12x10	838	838	841	252	/	/	497	600	330	144	725	630	530	530	684	482	508	850	680
350	14x12	889	889	892	303	/	/	550	800	370	220	760	630	530	530	751	549	508	1180	970
400	16x14	991	991	994	336	/	/	550	800	370	220	760	758	530	530	751	549	508	1390	1140
450	18x16	1092	1092	1095	385	/	/	687	800	370	220	1319	1154	1455	1455	960	687	305	1765	1415
500	20x18	1194	1194	1200	435	/	/	687	800	370	220	1319	1154	1455	1455	960	687	305	2170	1690
600	24x20	1397	1397	1407	487	/	/	780	800	515	279	1459	1294	1665	1665	1045	772	305	3390	2540

Main appearance and connection dimensions

PN15.0MPa CLASS900

Size		L			d	Manual operation		Worm gear drive				pneumatic				power-driven			weight(kg)	
DN	NPS	RF	BW	RJ		M	M0	B	B0	B1	B2	A	A1	A3	A4	D	D1	D0	RF	WE
80	3x2	381	381	384	49	123	650	/	/	/	/	234	174	148	257	/	/	/	58	48
100	4x3	457	457	460	74	/	/	185	400	200	106	343	258	287	287	/	/	/	105	90
150	6x4	610	610	613	100	/	/	225	400	200	108	427	322	378	378	/	/	/	230	162
200	8x6	737	737	740	150	/	/	389	600	330	144	587	457	530	530	522	337	508	470	370
250	10x8	838	838	841	201	/	/	449	600	330	144	725	595	530	530	606	421	508	530	410
300	12x10	965	965	968	252	/	/	497	800	370	220	795	630	680	680	684	482	508	1200	1030
350	14x12	1029	1029	1038	303	/	/	550	800	370	220	837	728	1455	1455	822	549	508	1695	1440
400	16x14	1130	1130	1140	303	/	/	550	800	370	220	837	728	1455	1455	822	549	508	1790	1480
450	18x16	1219	1219	1232	373	/	/	687	800	515	279	1314	1154	1665	1665	991	687	305	2520	2100
500	20x18	1321	1321	1334	373	/	/	687	800	515	279	1314	1154	1665	1665	991	687	305	2970	2430
600	24x20	1549	1549	1568	471	/	/	780	800	515	279	1459	1294	1665	1665	1105	772	305	5580	4520

Main appearance and connection dimensions

PN25.0MPa CLASS1500

Size		L			d	Worm gear drive				pneumatic				power-driven			weight(kg)	
DN	NPS	RF	BW	RJ		B	B0	B1	B2	A	A1	A3	A4	D	D1	D0	RF	WE
80	3x2	470	470	473	49	154	400	200	106	259	174	287	287	/	/	/	75	49
100	4x3	546	546	549	74	187	600	330	144	363	258	378	378	/	/	/	130	73
150	6x4	705	705	711	100	217	600	330	144	452	322	530	530	/	/	/	300	181
200	8x6	832	832	841	144	346	800	370	220	587	457	530	530	522	337	508	615	491
250	10x8	991	991	1000	192	384	800	370	220	760	595	680	680	623	421	508	1085	879
300	12x10	1130	1130	1146	239	452	800	370	220	739	630	1455	1455	755	482	508	1850	1547
350	14x12	1257	1257	1276	287	512	800	515	279	837	728	1455	1455	822	549	508	2620	2214
400	16x14	1384	1384	1407	287	512	800	515	279	837	728	1455	1455	822	549	508	2890	2365
450	18x16	1537	1537	1559	360	601	800	515	279	1314	1154	1665	1665	1020	687	305	3856	3156
500	20x18	1664	1664	1686	360	601	800	515	279	1314	1154	1665	1665	1020	687	305	5005	4105
600	24x20	1943	1943	1972	416	727	800	570	368	1459	1294	1960	1960	1272	772	305	11377	9980

Note: See Appendix (A) for dimensions of connection flange and welded end.

Welded Structure Trunnion Type Ball Valve



Technical specification

Design standard: API6D

Structure length: API6D ASMEB16.10

Connection size: ASMEB16.5ASME B16.47

Test and inspection: API598

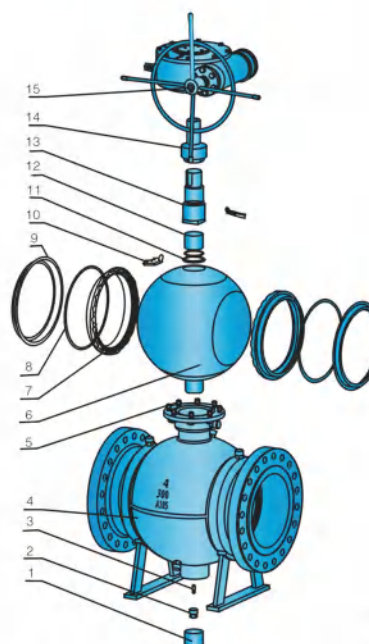
Material table of main parts

NO.	Part Name	Material
		ASTM
1	bushing	Nikealium+PTFE
2	gasket	A105
3	spring	Inconel X-750
4	valve body	A105
5	stud	A193-B7
6	sphere	A105+ENP
7	valve seat	A105+ENP
8	sealing ring	PTFE
9	Leaf spring	AISI9260
10	stem seal	PTFE
11	bushing	Nikealium+PTFE
12	valve stem	A182-F6a
13	connecting sleeve	AISIC 1045
14	driving device	

Note: "The material of this part of the sulfur resistant valve is ASTM(A276-321);

"The material of this part of the sulfur-resistant valve is ASTM(A182-304, CF8+Ni.P);

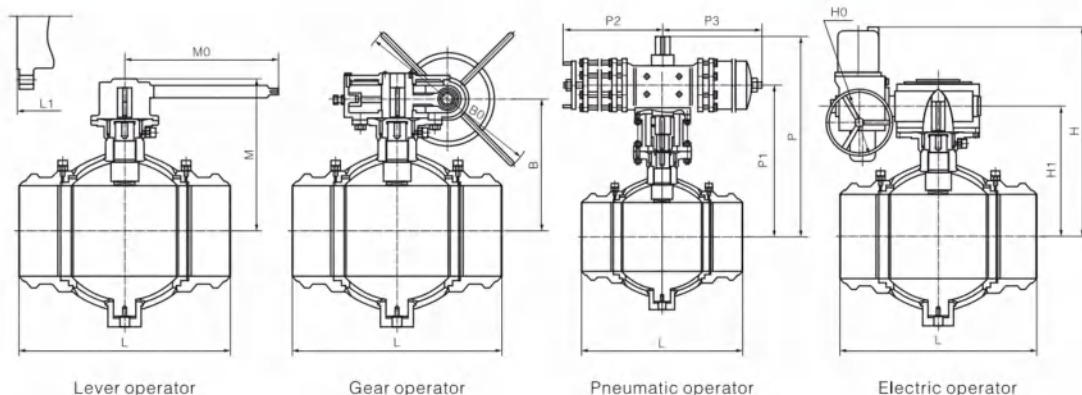
The material of the main parts and sealing surface of series valves can be designed and selected according to the actual working conditions or the special requirements of users.



Note:

- 1、series valve connecting flange end size can be designed and manufactured according to user requirements.
- 2、DN>1000 (40") valve design standard according to the "Long haul pipeline valve Technical conditions"

Welded Structure Trunnion Type Ball Valve



Main appearance and connection dimensions

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1050	1200	1400	1500
NPS	in	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24	28	32	36	40	42	48	56	60
Francois	L	216	241	283	305	381	457	521	559	635	762	838	914	991	1143	1346	1524	1727	1930	1829	2180	2300	2400
Butt Welding	L1	178	191	203	229	356	394	457	533	610	686	762	864	914	1067	1245	1372	1524	1721	1689	2100	2250	2400
Manual Operation	H	107	125	152	178	300	330	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	W	230	350	400	450	700	750	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	Kg	42	50	65	70	82	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Worm Gear Drive	H	/	/	/	/	/	/	337	385	414	447	510	538	585	665	730	930	990	1070	1260	1370	1480	1550
	W	/	/	/	/	/	/	600	600	800	800	800	800	800	800	800	800	800	800	800	800	800	800
	Type	/	/	/	/	/	/	B	B	C	C	D	D	DA	DB	DC	DC	DD	DD	DD	DD	DD	DD
Pneumatic	Kg	/	/	/	/	/	/	133	208	312	413	577	780	1028	1706	2534	3644	4986	6800	8500	11173	12300	15800
	H	269	379	389	479	552	666	804	839	972	1127	1495	1529	1599	1645	1160	1460	1510	1610	/	/	/	/
	H1	174	248	258	322	395	457	595	630	728	883	1154	1224	1294	915	930	1100	1150	1250	/	/	/	/
Pneumatic	L1	89	148	148	287	287	378	378	378	530	530	680	680	680	1455	1455	1665	1665	1960	/	/	/	/
	L2	181	257	257	287	287	378	378	378	530	530	680	680	680	1455	1455	1665	1665	1960	/	/	/	/
	Type	AG09	AG13	AG13	AW13	AW13	AW17	AW17	AW17	AW20	AW20	AW28	AW28	AW28	C1-355	C1-355	C2-490	C2-490	C3-60	/	/	/	/
Power-driven	Kg	40	50	72	80	110	130	180	300	350	450	610	820	1100	1900	2600	4000	5100	7200	/	/	/	/
	H	/	/	/	/	/	435	480	532	600	610	670	760	763	903	982	1108	1445	1655	1954	2064	2174	2244
	H1	/	/	/	/	/	215	262	315	320	360	420	510	590	630	725	835	880	970	1230	1340	1450	1520
Power-driven	W	/	/	/	/	/	200	200	200	280	280	305	305	305	400	400	460	460	600	600	600	600	600
	Type	/	/	/	/	/	SMC-04	SMC-04	SMC-04	SMC-04	SMC-04	SMC-03	SMC-03	SMC-03	SMC-00	SMC-00	SMC-0	SMC-0	SMC-0	SMC-0	SMC-4	SMC-4	SMC-4
	Kg	/	/	/	/	/	145	196	310	360	475	625	880	1200	2100	2750	4230	6090	7800	9000	2500	14000	17000

PN1.6MPa CLASS150

Welded Structure Trunnion Type Ball Valve



Main appearance and connection dimensions

PN2.5、4.0MPa CLASS 300

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1050	1200	1400	1500	
NPS	in	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24	28	32	36	40	42	48	56	60	
Francois	L	216	241	283	305	381	457	521	559	635	762	838	914	991	1143	1346	1524	1727	2083	2050	2180	2300	2400	
Butt Welding	L1	216	241	283	305	381	403	502	568	648	762	838	914	991	1143	1346	1524	1727	2083	1960	2020	2250	2400	
Manual Operation	H	107	125	152	178	300	330	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
	W	230	400	400	600	750	800	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
	Kg	32	48	65	75	82	91	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
Worm Gear Drive	H	/	/	/	/	/	/	278	375	460	465	510	538	660	830	880	930	990	1070	1260	1370	1480	1550	
	W	/	/	/	/	/	/	600	600	800	800	800	800	800	800	800	800	800	800	800	800	800	800	
	Type	/	/	/	/	/	/	B	B	C	C	D	D	DA	DB	DC	DC	DD	DD	DD	DD	DD	DD	
	Kg	/	/	/	/	/	/	152	242	376	489	708	950	1247	2066	3101	4374	6050	8185	9500	13413	14200	17500	
Pneumatic	H	269	379	452	579	595	595	736	942	994	1188	1280	1480	1554	1380	1430	1599	1790	1850	/	/	/	/	
	H1	209	248	295	322	386	386	527	698	570	883	975	1080	1154	930	980	1149	1190	1250	/	/	/	/	
	L1	148	148	287	287	378	378	378	530	530	680	680	680	1455	1455	1665	1665	1960	1960	/	/	/	/	
	L2	181	257	287	287	378	378	378	530	530	680	680	680	1455	1455	1665	1665	1960	1960	/	/	/	/	
	Type	AG13	AG13	AW13	AW13	AW17	AW17	AW17	AW20	AW20	AW28	AW28	C1-355	C1-355	C2-490	C2-490	C3-60	C3-60	/	/	/	/	/	
Power-driven	Kg	49	64	70	82	112	145	220	310	395	510	752	1000	1320	2200	3200	4520	6500	9100	/	/	/	/	
	H	/	/	/	/	/	/	434	480	432	641	611	670	761	763	903	998	1108	1565	1655	2105	2245	2395	2470
	H1	/	/	/	/	/	/	217	263	315	360	360	420	510	590	670	725	835	880	970	1420	1560	1710	1785
	W	/	/	/	/	/	/	200	200	200	280	280	305	305	305	400	4600	460	460	600	600	600	600	600
	Type	/	/	/	/	/	/	SMC-04	SMC-04	SMC-04	SMC-03	SMC-03	SMC-03	SMC-03	SMC-0	SMC-0	SMC-1	SMC-2	SMC-2	SMC-3	SMC-3	SMC-4	SMC-4	SMC-4
	Kg	/	/	/	/	/	170	290	330	415	525	780	1200	1380	2400	3500	4630	6850	10500	11000	14000	15200	18100	

Main appearance and connection dimensions

PN10.0MPa CLASS 600

DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1050	1200	1400	1500
NPS	in	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	32	36	40	42	48	56	60
Francois	L	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1549	1778	2083	2337	2100	2400	2400	2700
Butt Welding	L1	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1549	1778	2083	2337	2050	2180	2300	2400
Manual Operation	H	108	155	197	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	W	500	650	650	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	Kg	45	60	80	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Worm Gear Drive	H	/	/	/	115	180	254	325	392	390	455	590	630	830	960	1030	1171	1250	1260	1370	1480	1550
	W	/	/	/	600	600	800	800	800	800	800	800	800	800	800	800	800	800	1000	1000	1000	1000
	Type	/	/	/	B	C	C	D	DA	DA	DA	DB	DC	DD	DD	DD	DD	DD	DD	DD	DD	DD
Pneumatic	Kg	/	/	/	95	116	189	296	446	597	860	1154	1568	2613	3841	5508	7597	10370	12500	17136	21000	23400
	H	269	/	519	636	728	839	1014	1120	1224	1374	/	1490	1615	1760	/	/	/	/	/	/	/
	H1	209	/	295	479	519	595	770	815	1004	1154	/	1210	1335	1410	/	/	/	/	/	/	/
Pneumatic	L1	148	/	287	287	378	530	530	680	1445	1445	/	1665	1665	1960	/	/	/	/	/	/	/
	L2	257	/	287	287	378	530	530	680	1445	1445	/	1665	1665	1960	/	/	/	/	/	/	/
	Type	AG13	/	AW13	AW13	AW17	AW20	AW20	AW28	C1-355	C1-355	/	C2-490	C2-490	C3-60	/	/	/	/	/	/	/
Power-driven	Kg	60	/	105	112	160	220	320	470	610	890	/	1600	2700	4000	/	/	/	/	/	/	/
	H	/	/	/	/	480	532	641	651	670	761	783	943	998	1108	1238	1350	1400	1954	2064	2174	2244
	H1	/	/	/	/	262	360	400	474	472	510	610	670	725	835	915	1050	1100	1230	1340	1450	1520
Power-driven	W	/	/	/	/	200	200	280	280	305	305	305	400	400	600	600	600	600	600	600	600	600
	Type	/	/	/	/	SMC-04	SMC-03	SMC-03	SMC-00	SMC-00	SMC-00	SMC-1	SMC-3	SMC-3	SMC-4	SMC-4	SMC-5	SMC-5	SMC-5	SMC-5	SMC-5	SMC-5

Welded Structure Trunnion Type Ball Valve



Main appearance and connection dimensions

PN15.0MPa CLASS 900

DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	750	800	900	1000	1200
NPS	in	2	2 1/2	3	4	6	8	10		14	16	18	20	24	30	32	36	40	48
Francois	L	368	419	381	457	610	737	838	965	1092	1130	1219	1321	1549	1780	2050	2050	2180	2600
Butt Welding	L1	368	419	381	457	610	737	838	965	1092	1130	1219	1321	1549	1780	1960	2100	2376	
Manual Operation	H	217	241	259		/	/	/	/	/	/	/	/	/	/	/	/	/	/
	W	650	650	650		/	/	/	/	/	/	/	/	/	/	/	/	/	/
	Kg	58	76	96		/	/	/	/	/	/	/	/	/	/	/	/	/	/
Worm Gear Drive	H	/	/	/	177	244	274	382	452	515	602	706	714	736	1050	1090	1150	1230	1530
	W	/	/	/	600	800	800	800	800	800	800	800	800	800	800	1000	1000	1000	1000
	Type	/	/	/	B	/	C	D	D	DA	DB	DC	DD	DH	DH	DJ	DJ	DK	DK
Pneumatic	Kg	/	/	/	115	125	225	377	559	776	1124	1503	2049	3351	6008	7147	9908	11500	19000
	H	519	/	728	842	1014	1120	1224	1374	1490	1615	1760	1760	1760	/	/	/	/	/
	H1	295	/	519	595	770	815	1004	1154	1210	1335	1410	1410	1410	/	/	/	/	/
	L1	287	/	378	530	530	680	1455	1455	1665	1665	1960	1960	1960	/	/	/	/	/
	L2	287	/	378	530	530	680	1455	1455	1665	1665	1960	1960	1960	/	/	/	/	/
	Type	Aw17	/	Aw17	Aw20	Aw20	Aw28	C1-355	C1-355	C2-490	C2-490	C2-490	C3-600	/	/	/	/	/	/
Power-driven	Kg	70	/	115	125	165	240	390	620	790	1240	1700	2250	3420	/	/	/	/	/
	H	/	/	/	480	641	651	711	811	783	963	1058	1148	1238	1744	1784	1844	1294	2044
	H1	/	/	/	262	400	474	512	550	610	690	785	875	915	1020	1060	1120	1200	1320
	W	/	/	/	200	280	280	280	305	305	305	400	400	400	600	600	600	600	600
	Type	/	/	/	SMC-04 +H1BC	SMC-04 +H3BC	SMC-00 +H3BC	SMC-0 +H4BC	SMC-1 +H4BC	SMC-1 +H5BC	SMC-3 +H6BC	SMC-3 +H6BC	SMC-4 +H7BC	SMC-5 +H7BC	SMC-5 +H7BC	SMC-5 +H7BC	SMC-5 +H7BC	SMC-5 +H7BC	SMC-5 +H7BC
	Kg	/	/	/	128	175	265	395	635	812	1320	1750	2350	3560	4200	8100	11800	12500	20000

Main appearance and connection dimensions

PN25.0MPa CLASS 1500

DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
NPS	in	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
Francois	L	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	2043
Butt Welding	L1	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	2043
Manual Operation	H	217	241	259	/	/	/	/	/	/	/	/	/	/
	W	650	650	650	/	/	/	/	/	/	/	/	/	/
	Kg	75	82	105	/	/	/	/	/	/	/	/	/	/
Worm Gear Drive	H	137	161	169	177	244	355	458	576	601	671	740	770	860
	W	600	600	600	600	800	800	800	800	800	800	800	800	800
	Type	A	A	B	B	C	D	D	DA	DB	DC	DD	DH	DH
Pneumatic	Kg	85	98	115	125	145	240	395	610	820	1250	1680	2400	3580
	H	519	728	842	1014	1120	1124	1374	1490	1615	1760	1760	1760	/
	H1	295	519	595	770	815	1004	1154	1210	1335	1410	1410	1410	/
	L1	287	378	530	530	680	1455	1455	1665	1665	1960	1960	1960	/
	L2	287	378	530	530	680	1455	1455	1665	1665	1960	1960	1960	/
	Type	Aw17	Aw17	Aw17	Aw20	Aw28	Aw28	C1-355	C1-355	C2-490	C2-490	C2-429	C3-600	/
Power-driven	Kg	95	115	120	145	180	290	420	700	890	1300	1820	2610	/
	H	/	/	542	641	651	711	801	823	965	1085	1168	1238	/
	H1	/	/	370	400	474	512	550	650	690	785	895	915	/
	W	/	/	200	280	280	280	305	305	305	400	400	600	/
	Type	/	/	SMC-04 +H1BC	SMC-04 +H3BC	SMC-00 +H3BC	SMC-00 +H4BC	SMC-0 +H4BC	SMC-0 +H4BC	SMC-1 +H5BC	SMC-3 +H6BC	SMC-3 +H6BC	SMC-4 +H7BC	/
	Kg	/	/	142	160	196	320	452	850	910	1420	1960	2820	/

Top Entry Ball Valve



Ball valve specification

Technical specification	API Series
Design specification	API6D、API608、BS5351
Pressure temperature rating	ASME B16.34
Structural length	ASME B16.10
Flange connection	ASMEB16.5、ASME B16.47
Butt welded end connection	ASME B16.25
Inspection and test	API598/API6D
Fire test	API6FA
Steel casting quality inspection	MSS-SP-55



Design Feature

Top-mounted ball valve is a new product developed and developed by our company to absorb foreign advanced technology, and our company's years of design and manufacturing experience, the technical level reaches the domestic first-class, the products can be comparable with international counterparts. In addition to the characteristics of side-mounted fixed ball valve (see fixed ball valve), it also has the following characteristics:

1. Overall valve body design, top-mounted earshaft fixed support, flange or butt welding structure.
2. Because of the nickel corrugated spring moves the sealed metal valve seat to the ball, and has the two-way sealing function of inlet and outlet.
3. Adopt unique valve seat retraction technology, online replaceable club, long valve stem sealing ring metal valve and ripple; torque reduced to minimum, easy for valve operation.
4. easy to repair, convenient installation, long service life. The valve can be repaired and replaced without being removed from the pipeline; extending the service life.
5. the torque is small, reliable sealing, the spherical structure of the valve seat is different from the ordinary ball valve, can automatically adjust the sealing position.
6. the preset drive device platform and screw hole, and comply with the ISO5211 requirements, according to the different requirements of users, at any time can be assembled with the drive device.
- 7, the valve has the DBB double blocking discharge function.
8. The manual top-mounted ball valve adopts a high-strength integral club structure to ensure the accurate positioning of the sphere.
9. The valve stem adopts anti-blowing protection structure to improve the safety of valve operation.

Top Entry Ball Valve



Torque table (N.M)

The torque values listed in the following table are for reference when selecting the drive device. The characteristics of the medium, the opening frequency of the internals and valves need to be taken into account. The use of anti-corrosion internals for valves used to clean lubricating media reduces torque by 20%. For open and harsh media, such as slurry, granular media, and for oxygen, torque may be increased by 50%. The operating torque of the reduced valve is selected according to the operating torque of the valve corresponding to the diameter of its reduced opening. (The specific selection is subject to actual conditions)

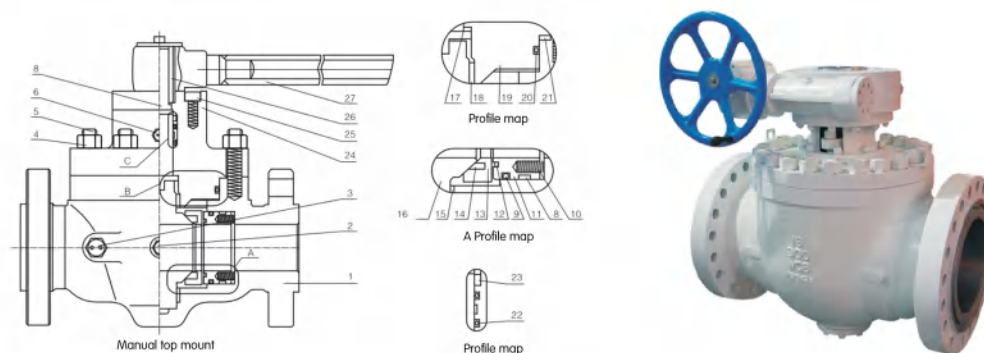
Size		CLASS						
DN	in	150	300	400	600	900	1500	2500
50x40	11/2	61	81	85	102	149	/	/
50	2	68	108	97	136	203	333	562
80x50	3x2	68	108	97	136	203	333	562
80	3	149	244	204	305	422	811	1460
100x80	4x3	149	244	204	305	422	811	1460
100	4	244	407	422	453	583	1505	1923
150x100	6x4	244	407	422	453	583	1505	5840
150	6	323	544	647	1006	1299	2940	5840
200x150	8x6	323	544	647	1006	1299	2940	12181
200	8	647	955	1157	2532	2766	6489	12181
250x200	10x8	647	955	1157	2532	2766	6489	15281
250	10	882	1822	2178	3941	5446	12181	15281
300x250	12x10	882	1822	2178	3941	5446	12181	15281
350x250	14x10	882	1822	2178	3941	5446	12181	19834
300	12	1577	2591	3064	6893	7909	15564	/
350x300	14x12	1577	2591	3064	6893	7909	15564	/
400x300	16x12	1577	2591	3064	6893	7909	15564	/
350	14	1873	3224	3853	3205	10948	23512	/
400x350	16x14	1873	3224	3853	3205	10948	23512	/
400	16	3050	5447	6529	8817	13682	27039	/
450x400	18x16	3050	5447	6529	8817	13682	27039	/
500x400	20x16	3050	5447	6529	8817	13682	27039	/
450	18	3819	6197	7461	11231	17705	37085	/
500	20	4508	7830	9348	14919	29866	40309	/
550	22	5490	9453	11302	16058	39324	/	/
600x500	24x20	4508	7830	9348	15140	29866	40309	/
600	24	6723	11457	15535	21840	40810	64671	/
650	26	9289	15139	17869	24889	51322	/	/
700	28	11647	18067	21063	28767	53515	/	/
750x600	30x24	6723	11457	15535	21840	40810	/	/
750	30	13558	19207	24966	34398	57057	/	/
800	32	15224	24095	28235	38880	61123	/	/
850	34	17846	30249	33291	41789	70277	/	/
900x750	36x30	13558	19207	24966	34398	57057	/	/
900	36	22032	33331	36277	51521	81349	/	/
1000	40	25972	36490	45269	60368	/	/	/
1050	42	27034	40425	53515	70277	/	/	/
1200	48	42606	64985	79311	112293	/	/	/

Top Entry Ball Valve



Product performance specification

Performance Specification		CLASS					
		150	300	400	600	900	2500
Test Pressure (MPa)	Strength Test	2.93	7.58	10.0	150	22.5	63.0
	Seal Test	2.07	5.52	7.31	11.03	16.5	46.2
	Air Pressure	0.6MPa					
Applicable Temperature		-196℃~550℃ (Note: Different working conditions temperature, choose different materials)					
Applicable Medium		Water, steam, oil, liquefied gas, natural gas, etc					
Size Range		DN50-1200 (NP2~48"). Can be manufactured according to customer requirements					
Body/inner Body Material		Carbon steel, stainless steel, double phase stainless steel, nickel alloy, titanium alloy, etc					
End Connection		Flange connection, butt welding connection					
Driving Device		Manual, worm gear drive, electric, pneumatic					



Main Parts Material

NO.	Part Name	Materials		
		Carbon steel	stainless steel	Low-temperature
1	valve body	A216 WCB	A351 CF8M	A352 LCC
2	Bleeder valve	A105+ENP	A182F316	A350 LF2
3	Injection fat valve	A105+ENP	A182F316	A350 LF2
4	nut	A1942H	A1948	A1947
5	stud	A193 B7	A193 B8	A320 L7
6	Injection fat valve	A105+ENP	A182F316	A350 LF2
7	valve stem	A182 F6a	A182F316	A182F316
8	Fireproof mat	Flexible graphite		
9	O-ring	fluororubber		
10	spring	Incone 600		
11	Support ring	A105+ENP	A182F316	A350 LF2
12	gasket	Flexible graphite+SS		
13	valve seat	A105+ENP	A182F316	A350 LF2
14	sealing ring	PTFE, NYLON, PEEK, PCTFE		

Main Parts Material

NO.	Part Name	Materials		
		Carbon steel	Stainless steel	Low-temperature steel
15	Lower bush	PTFE+CS	PTFE+SS	PTFE+SS
16	sphere	A105+ENP	A182 F316	A350 LF2
17	Flat bush	PTFE+CS	PTFE+SS	PTFE+SS
18	Upper bush	PTFE+CS	PTFE+SS	PTFE+SS
19	bonnet	A216 WCB	A351 CF8M	A352 LCC
20	O-ring	fluororubber		
21	gasket	Flexible graphite+SS		
22	O-ring	fluororubber		
23	filler	Flexible graphite+SS		
24	gland	A105+ENP	A182 F316	A350 LF2
25	screws	A193 B7	A193 B8	A320 L7
26	key	ANSI 1045	ANSI 1045	ANSI 1045
27	controller	Q235A		

Note: Different working conditions temperature, choose different materials

Top Entry Ball Valve

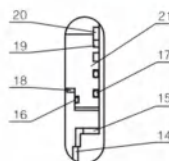
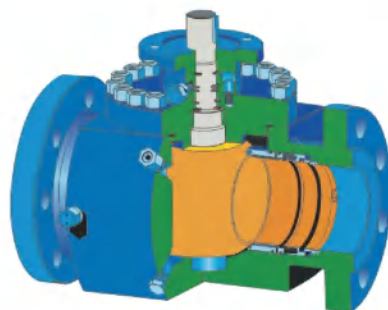


Valve structure diagram (top-mounted ball valve)

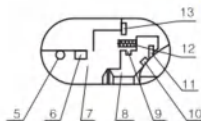
B Profile map



D-direction
ISO5211 is connected to the drive device



C Profile map



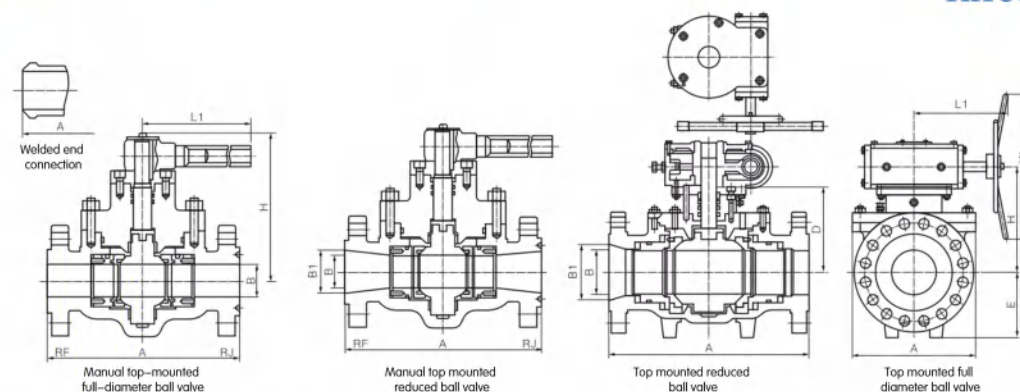
A Profile map

Valve structure diagram (top-mounted ball valve)

NO.	Part Name	Materials		
		Carbon steel	Stainless steel	Low-temperature
1	Bleeder valve	A105+ENP	A182F316	A350 LF3
2	Lower bush	PTFE+CS	PTFE+SS	PTFE+SS
3	sphere	A105+ENP	A182 F316	A350 LF3
4	valve stem	A216 WCB	A351 CF8M	A352 LCC
5	O-ring	fluororubber		
6	Fireproof mat	Flexible	Flexible	Flexible
7	Support ring	A105+ENP	A182F316	A350 LF3
8	valve seat	A105+ENP	A182F316	A350 LF3
9	O-ring	fluororubber		
10	O-ring	fluororubber		
11	sealing ring	PTFE, NYLON, PCTFE, MOLON		
12	spring	Incone 1600		
13	C-spring	17-4		
14	Upper bush	PTFE+CS	PTFE+SS	PTFE+SS
15	Flat bush	PTFE+CS	PTFE+SS	PTFE+SS
16	O-ring	fluororubber		
17	O-ring	fluororubber		
18	gasket	Flexible graphite+SS		
19	filler	Flexible graphite		
20	Pressing	A182 F6a	A182F316	A182 F6a

NO.	Part Name	Materials		
		Carbon steel	Stainless steel	Low-temperature
21	Upper stem seat	A105+ENP	A182F316	A350 LF3
22	stud	A193 B7	A193 B8	A320 L7
23	nut	A1942H	A1948	A1947
24	Injection fat valve	A105+ENP	A182 F316	A350 LF3
25	Screws	A193 B7	A193 B8	A320 L7
26	Screws	A193 B7	A193 B8	A320 L7
27	Connecting disc	A105+ENP		
28	key	ANSI1045		
29	Screws	A193 B7		
30	valve stem	A182 F6a	A182F316	A182 F316
31	Locating pin		A182 F6a	
32	Bleeder valve	A105+ENP	A182F316	A350 LF3
33	bonnet	A216 WCB	A351CF8M	A352 LCC
34	Locating pin	A182 F6a		
35	gasket	Flexible graphite+SS		
36	O-ring	fluororubber		

Top Entry Ball Valve

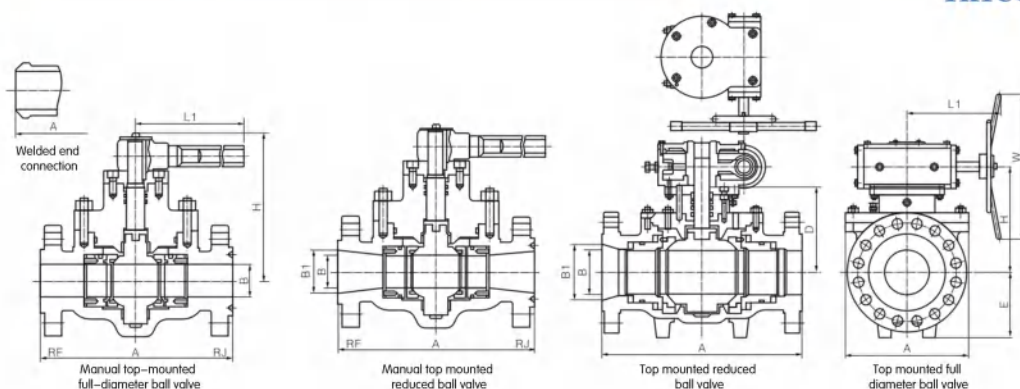


Main appearance and connection dimensions

CLASS150

DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50x40	2x1 1/2	292	295	292	38	51	/	85	180	212	450	/
50	2	292	295	295	51	51	/	85	180	212	450	/
80x50	3x2	356	395	356	51	77	/	85	180	212	450	/
80	3	356	395	356	77	77	/	112	230	228	600	/
100x80	4x3	432	435	432	77	102	/	112	230	228	600	/
100	4	432	435	432	102	102	/	145	283	272	600	/
150x100	6x4	559	562	559	102	152	/	145	283	272	600	/
150	6	559	562	559	152	152	281	220	325	333	297	350
200x150	8x6	660	664	660	152	203	281	220	325	333	297	350
200	8	660	664	660	203	203	320	260	405	384	360	500
250x200	10x8	787	791	787	203	254	320	260	405	384	360	500
250	10	787	791	787	254	254	360	311	490	424	360	500
300x250	12x10	838	841	838	254	305	360	311	490	424	360	500
350x250	14x10	889	892	889	254	337	360	311	490	424	360	500
300	12	838	841	838	305	305	403	366	570	467	340	700
350x300	14x12	889	892	889	305	337	403	366	570	467	340	700
400x300	16x12	991	994	991	305	387	403	366	570	467	340	700
350	14	889	892	889	337	337	453	428	660	517	340	700
400x350	16x14	991	994	991	387	337	453	428	660	517	340	700
400	16	991	994	991	387	387	459	450	700	549	545	700
450x400	18x16	1092	1095	1092	387	438	450	450	700	549	545	700
500x400	20x16	1194	1200	1194	387	489	459	450	700	549	545	700
450	18	1092	1095	1092	438	438	502	473	755	577	575	700
500x450	20x18	1194	1200	1194	438	489	502	473	755	577	575	700
500	20	1194	1200	1194	489	489	551	580	870	626	575	700
600x500	24x20	1397	1406	1397	489	591	551	580	870	626	575	700
550	22	1295	1305	1295	540	540	578	590	955	653	575	700
600	24	1397	1406	1397	591	591	606	600	1030	696	579	700
750x600	30x24	1651	1664	1651	591	736	606	600	1030	696	579	700
650	26	1448	1460	1448	635	635	675	635	1075	765	570	700
700	28	1549	1562	1549	686	686	735	700	1165	825	579	700
750	30	1651	1664	1651	736	736	795	775	1250	865	579	700
900x750	36x30	2083	2098	2083	736	876	795	775	1250	865	579	700

Top Entry Ball Valve

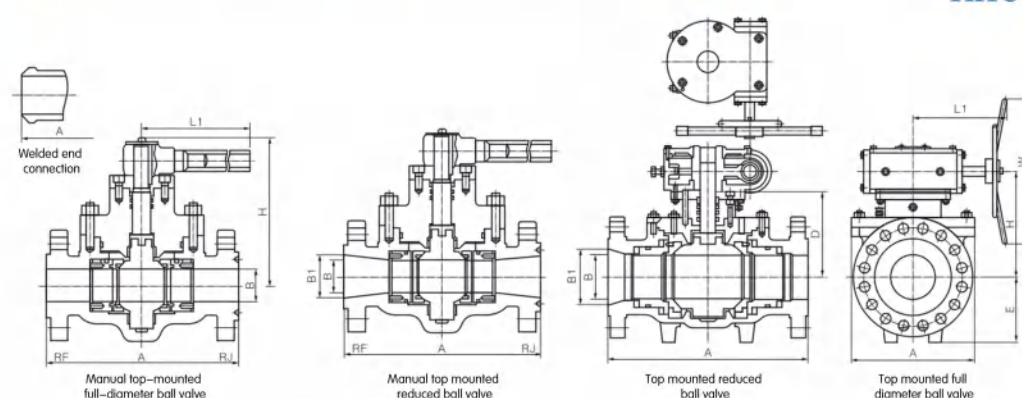


Main appearance and connection dimensions

CLASS300

DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50×40	2×11/2	292	295	292	38	51		85	180	212	450	/
50	2	292	295	292	51	51	/	85	180	212	450	/
80×50	3×2	356	359	356	51	77	/	85	180	212	450	/
80	3	356	359	356	77	77		112	230	228	600	
100×80	4×3	432	435	432	77	102	/	112	230	228	600	
100	4	432	435	432	102	102	/	145	283	272	1000	/
150×100	6×4	559	562	559	102	152		145	283	272	1000	
150	6	559	562	559	152	152	281	220	325	345	360	500
200×150	8×6	660	664	660	152	203	281	220	325	345	360	500
200	8	660	664	660	203	203	330	260	405	385	340	700
250×200	10×8	787	791	787	203	254	330	260	405	385	340	700
250	10	787	791	787	254	254	371	311	490	426	340	700
300×250	12×10	838	841	838	254	305	371	311	490	426	340	700
350×250	14×10	889	892	889	254	337	371	311	490	426	340	700
300	12	838	841	838	305	305	418	366	570	473	340	700
350×300	14×12	889	892	889	305	337	418	366	570	473	340	700
400×300	16×12	991	994	991	305	387	418	366	570	473	340	700
350	14	889	892	889	337	337	470	428	660	530	545	700
400×350	16×14	991	994	991	387	337	470	428	660	530	545	700
400	16	991	994	991	387	387	477	450	700	537	545	700
450×400	18×16	1092	1095	1092	387	438	477	450	700	537	545	700
500×400	20×16	1194	1200	1194	387	489	477	450	700	537	545	700
450	18	1092	1095	1092	438	438	522	473	755	597	575	700
500×450	20×18	1194	1200	1194	438	489	522	473	755	597	575	700
500	20	1194	1200	1194	489	489	573	580	880	663	579	700
600×500	24×20	1397	1406	1397	489	591	573	580	880	663	579	700
550	22	1295	1305	1295	540	540	600	590	965	690	579	700
600	24	1397	1406	1397	591	591	631	600	1040	721	579	700
750×600	30×24	1651	1664	1651	591	736	631	600	1040	721	579	700
650	26	1448	1465	1448	635	635	702	635	1085	874	605	700
700	28	1549	1562	1549	686	686	764	700	1175	919	950	700
750	30	1651	1664	1651	736	736	827	775	1265	982	950	700
900×750	36×30	2083	2098	2083	736	876	827	775	1265	982	950	700

Top Entry Ball Valve

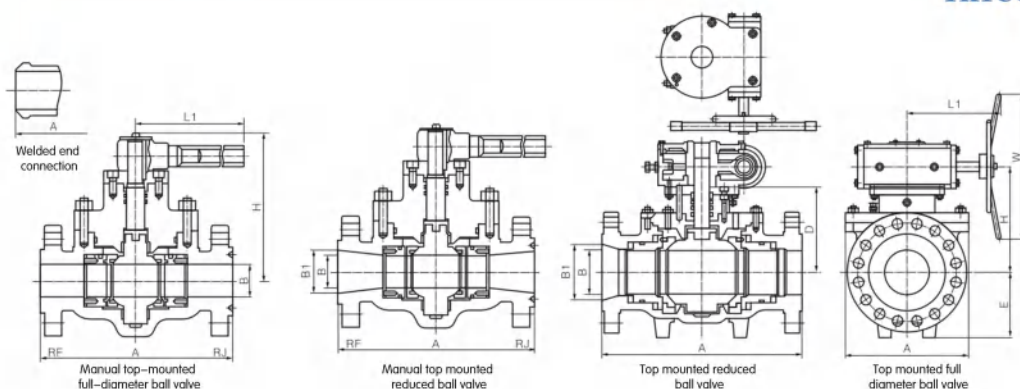


Main appearance and connection dimensions

CLASS600

DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50×40	2×11/2	292	295	292	38	51		85	180	212	450	
50	2	292	295	295	51	51		85	180	212	600	
80×50	3×2	356	395	356	51	77		85	180	212	600	
80	3	356	395	356	77	77	/	112	230	228	1000	
100×80	4×3	432	435	432	77	102		112	230	228	1000	
100	4	432	435	432	102	102		145	283	250	1000	/
150×100	6×4	559	562	559	102	152		145	283	250	1000	
150	6	559	562	559	152	152	281	220	325	336	340	700
200×150	8×6	660	664	660	152	203	281	220	325	336	340	700
200	8	660	664	660	203	203	340	260	425	395	340	700
250×200	10×8	787	791	787	203	254	340	260	425	395	340	700
250	10	787	791	787	254	254	355	311	505	415	545	700
300×250	12×10	838	841	838	254	305	355	311	505	415	545	700
350×250	14×10	889	892	889	254	337	355	311	505	415	545	700
300	12	838	841	838	305	305	401	366	585	461	545	700
350×300	14×12	889	892	889	305	337	401	366	585	461	545	700
400×300	16×12	991	994	991	305	387	401	366	585	461	545	700
350	14	889	892	889	337	337	451	428	680	526	575	700
400×350	16×14	991	994	991	387	337	451	428	680	526	575	700
400	16	991	994	991	387	387	493	450	730	568	575	700
450×400	18×16	1092	1095	1092	387	438	493	450	730	568	575	700
500×400	20×16	1194	1200	1194	387	489	493	450	730	568	575	700
450	18	1092	1095	1092	438	438	539	473	784	629	579	700
500×450	20×18	1194	1200	1194	438	489	539	473	784	629	579	700
500	20	1194	1200	1194	489	489	592	580	900	682	579	700
600×500	24×20	1397	1406	1397	489	591	592	580	900	682	579	700
550	22	1295	1305	1295	540	540	621	590	890	711	579	700
600	24	1397	1406	1397	591	591	653	600	1070	808	950	1400
750×600	30×24	1651	1664	1651	591	736	653	600	1070	808	950	1400
650	26	1448	1460	1448	635	635	725	635	1115	880	950	1400
700	28	1549	1562	1549	686	686	790	700	1210	945	950	1400
750	30	1651	1664	1651	736	736	850	775	1300	1005	950	1400
900×750	36×30	2083	2098	2083	736	876	850	775	1300	1005	950	1400

Top Entry Ball Valve

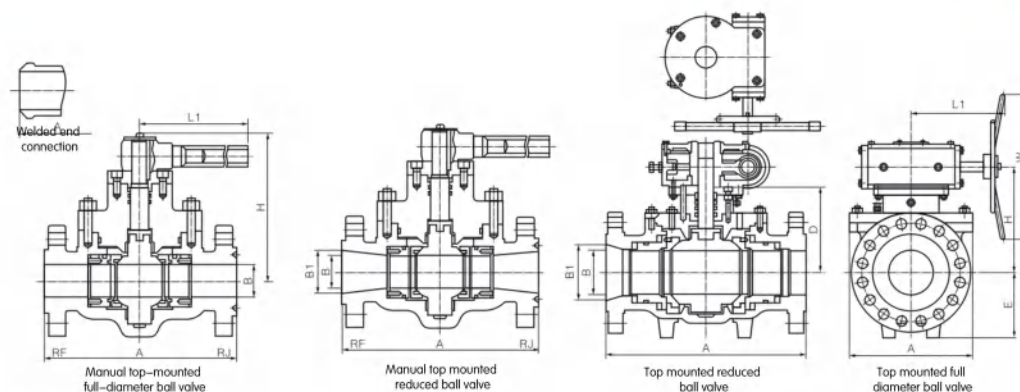


Main appearance and connection dimensions

CLASS900

DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50×40	2×11/2	368	371	368	38	51	/	85	195	215	450	/
50	2	368	371	368	51	51	/	85	195	215	600	/
80×50	3×2	381	384	381	51	77	/	85	195	215	600	/
80	3	381	384	381	77	77	/	112	240	193	1000	/
100×80	4×3	457	460	457	77	102	/	112	240	193	1000	/
100	4	457	460	457	102	102	227	145	295	291	360	500
150×100	6×4	610	613	610	102	152	227	145	295	291	360	500
150	6	610	613	610	152	152	258	225	330	313	340	700
200×150	8×6	737	740	737	152	203	258	225	330	313	340	700
200	8	737	740	737	203	203	318	260	425	378	545	700
250×200	10×8	838	841	838	203	254	318	260	425	378	545	700
250	10	838	841	838	254	254	370	320	525	430	545	700
300×250	12×10	965	968	965	254	305	370	320	525	430	545	700
350×250	14×10	1029	1038	1029	254	324	370	320	525	430	545	700
300	12	965	1140	965	305	305	418	375	600	493	575	700
350×300	14×12	1029	1038	1029	324	305	418	375	600	493	575	700
400×300	16×12	965	1140	1130	305	375	418	375	600	493	575	700
350	14	1029	1038	1029	324	324	470	440	695	545	575	700
400×350	16×14	1130	1140	1130	324	375	470	440	695	545	575	700
400	16	1130	1140	1130	375	375	515	465	750	605	579	700
450×400	18×16	1219	1232	1219	375	425	515	465	750	605	579	700
500×400	20×16	1321	1334	1321	375	473	515	465	750	605	579	700
450	18	1219	1232	1219	425	425	560	485	800	650	579	700
500×450	20×18	1321	1331	1321	425	473	560	485	800	650	579	700
500	20	1321	1331	1321	473	473	620	600	925	775	950	1400
600×500	24×20	1549	1568	1549	473	571	620	600	925	775	950	1400
600	24	1549	1568	1549	571	571	680	620	1095	835	950	1400
750×600	30×24	1880	1902	1880	571	714	680	620	1095	835	950	1400
650	26	1651	1674	1651	619	619	760	655	1145	915	950	1400
700	28	1753	1775	1753	667	667	824	720	1240	979	950	1400
750	30	1880	1902	1880	714	714	886	800	1335	1157	950	1400
900×750	36×30	2286	2315	2286	714	857	886	800	1335	1157	950	1400

Top Entry Ball Valve

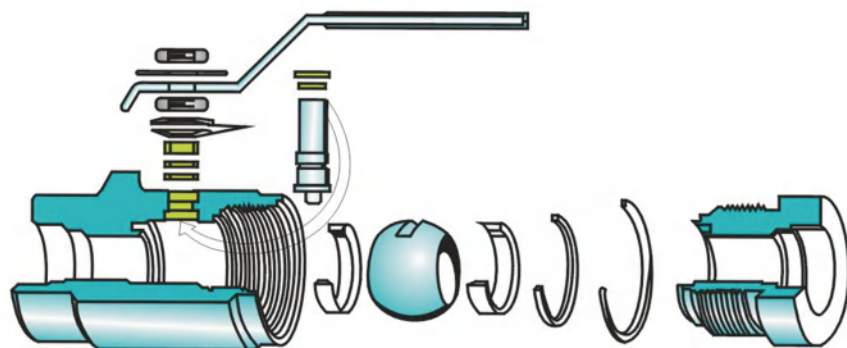


Main appearance and connection dimensions

CLASS1500

DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50×40	2×11/2	368	371	368	38	51	/	85	205	179	450	/
50	2	368	371	368	51	51	/	85	205	179	600	/
80×50	3×2	470	473	470	51	77	/	85	205	179	600	/
80	3	470	473	470	77	77	/	120	250	201	1000	/
100×80	4×3	546	549	546	77	102	/	120	250	201	1000	/
100	4	546	549	546	102	102	240	155	310	295	340	700
150×100	6×4	705	711	705	102	146	240	155	310	295	340	700
150	6	705	711	705	146	146	273	240	370	333	545	700
200×150	8×6	832	841	832	146	194	273	240	370	333	545	700
200	8	832	841	832	194	194	335	280	455	410	575	700
250×200	10×8	991	1000	991	194	241	335	280	455	410	575	700
250	10	991	1000	991	241	241	385	340	565	460	575	700
300×250	12×10	1130	1146	1130	241	289	385	340	565	460	575	700
350×250	14×10	1257	1276	1257	241	317	385	340	565	460	575	700
300	12	1130	1146	1130	289	289	436	400	670	511	575	700
350×300	14×12	1257	1276	1257	317	317	436	400	670	511	575	700
400×300	16×12	1384	1406	1384	289	262	436	400	670	511	575	700
350	14	1257	1276	1257	317	317	485	467	730	575	579	700
400×350	16×14	1384	1406	1384	317	362	485	467	730	575	579	700
400	16	1384	1406	1384	362	362	530	495	790	620	579	700
450	18	1537	1559	1537	407	407	585	520	840	740	950	1400
500	20	1664	1686	1664	457	457	640	639	965	795	950	1400
600	24	2043	2071	2043	534	534	708	640	1145	979	1045	1400

Forged steel ball valve

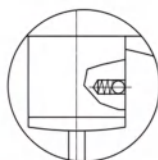


Design Structure

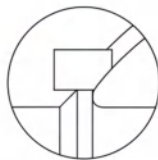
The reader is PTFE+25% broken fiber or PEEK. PTFE+25% glass fiber can obtain better performance than PTFE under high pressure, but also reduce acid plate corrosion, usually used under 800 real pressure: In addition, you can customize imported PEEK material according to customer requirements, in order to adapt to high temperature, high pressure conditions of high sealing performance. Fire-proof, anti-static and anti-stem blowout structure.



Stem blowout prevention structure



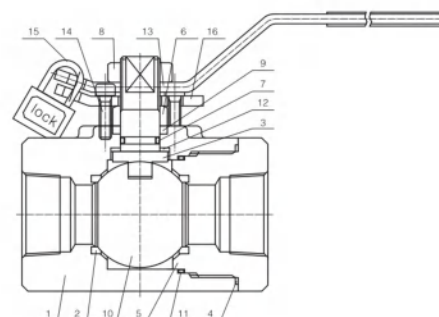
Antistatic structure



Fire resistant construction

NPS	RDW-CV	
	Overall diameter	Drawing down
1/4	8	
3/8	8	
1/2	12	8
3/4	33	12
1	48	33
1 1/4	83	48
1 1/2	120	83
2	250	120

2PCS Forged Steel Ball Valves



Application specification

- Design and manufacture: BS5351 MSS SP-118;
- Connection end size:
 - (1) Socket size: ANSI B16.11; JB/T1751
 - (2) Screw end size: ANSI B1.20.1; JB/T7308
 - (3) Welding end size according to: ANSI B16.25; JB/T12224
 - (4) Flange end size: ANSI B16.5; JB79
- Benjamin gate inspection and test: API598; GB/T13927; JB/TB092
- Structural features: Threaded valve cover; Two-step t;
- 5, material: according to: ANSNASTM.
6. Main material: A105; LF2; 304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.

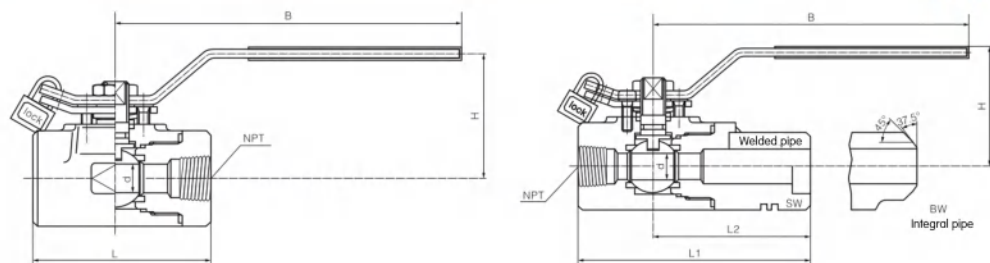
Carbon steel temperature and pressure rating:

CL150-285 P.S.10100° F CL300-740P.S.1@100 F CL800-1480 P.S.1@100 F CL800-1975P.S.1@100F
CL1500-3705 F.S.I 100 F

Typical parts material table

NO	Name	A105/F6a	LF2/304	F304 (L) /304 (L)	F316 (L) /316 (L)	F51/F51
1	Valve body	A105	LF2	F304 (L)	F316 (L)	F51
2	Valve seat	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK
3	Valve stem	410	304	304 (L)	316 (L)	F51
4	Gasket	PTFE	PTFE	PTFE	PTFE	PTFE
5	Bonnet	A105	LF2	F304	F316	F51
6	Packing gland	410	304	304 (L)	316 (L)	F51
7	Packing plate	A105	LF2	F304	F316	F51
8	Flat nut	8	8	8	8M	8M
9	Filler	PTFE	PTFE	PTFE	PTFE	PTFE
10	Sphere	F6	F304	F304 (L)	F316 (L)	F51
11	O-ring	VITON	VITON	VITON	VITON	VITON
12	Upper sealing gasket	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK
13	Controller	ANSI 1025	ANSI 1025	ANSI 1025	ANSI1025	ANSI1025
14	Hexagon socket screw	B8	B8	B8	B8M	B8M
15	The lock	Finished product	Finished product	Finished product	Finished product	Finished product
16	Locating plate	ANSI 1025	ANSI 1025	ANSI1025	ANSI1025	ANSI1025

2PCS Forged Steel Ball Valves



CL800

NPS	R. P		1/2	3/4	1	1 1/4	1 1/2	2		
	F. P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Structural length(mm)	L1	70	70	80	95	115	125	135	155	
Takeover end to center(mm)	L2	121	121	121	130	136	140	148	160	
Center to handle end(mm)	B	16	160	160	160	170	230	230	280	
Center height(mm)	H	60	60	60	65	85	105	105	125	
Channel aperture(mm)	d	6	9	12.5	17	24	37	37	49	
Weight (kg)		1.2	0.9	1.3	2.2	3.5	6.5	6.5	11	

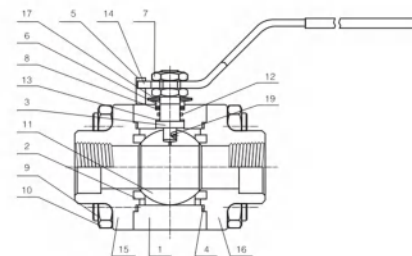
The end connection can be pressed on one end thread and one end nozzle (socket welding or butt welding) according to BS8351 design

CL1500-CL2500

NPS	F. P		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structural length(mm)	L1	CL1500	80	80	95	115	125	135	155	155
		CL2500			125	135	155		155	
Takeover end to center(mm)	L2	CL1500	121	121	130	136	140	148	160	175
		CL2500			136	140	148		175	
Center to handle end(mm)	B	CL1500	160	160	160	170	230	230	280	280
		CL2500			230	230	280		280	130
Center height(mm)	H	CL1500	60	60	65	85	105	105	125	
		CL2500			90	110	125			
Channel aperture(mm)	d	CL1500	6	9	13	19	25	32	38	49
		CL2500	6	9	1	19	25		38	42
Weight (kg)		CL1500	1.2	1.5	2.5	3.7	5.8		11.5	13.7
		CL2500	1.5	1.9	2.7	4.1	6.3		12	15

The end connection can be designed by one end thread and one end nuclear tube (socket welded or butt welded). API6D

3PCS Forged Steel Ball Valves



Application specification

- Design and manufacture: BS5351 MSS SP-118;
- Connection end size:
 - (1) Socket size: ANSIB16.11; JB/T1751
 - (2) Screw end size: ANSI1.20.1; JB/T7308
 - (3) Welding end size according to: ANSI16.25; JB/T12224
 - (4) Flange end size: ANSI B16.5:JB79
- Benjamin gate inspection and test: API598; GB/T13927; JB/TB092
- Structural features: Threaded valve cover; Two-step t;
- 5, material: according to: ANSNASTM.
6. Main material: A105; LF2; 304(L);316(L); F347; F321; F51; Monel; 20 alloys etc.

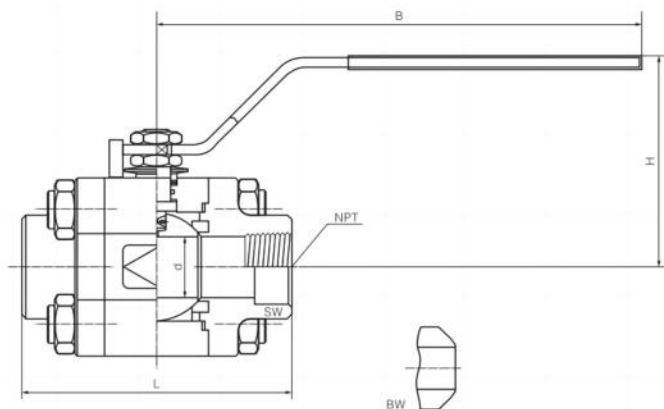
Carbon steel temperature and pressure rating:

CL150-2BB P.S.1100° F CL300-74DP.S.I 100 F CL600-14BO P.S.1100 F CL8DO-197SP.S.I100 F
CL1500-3705 P.S.1 100° F

Typical parts material table

NO	Name	A105/F6a	LF2/304	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	LF2	F304(L)	F316(L)	F51
2	Valve seat	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK
3	Valve stem	410	304	304(L)	316(L)	F51
4	Gasket	PTFE	PTFE	PTFE	PTFE	PTFE
5	Round pin	25	304	304	304	304
6	Pressing sleeve	410	304	304(L)	316(L)	F51
7	Flat nut	8	8	8	8M	8M
8	Filler	PTFE	PTFE	PTFE	PTFE	PTFE
9	Stud bolt	B7	B8	B8	BSM	BSM
10	Nut	2H	8	8	8M	8M
11	Sphere	F6	F304	F304(L)	F316(L)	F51
12	O-ring	VITON	VITON	VITON	VITON	VITON
13	Upper gasket	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK
14	Controller	ANSI1025	ANSI1025	ANSI1025	ANSI 1025	ANSI 1025
15	Left valve cover	A105	LF2	F304	F316	F51
16	Right valve cover	A105	LF2	F304	F316	F51
17	Disc spring	65Mn	65Mn	304	304	304
18	Spring washer	65Mr	65Mn	304	304	304
19	Electrostatic	304	304	304	316L	316L

3PCS Forged Steel Ball Valves



CL800–CL1500

NPS	F. P		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structural length (mm)	L1		92	92	92	111	127	140	152	152
Center to handle end (mm)	B		108	108	108	146	178	178	200	200
Center height (mm)	H		51	51	51	108	81	85	105	105
Channel aperture (mm)	d	CL800	6	9	13	18	23	28	35	49
		CL1500	6	9	13	19	25	32	38	49
Weight (kg)			2.5	2.4	2.3	3.4	5.4	6.4	11	13
			2.5	2.4	2.5	3.7	5.8	6.8	11.5	13.7

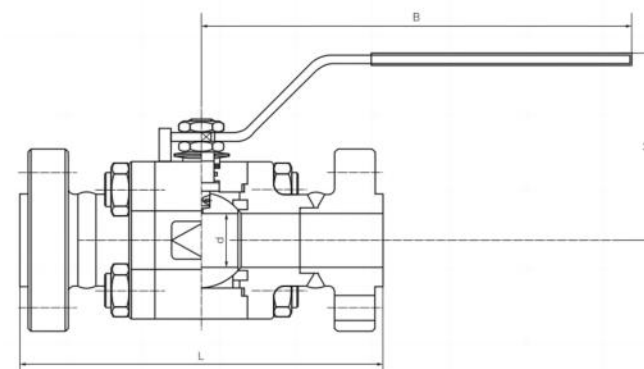
The end connection can be based on one end thread and one end nozzle (socket welding or butt welding) design press: BS5351

CL2500

NPS	F. P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structural length(mm)	L			110	125	135		160	
Center to handle end(mm)	B			170	230	230		310	
Center height(mm)	H			95	110	125			
Channel aperture(mm)	d			13	19	25		38	
Weight(kg)				2.7	4.1	6.3		12	

The end connection can be based on one end thread and one end nozzle (socket welding or butt welding) design press: BS5351

3PCS Forged Steel Ball Valves



CL1500–CL2500

NPS	F. P		1/2	3/4	1	1 1/4	1 1/2	2
Structural length(mm)	L	CL1500	216	229	2564	279	305	368
		CL2500	264	273	308	349	384	451
Center to handle end(mm)	B	CL1500	230	230	350	280	400	400
		CL2500	280	280	95	350	400	400
Center height(mm)	H	CL1500	75	85	85	105	110	130
		CL2500	75	85	95	105	110	130
Channel aperture(mm)	d	CL1500	13	19	25	32	38	49
		CL2500	13	19	25	32	38	42
Weight (kg)		CL1500	2.5	5.8	5.8	6.8	11.5	13.7
		CL2500	2.7	6.3	6.3	6.8	12	15

The end connection can be flange or butt welded, designed according to: API6D structure length according to factory standards.

Low Temperature Ball Valve



Use

Series low temperature ball valve is mainly suitable for ethylene, liquefied natural gas and other chemical equipment, the output of liquid low temperature media such as ethylene, liquid oxygen, liquid hydrogen and so on. This kind of medium is not only flammable and explosive, but also gasification when heating up, and when gasification, the volume expands hundreds of times. Moreover, these media have strong permeability, are easy to leak, and are difficult to process and manufacture.

Structural feature

1, the material of the pressure part can withstand the expansion and contraction caused by the change of the temperature of the medium, and the structure of the sealing part will not produce permanent deformation when the temperature changes. For conditions below -100°C , the valve parts should be cryogenic treatment before finishing, that is, the parts are immersed in the liquid oxygen tank for cooling, when the temperature of the parts reaches -196°C , the initial temperature is 1~2h, and then the box is taken out of the natural treatment to normal temperature, repeat the cycle 2 times.

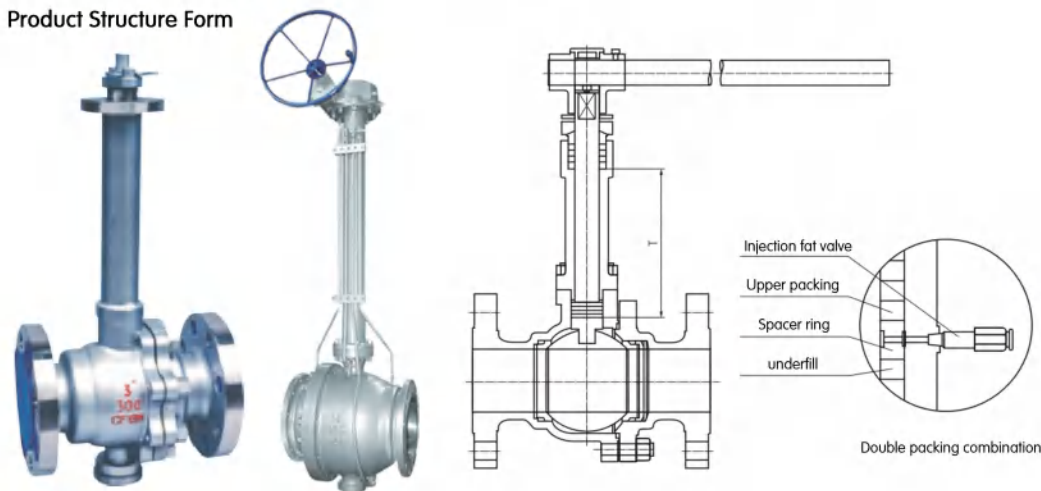
2, the valve cover adopts a long neck structure, its purpose is to protect the stuffing box, so that the stuffing box is far away from the low temperature position, to ensure the sealing effect of the stuffing. At the same time, it can also wrap the cold retaining material to prevent the loss of cold energy. The length of the neck of the long neck (H, see picture on the left) can be selected according to the temperature of use and the thickness of the cooling material. When the sealing effect of the packing is reduced, the sealing performance can be improved from the pressure difference of the packing box.

3, when the use temperature is lower than -100°C , the valve stem material is chrome plated or nitriding treatment to improve the surface hardness of the valve stem and improve the reliability of the packing seal.

4, the low-temperature ball valve has a structure to prevent abnormal pressure increase, due to the low-temperature valve medium gasification, its volume will expand rapidly, the pressure will increase abnormally, when the pressure in the valve cavity rises, the valve cavity and the inlet side of the connection, or the valve inlet end installed pressure relief valve, to ensure the safe use of the valve.

5, low temperature ball valve gaskets have reliable sealing and resilience at room temperature, low temperature and temperature changes.

Product Structure Form

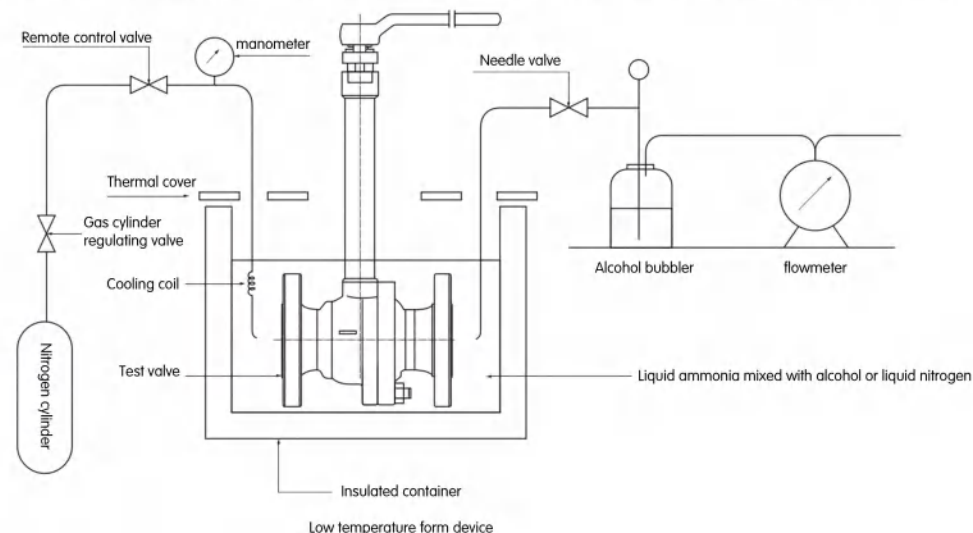


Low Temperature Ball Valve



Low temperature ball valve form test

According to the relevant standards, the low-temperature ball valve test is qualified in the normal temperature pressure test, but also need to carry out low-temperature pressure test. The schematic diagram is as follows:



Low temperature ball valve main shape connection size

The main shape connection size of the low-temperature ball valve refers to the side-mounted floating ball valve and fixed ball valve, and the height of the valve is lengthened on the basis of the height of the neck, so the size table is no longer listed.

Technical specification for low temperature ball valve

Technical specification	API series	GB series
Basic design specification	ANSI B16.34、JB/T7749	
Pressure temperature rating	ANSI B16.34	GB/T12224
Structural length	ASME B16.10	
Connecting flange	ASME B16.5	GB/T9113/HG20596
Inspection and test	API598*	JB/T9092*

* Low-temperature ball valve at normal temperature pressure test after passing, also need to carry out low-temperature pressure test, the principle of the low-temperature valve type diagram.

Low Temperature Ball Valve



Cryogenic ball valve cover extension diameter length (reference)

DN		Neck length (mm)		
DN	in	≥-60℃	≥-100℃	<-100℃
15	1/2	90	110	130
20	3/4	100	110	140
25	1	100	120	150
32	1 1/4	110	120	150
40	1 1/2	110	130	160
50	2	110	130	170
65	2 1/2	120	140	180
80	3	120	150	190
100	4	130	160	200
125	5	130	160	200
150	6	140	170	220
200	8	140	170	220
250	10	150	180	240
300	12	150	180	240
350	14	160	190	250
400	16	160	190	250

Note: ★ indicates electrically operated valve; △ pneumatically operated valve; ● Indicates a handle operated valve; - Indicates that there is no item, indicating that the uninvolvement can be manufactured according to the user's requirements.

Ball valve body low temperature material minimum operating temperature

Forging		Casting	
Standard, material grade	Minimum temperature ℃	Standard, material grade	Minimum temperature ℃
ASTM A350 LF2	-45.6℃	ASTMA352LCB, LCC	-46℃
ASTM A350 LF5	-59.4℃	ASTM A352LC1	-59℃
ASTM A350 LF9	-73.3℃	ASTM A352 LC2	-73℃
ASTM A350 LF3	-101.1℃	ASTM A352 LC3	-101℃
ASTM A182 F304	-254℃	ASTM A351 CF8	-254℃
ASTM A182 F316	-254℃	ASTM A351 CF8M	-254℃
ASTMA182F304L	-254℃	ASTM A351 CF3	-254℃
ASTM A182 F316L	-254℃	ASTM A351 CF3M	-254℃

Scope of supply

DN		Pressure Class
DN	in	150Lb, 300Lb, PN1.6~10.0MPa
15	1/2	△/●
20	3/4	△/●
25	1	△/●
32	1 1/4	△/●
40	1 1/2	△/●
50	2	△/★/●
65	2 1/2	△/★/●
80	3	△/★/●
100	4	△/★/●
125	5	△/★/●
150	6	△/★/●
200	8	△/★/●
250	10	△/★/●
300	12	△/★/●
350	14	△/★/●
400	16	△/★/●

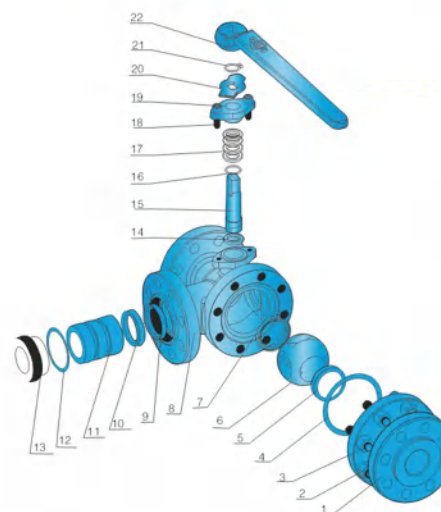
Three-way Ball Valve



Manufacturing specification for three-way ball valve

Standard	APISeries	DINSeries
Basic design specification	ANSIB16.34	
Pressure temperature rating	ANSIB 16.34	DIN3356
Structural length	ASME B16.10	
Connecting flange	ASMEB16.5DIN 2543-2551	
Inspection and test	API598	DIN3230

Valve structure diagram (side mounted floating explosion diagram)



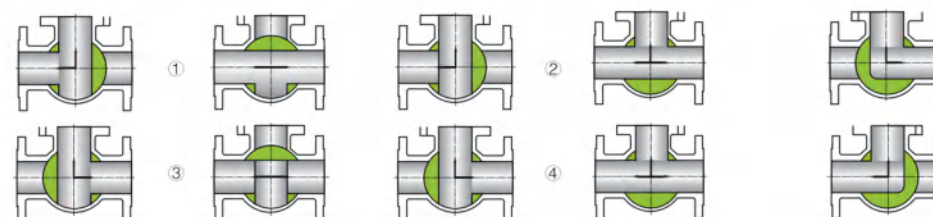
NO	Part Name	NO	Part Name
1	Bonnet	12	O-ring
2	Nut	13	Plug screw
3	Bolt	14	Valve stem
4	Gasket	15	Gasket
5	Sealing ring 1	16	Filler
6	Sphere	17	Screws
7	Seal ring 2	18	Packing gland
8	Valve body	19	Stop plate
9	Seal ring 3	20	Retainer
10	Seal ring 4	21	Controller
11	Valve seat		

Ball valve function

Three-way ball valve is suitable for switching, mixing and diverting corrosive or non-corrosive liquid, gas, powder medium at -46℃~+200℃ temperature; In the process of opening and closing, the flow path is smooth and the pressure loss is reduced, the operation is labor-saving and the maintenance is convenient. The five flow directions (see the figure on the right: one L-type and four T-type) meet different process requirements and can be controlled by hand, pneumatic and electric.

Structural characteristics

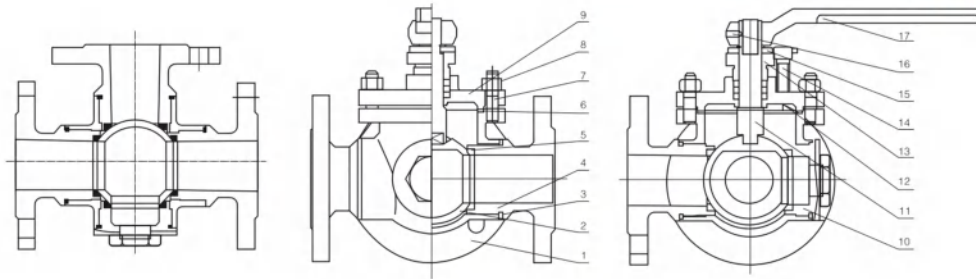
- 1, the valve seat can be designed into four side seat floating ball and fixed ball, stable flow state, reliable sealing;
- 2, the structure can be designed into side loading type and top loading type, two-way sealing design; Flow direction switch no stream;
- 3, anti-flight valve stem design;
- 4, anti-static design;
- 5, two (opening and closing position) locking design.



T-port/T type

L-shaped port/T type

Three-way Ball Valve



Main parts

NO	Part Name	NO	Part Name
1	Valve body	10	Valve seat ring
2	Sphere	11	Valve stem
3	O-ring	12	Filler
4	Flange plate	13	Packing gland
5	Sealing ring	14	Limit screw
6	Gasket	15	Stop plate
7	Bolt	16	Set screw
8	Nut	17	Controller
9	Bonnet		

Scope of supply

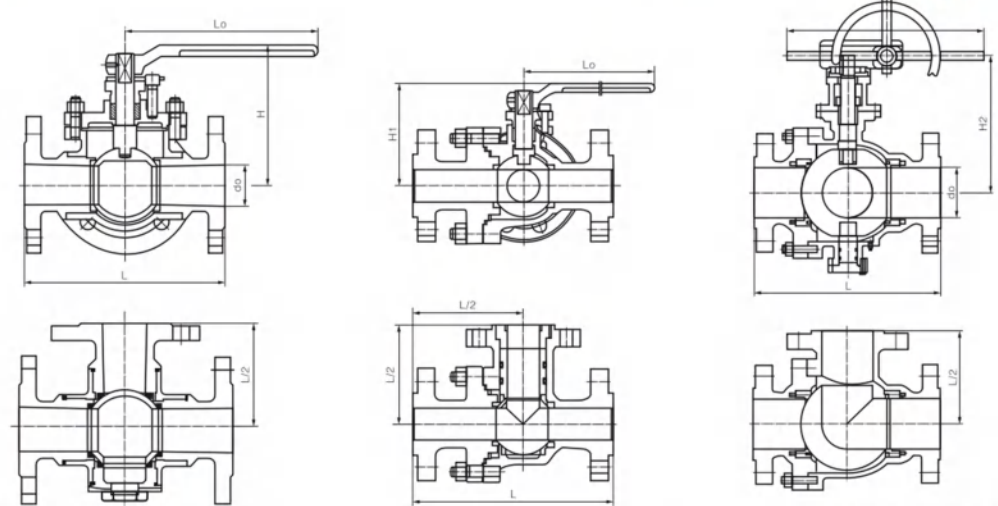
DN		Pressure Class	
DN	in	150	300
15	1/2	●	●
20	3/4	●	●
25	1	●	●
32	1 1/4	●	●
40	1 1/2	●	●
50	2	●	●
65	2 1/2	●	●
80	3	●	●
100	4	●	●
125	5	●	●
150	6	☆	☆
200	8	☆	☆
250	10	☆	☆

Note: ● indicates a handle operated valve; ☆ indicates gear box operating valve; One indicates that there is no such option, and those not mentioned in the table can be manufactured according to the user's requirements.

Main component materials (side mounted structure)

NO	Part Name	Materials			NO	Part Name	Materials		
		Wcb	SUS	LCB			Wcb	SUS	LCB
1	Bonnet	A216 WCB	A351 CF8M	A352 LCB	12	O-ring	FKM		
2	Nut	A1942H	A1948	A1944	13	Plug screw	A105+ENP	A182 F316	A350 LF3
3	Bolt	A193B7	A193 B8	A320 L7	14	Valve stem	A182 F6a	A182 F316	A182F316
4	Gasket	Graphite +SS			15	Gasket	PTFE/RPTFE		
5	Seal ring 1	PTFE/RPTFE			16	Filler	PTFE/Graphite		
6	Sphere	A105+ENP	A182 F316/F304	A350 LF3/LF2+ENP	17	Screws	A193B7	A193 B8	A320 L7
7	Seal ring 2	PTFE/RPTFE			18	Packing gland	A216 WCB	A351 CF8M	A352 LCB
8	Valve body	A216 WCB	A351 CF8M	A352 LCB	19	Stop plate	A105+ENP		
9	Seal ring 3	PTFE/RPTFE			20	Retainer	65Mn		
10	Seal ring 4	PTFE/RPTFE			21	Controller	Q235A		
11	Valve seat	A105+ENP	A182 F316	A350 LF3					

Three-way Ball Valve



Main overall dimensions

DN	NPS	L	do	H	H1	H2	Lo	W	Weight(kg)
15	1/2	140	13	90	70	/	160	/	3
20	3/4	150	15	106	86	/	230	/	4
25	1	160	25	109	88	/	230	/	6
32	1 1/4	/	32	125	106	/	400	/	10
40	1 1/2	210	38	149	132	/	400	/	14
50	2	220	51	154	137	/	400	/	20
65	2 1/2	250	64	189	162	/	700	/	25
80	3	260	76	198	170	/	700	/	32
100	4	330	102	254	229	/	1050	/	45
125	5	430	127	273	247	/	1050	/	/
150	6	510	152	/	/	314	/	450	/
200	8	580	203	/	/	430	/	600	/
250	10	670	250	/	/	475	/	600	/

PN1.6MPa CLASS 150

Main overall dimensions

DN	NPS	L	do	H	H1	H2	Lo	W	Weight(kg)	
									PN2.5	PN4.0
15	1/2	140	13	90	70	/	160	/	3	3
20	3/4	150	15	106	86	/	230	/	4	4
25	1	160	25	109	88	/	230	/	6.5	6.5
32	1 1/4	/	32	125	106	/	400	/	11	11
40	1 1/2	210	38	149	132	/	400	/	15	15
50	2	220	51	154	137	/	400	/	21.5	21.5
65	2 1/2	250	64	189	162	/	700	/	/	/
80	3	260	76	198	170	/	700	/	35	35
100	4	330	102	254	229	/	1050	/	49	49
125	5	430	127	273	247	/	1050	/	/	/
150	6	510	152	/	/	314	/	450	/	/
200	8	580	203	/	/	430	/	600	/	/
250	10	670	250	/	/	475	/	600	/	/

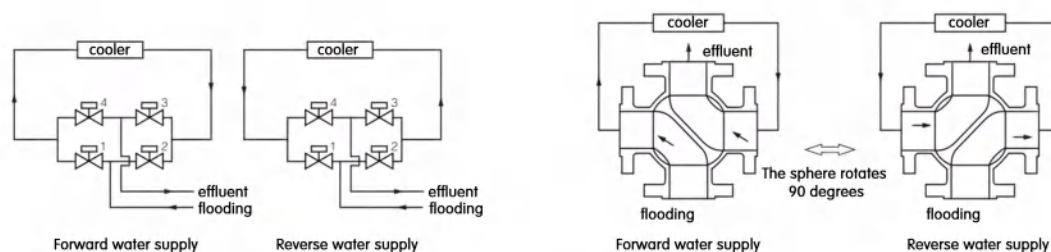
PN2.4、4.0MPa CLASS 300

Four-way Ball Valve



Four-way ball valve function

The four-way ball valve is called the bidirectional water supply valve in the power station system (also known as the air reversing valve in the petrochemical system), which is suitable for the circulation system of liquid, gas, dust, slurry and medium containing solid particles. Such as: power plant unit cooler positive and negative circulation water supply system. The traditional process piping method realizes the positive and negative circulation of cooling water supply. The device occupies a large space, has high cost and is cumbersome to operate (four valves need to be operated for each switch). When the water supply is forward, valves 1 and 3 are opened, and valves 2 and 4 are closed. In reverse water supply, valves 2 and 4 are opened, and valves 1 and 3 are closed. (See Figure 1) Four-way ball valve is used to replace the working principle of the process manifold and valve group, which simplifies the procedure, facilitates operation, reduces cost, is easy to control and has strong synchronization. (See Figure 2)



Structural characteristics

1, for the power system cooler positive and negative water supply specific process design, function matching, high reliability;
2, top-mounted fixed ball four-sided seat core structure sealing performance is good, sand wear resistance, long service life;
3, electric, pneumatic operation (if necessary, can be switched to manual operation);
4, easy to control between the control box and the valve and the upper computer has a good information channel and operation interface; And according to the process requirements, the positive and negative water supply can be automatically switched at a certain interval.

Specification for manufacture of four-way ball valve

Standard	API Series	DIN Series
Basic design specification	ANSI B16.34	
Pressure temperature rating	ANSI B16.34	DIN 3356
Structural length	ASME B16.10	
Connecting flange	ASME B16.5	DIN 2543-2551
Inspection and experiment	API 598	DIN 3230

Control system

Four-way ball valves can be controlled on the spot, and remote centralized control can also be implemented through the central control system of the control box. The control interface functions are as follows:

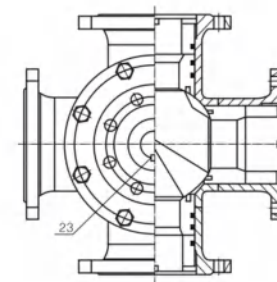
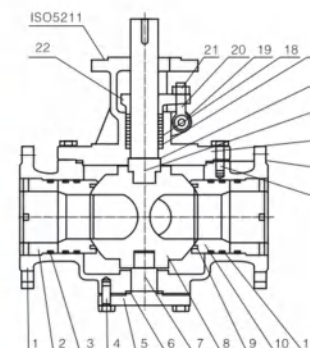
- Switch
 - (1) Power switch
 - (2) Field control/remote control transfer switch
 - (3) Manual cycle/automatic cycle switch
- Buttons
 - (1) Water is being supplied
 - (2) Reverse water supply
 - (3) Stop
- Indicator light
 - (1) Power supply indication
 - (2) Direct water supply indication
 - (3) Reverse water supply instruction
 - (4) Median pause indication
 - (5) valve or electric card group torque indication (flashing and alarm)
- The opening indicator
- Communication with the host computer

Four-way Ball Valve



Electrical parameter

Power supply AC 280V/50HZ, ambient temperature $-20 \sim +40^{\circ}\text{C}$, relative humidity $\leq 90\%$ (25°C), protection level IP67, the electrical schematic diagram is subject to the instruction manual.



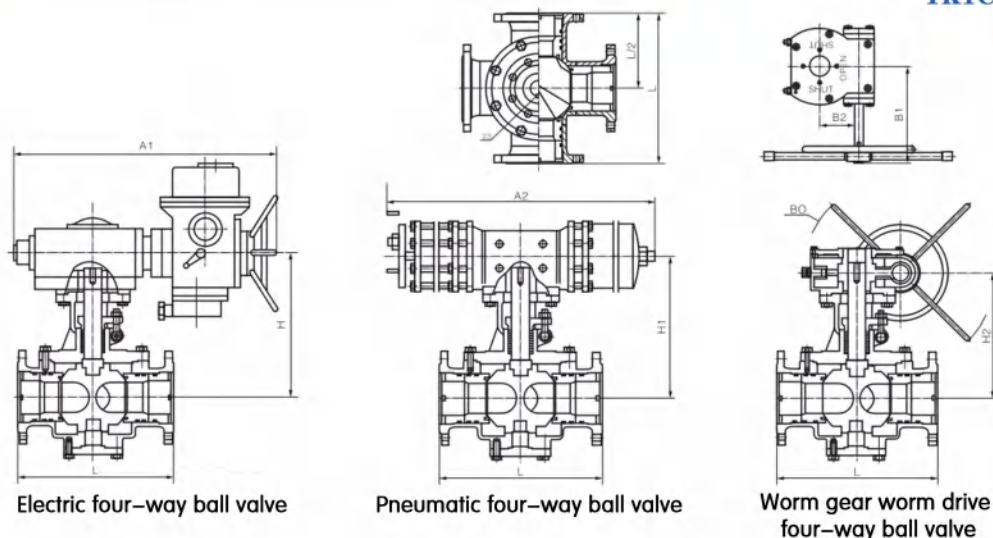
Main parts material

NO	Part Name	Materials		
		WCB	SUS	LCB
1	Valve body	A216 WCB	A351 CF8M	A352 LCB
2	Lock nut	A105+ENP	A182 F316	A350 LF3
3	O-ring	FKM		
4	Bolt	A193 B7	A193 B8	A320 L7
5	Lower cap	A105+ENP	A182 F316	A350 LF3
6	Gasket	Expanded graphite		
7	Lower stem	A182 F6a	A182 F316	
8	Sphere	A105+ENP	A182 F316/F304	A350 LF3/LF2+ENP
9	Sealing ring	PTFE/EPTFE		
10	Valve seat	A105+ENP	A182 F316	A350 LF3
11	O-ring	FKM		
12	Bolt	A193B7	A193 B8	A320 L7
13	Gasket	Expanded graphite		
14	Bonnet	A216 WCB	A351 CF8M	A352 LCB
15	Valve stem	A182 F6a	A182 F316	A182 F316
16	Gasket	PTFE+SS		
17	Packing pad	A182 F6a	/	A182 F6a
18	Filler	Expanded graphite		
19	Pin	A182 F6a		
20	Loose bolt	A193B7	A193 B8	A320 L7
21	Nut	A1942H	A1948	A1944
22	Packing gland	A216 WCB	A351 CF8M	A352 LCB
23	Key	ANSI1215		

DN		Pressure Class	
DN	in	150Lb	PN1.0\1.6\2.5MPa
50	2	△/★/☆	△/★/☆
65	2 1/2	△/★/☆	△/★/☆
80	3	△/★/☆	△/★/☆
100	4	△/★/☆	△/★/☆
125	5	△/★/☆	△/★/☆
150	6	△/★/☆	△/★/☆
200	8	△/★/☆	△/★/☆
250	10	△/★/☆	△/★/☆
300	12	△/★/☆	△/★/☆
350	14	△/★/☆	△/★/☆
400	16	△/★/☆	△/★/☆
450	18	△/★/☆	△/★/☆
500	20	△/★/☆	△/★/☆

Note: ● indicates a handle operated valve;
☆ indicates gear box operating valve;
One indicates that there is no such option, and those not mentioned in the table can be manufactured according to the user's requirements.

Four-way Ball Valve



Electric four-way ball valve

Pneumatic four-way ball valve

Worm gear worm drive four-way ball valve

Main overall dimensions

DN	NPS	L	do	H	A1	HI	A2	H2	Bo	B1	B2	Weight (kg) G. 0
50	2	265	51	220	433	217	405	200	250	106	52	28
65	2 1/2	280	64	295	433	248	405	260	250	106	52	48
80	3	310	76	367	433	335	574	320	250	106	52	87
100	4	370	102	440	520	412	574	400	300	143	80	137
125	5	440	127	535	520	495	756	500	300	143	80	240
150	6	510	152	660	520	613	756	600	400	200	108	270
200	8	580	203	870	520	824	756	800	400	200	108	585
250	10	665	250	1080	896	1025	1060	1000	600	200	108	765
300	12	760	305	1200	896	1176	1060	1160	600	200	108	1121
350	14	850	337	1250	896	1239	1360	1225	800	330	140	1450
400	16	940	387	1420	910	1388	1360	1350	800	330	140	1780
450	18	1050	438	1610	910	1596	1360	1575	800	330	140	2435
500	20	1180	489	1830	910	1725	2910	1750	1000	370	220	3108

PN1.0/1.6MPa CLASS150

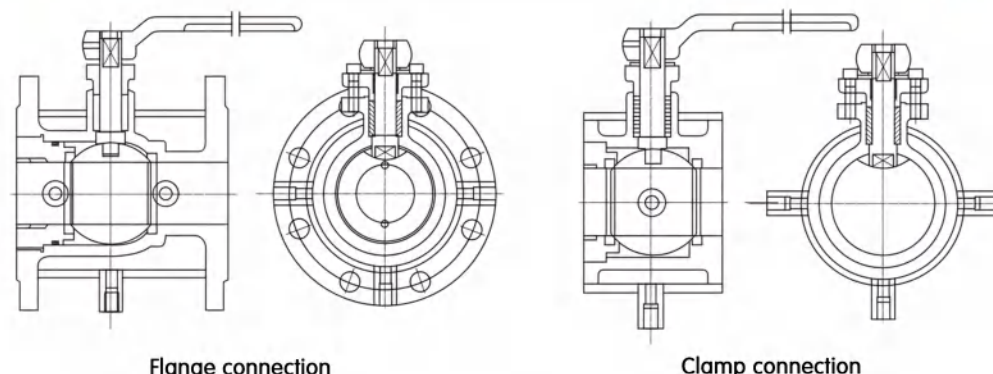
Main overall dimensions

DN	NPS	L	do	H	A1	HI	A2	H2	Bo	B1	B2	Weight (kg) G. 0
50	2	265	51	390	433	217	405	200	250	106	52	28.5
65	2 1/2	280	64	420	433	248	405	260	250	106	52	49
80	3	350	76	490	520	335	574	320	250	106	52	87
100	4	420	102	570	520	412	574	400	300	143	80	139
125	5	490	127	680	520	495	756	500	300	143	80	240
150	6	580	152	830	896	613	756	600	400	200	108	270
200	8	640	203	1020	896	824	756	800	400	200	108	585
250	10	740	250	1140	896	1025	1060	1000	600	200	108	765
300	12	820	305	1220	896	1176	1060	1200	600	200	108	1125
350	14	910	337	1390	910	1239	1360	1225	800	330	140	1455
400	16	1000	387	1580	910	1388	1360	1350	800	330	140	1785
450	18	1150	438	1790	910	1596	1360	1575	800	330	140	2467
500	20	1300	489	1960	936	1725	2910	1750	1000	370	220	3150

PN1.0/1.6MPa CLASS150

Flange dimensions are shown in the attached table.

Jacketed Insulated Ball Valve



Flange connection

Clamp connection

Use

Series jacketed ball valve is mainly used in petroleum, chemical, metallurgy, electric power and other systems to transport high temperature media that will solidify at normal temperature. The jacket of the ball valve is welded between the two ends of the valve seal, and the side and bottom of the valve are provided with a standard connection port of the jacket. Due to the addition of the jacket, the end connection size of this valve is larger than the connection size of the same specification to two specifications, and the structural length of the valve is the same as that of the valve of the same specification. The end connection type of the valve has two types: flange and clamp. The jacket can be freely passed through the steam or other thermal insulation medium to ensure the smooth passage of the viscous medium through the valve.

Structural characteristics

1. It can prevent the viscous medium in the pipeline from solidifying and reduce the heat loss of the low-temperature medium in the pipeline.
2. the use of carbon steel pipe welding jacket than casting more pressure resistant, firm and reliable.
3. Because the diameter of the valve is consistent with the inner diameter of the pipeline, the medium flows in a straight line, the flow resistance is small, and it is most suitable for easy solidification and high viscous liquid media.
4. the ball valve body adopts the whole (one-piece) structure, small size, its weight is smaller than that of similar ball valves, light weight.

Specification for manufacture of jacketed ball valves

Standard	API Series
Basic design specification	ANSIB16. 34
Pressure temperature rating	ANSIB16. 34
Structural length	ASME B16. 10
Connecting flange	ASME B16. 5
Inspection and experiment	API598

Jacketed Insulated Ball Valve



Main parts material

NO	Part name	Materials
		ASTM
1	Valve body	A216 WCB
2	Connecting port	A105
3	Jacket	A105
4	Lock nut	A105
5	O-ring	FKM
6	Sealing ring	Para polystyrene, Nylon
7	Sphere	A105+ENP/F304
8	Valve stem	A182 F6a
9	Gasket	PTFE+SS
10	Packing pad	A182 F6a
11	Filler	Expanded graphite
12	Packing gland	A216 WCB
13	Screws	A193 B7
14	Locating plate	Q235+Zn
15	Retainer	65Mn
16	Screws	A 193 B7
17	Controller	Q235+Zn

Scope of supply

SIZE		Pressure Rating
DN	in	150Lb、300Lb PN1.0~4.0MPa
15	1/2	△/●
20	3/4	△/●
25	1	△/●
40	1 1/2	△/●
50	2	△/★/●
80	3	△/★/●
100	4	△/★/●
150	6	△/★/●
200	8	△/★/●

Note: ● indicates a handle operated valve; ☆ indicates gear box operating valve; One indicates that there is no such option, and those not mentioned in the table can be manufactured according to the user's requirements.

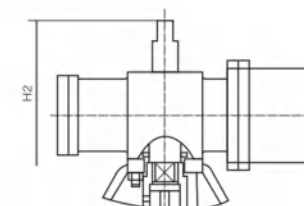
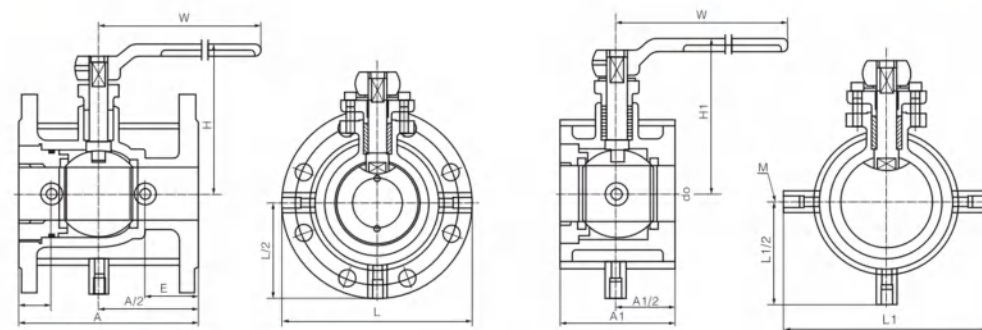
Valve drive options table

SIZE		150Lb		300Lb	
DN	NPS	Pneumatics	Electric	Pneumatics	Electric
15	1/2	AG06	/	AG06	/
20	3/4	AG06	/	AG06	/
25	1	AG09	/	AG09	/
40	1 1/2	AG09	/	AG09	/
50	2	AG09	QT12.5	AG13	QB12.5
80	3	AG13	QT12.5	AW13	QB25
100	4	AW13	QT25	AW13	QB50
150	6	AW17	QT50	AW17	QB100
200	8	AW17	QT50	AW17	QB200

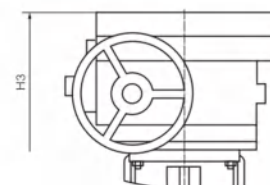
Main overall dimensions

Model	Output torque	Stem diameter	Rpm	KW
QB12.5	125	22	1r/min	0.05KW
QB25	250	28	1r/min	0.09KW
QB50	500	50	1r/min	0.18KW
QB100	1000	50	1r/min	0.25KW
QB200	2000	60	1r/min	0.55KW

Jacketed Insulated Ball Valve



Pneumatic



Power-driven

Main outline and connection dimensions

DN	NPS	A	A1	do	H	H1	H2	H3	W	M	L	LI	E	Flange specification	Weight (kg)
															Manual (PN40)
15	1/2	110	50	15	63	101	126	/	130	ZG3/4	147	110	58.5	DN40 (11/2)	7.04
20	3/4	117	55	20	82	101	126	/	160	ZG3/4	147	117	58.5	DN40 (11/2)	7.74
25	1	127	60	25	85	106	137	/	160	ZG3/4	156	127	63.5	DN50 (2)	10.7
40	1 1/2	165	80	40	100	125	169	/	230	ZG3/4	181	165	62.5	DN65 (2 1/2)	14.5
50	2	178	90	51	153	135	179	576	230	ZG3/4	218	178	68	DN80 (3)	17.9
80	3	229	120	76	195	217	258	643	400	ZG3/4	275	229	82	DN150 (6)	37.3
100	4	254	140	102	213	265	322	715	700	ZG3/4	300	254	83	DN200 (8)	56
150	6	292	160	152	235	355	415	848	1100	ZG1	403	292	95	DN250 (10)	93
200	8	330	180	203	342	410	527	903	1500	ZG1	492	330	100	DN300 (12)	160

Main outline and connection dimensions

DN	NPS	A	A1	do	H	H1	H2	H3	W	M	L	LI	E	Flange specification	Weight (kg)
															Manual (PN40)
15	1/2	110	50	15	63	101	126	/	130	ZG3/4	147	110	58.5	DN40 (11/2)	7.24
20	3/4	117	55	20	82	101	126	/	160	ZG3/4	147	117	58.5	DN40 (11/2)	8.24
25	1	127	60	25	85	106	137	/	160	ZG3/4	156	127	63.5	DN50 (2)	11.5
40	1 1/2	165	80	40	100	125	169	/	230	ZG3/4	181	165	62.5	DN65 (2 1/2)	18.4
50	2	178	90	51	153	135	179	576	230	ZG3/4	218	178	68	DN80 (3)	25.1
80	3	229	120	76	195	217	258	643	400	ZG3/4	275	229	82	DN150 (6)	55.4
100	4	254	140	102	213	265	322	715	700	ZG3/4	300	254	83	DN200 (8)	76.4
150	6	292	160	152	235	355	415	848	1100	ZG1	403	292	95	DN250 (10)	118
200	8	330	180	203	342	410	527	903	1500	ZG1	492	330	100	DN300 (12)	200

Wafer Type Ball Valve



Product structure characteristics

Series clamp ball valve is mainly used in petroleum, chemical, metallurgy, pharmaceutical, food and other systems to cut off or connect the medium in the pipeline. Sandwich ball valve according to the length of the structure can be divided into ordinary type and thin double-faced series, of which the thin series is our company according to customer requirements, the introduction of foreign product technology and combined with the characteristics of ordinary sandwich ball valve, self-developed improved products. Compared with other types of ball valves, the main structural characteristics of the series of sandwich ball valves are: the use of integrated structure, compact structure, small size, light weight; Reliable sealing, the flow of the medium is not restricted; Small flow resistance, fast opening and closing, easy operation, according to user needs, the ordinary type of sandwich ball valve can be installed with the corresponding electric and pneumatic devices to achieve remote control or automatic control.

Product specification

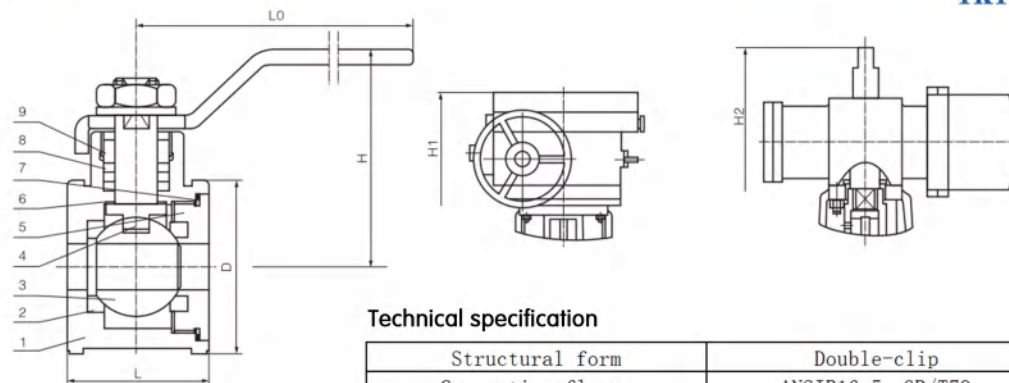
Series model	Q71、Q671、Q971	Q7b1
Pressure rating	CLASS150	CLASS150-300
Diameter	DN15~100mm、1/2"~4"	DN10~200
Driving mode and scope of application	Handle drive, Pneumatic, Electric	Handle drive

Note: The company can provide samples on request.

Scope of supply

Nominal pressure	CLASS 150
Seal test pressure	2.2MPa
Shell strength test pressure	3.0MPa
Medium temperature	≤300℃
Applicable medium	Water, oil and corrosive media

Wafer Type Ball Valve



Technical specification

Structural form	Double-clip
Connecting flange	ANSI B16.5、GB/T79
Driving mode	Manual, Electric, Pneumatic
Test and inspection	API598

Material of main parts

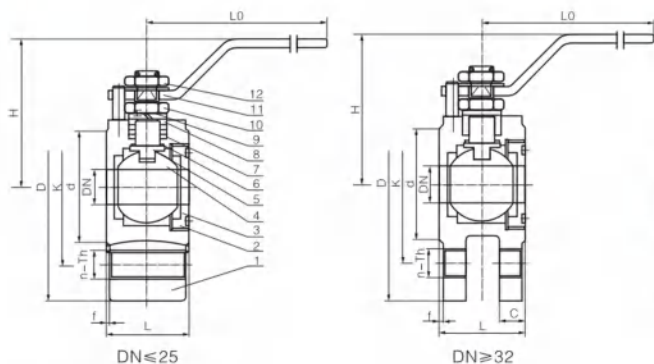
NO.	Part Name	Material		NO.	Part Name	Material	
		GB	ASTM			GB	ASTM
1	Valve body	CF8	A351-CF8	6	Gasket	PTFE, RTFE	
2	Sealing ring	Nylon, Para polystyrene		7	Gasket	Flexible graphite + stainless steel	
3	Sphere	0Cr18Ni9+Ni.P	A276-304+Ni.P	8	Filler	Expanded graphite	
4	Valve stem	0Cr18Ni9	A276-304	9	Pressing sleeve	0Cr18Ni9	A276-304
5	Valve seat	0Cr18Ni9	A276-304				

Note: The material of the main parts and sealing surface of the series valves can be designed and selected according to the actual working conditions or the special requirements of users.

Main outline and connection dimensions

DN(mm)	15	20	25	32	40	50	65	80	100
NPS(in)	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
L	40	45	50	60	70	80	110	120	140
D	PN1.0、1.6MPa	53	63	73	84	94	109	129	144
	PN2.5MPa	53	63	73	84	94	109	129	144
	PN2.0MPa、PN1.0MPa	47	57	66	75	85	103	122	135
Manual operation	H	82	82	104	113	122	132	144	155
	L0	140	180	180	200	200	250	300	350
Power-driven	H1	324	323	345	354	363	373	385	455
	Electric device	Q45-1	Q45-1	Q45-1	Q245-1	Q60-1	Q60-1	Q60-1	Q60-1
Pneumatic	H2	228	228	238	263	275	284	365	382
	Pneumatic actuator	AG06	AG06	AG09	AG09	AG09	AG13	AG13	AG13

Wafer Type Thin Ball Valve



Technical specification

Structural form	Double-clip
Connecting flange	ANSIB 16.5、JB/T79
Driving mode	Manual operation
Test and inspection	API598

Material table of main parts

NO.	Part Name	Material		NO.	Part Name	Material	
		GB	ASTM			GB	ASTM
1	Valve body	CF8	A351-CF8	7	Filler	Expanded graphite	
2	Valve seat	0Cr18Ni9	A276-304	8	Packing ring	0Cr18Ni9	A276-304
3	Sealing ring	Nylon, Para polystyrene		9	Gasket	0Cr18Ni9	A276-304
4	Sphere	0Cr18Ni9+Ni.P	A276-304+Ni.P	10	Lock nut	0Cr18Ni9	A276-304
5	Valve stem	0Cr18Ni9	A276-304	11	Controller	0Cr18Ni9	A276-304
6	Gasket	PTFE		12	Limit pin	0Cr18Ni9	A276-304

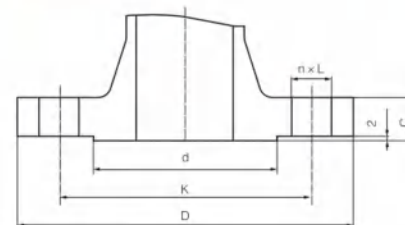
Note: The material of the main parts and sealing surface of the series valves can be designed and selected according to the actual working conditions or the special requirements of users.

Main outline and connection dimensions

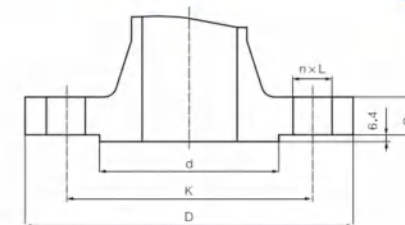
PN1.0~4.0MPa CLASS150~300

DN	L	PN1.6MPa				PN2.5MPa				PN4.0MPa				f	H	L0
		D	K	d	n-Th	D	K	d	n-Th	D	K	d	n-Th			
10	32	85	60	42	4-M12	85	60	42	4-M12	85	60	42	4-M12	2	80	150
15	32	90	65	47	4-M12	90	65	47	4-M12	90	65	47	4-M12	2	80	150
20	38	100	75	58	4-M12	100	75	58	4-M12	100	75	58	4-M12	2	85	150
25	42	110	85	68	4-M12	110	85	68	4-M12	110	85	68	4-M12	2	95	170
32	50	130	100	78	4-M16	130	100	78	4-M16	130	100	78	4-M16	2	100	180
40	60	140	110	88	4-M16	140	110	88	4-M16	140	110	88	4-M16	2	105	210
50	70	155	125	102	4-M16	155	125	102	4-M16	155	125	102	4-M16	2	115	230
65	94	180	145	125	4-M16	180	145	125	4-M16	180	145	125	4-M16	2	130	280
80	118	195	160	138	4-M16	195	160	138	4-M16	195	160	138	4-M16	2	145	300
100	140	215	180	160	4-M16	230	190	160	4-M20	230	190	160	4-M20	2	175	400
125	195	245	210	188	4-M16	270	220	188	4-M24	270	220	188	4-M24	2	190	500
150	225	280	240	212	4-M20	300	250	212	4-M24	300	250	212	4-M24	2	220	600
200	275	335	295	266	4-M22	360	310	274	4-M24	375	320	285	4-M27	2	260	700

Appendix A ASME Steel Pipe Flanges



CLASS ≤ 300lb R F PN ≤ 5.0MPa
CONVEXITY



CLASS ≤ 400lb R FPN ≤ 6.8MPa
CONCAVE SURFACE

Main overall dimensions

CLASS150 ASME B16.5、B16.47A(MSS SP-44)

SIZE	DN	NPS	D		K		d		n-L		C		Bolt diameter		Stud length(mm)	
			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	Convexity 2 mm	Ring connection
15	20	1/2	90	3.5	60.5	2.375	35	1.375	4-15	4-0.62	10	/	M14	1/2	55	/
20	25	3/4	100	3.875	70	2.75	43	1.6875	4-15	4-0.62	10	/	M14	1/2	65	/
25	32	1	110	4.25	79.5	3.125	51	2	4-15	4-0.62	12	0.44	M14	1/2	65	75
32	40	1 1/4	120	4.625	89	3.5	64	2.5	4-15	4-0.62	13	0.5	M14	1/2	70	85
40	50	1 1/2	130	5	98.5	3.875	73	2.875	4-15	4-0.62	15	0.56	M14	1/2	70	85
50	65	2	150	6	120.5	4.75	92	3.625	4-19	4-0.75	16	0.62	M16	5/8	85	95
65	80	2 1/2	180	7	139.5	5.5	105	4.125	4-19	4-0.75	18	0.69	M16	5/8	90	100
80	100	3	190	7.5	152.5	6	127	5	4-19	4-0.75	19	0.75	M16	5/8	90	100
100	125	4	230	9	190.5	7.5	157	6.1875	8-19	8-0.88	24	0.94	M16	5/8	90	100
125	150	5	255	10	216	8.5	186	7.3125	8-22	8-0.88	24	0.94	M20	3/4	95	110
150	200	6	280	11	241.5	9.5	216	8.5	8-22	8-0.88	26	1	M20	3/4	100	115
200	250	8	345	13.5	298.5	11.75	270	10.625	8-22	8-0.88	29	1.12	M20	3/4	110	120
250	300	10	405	16	362	14.25	324	12.75	12-25	12-1	31	1.19	M24	7/8	115	125
300	350	12	485	19	432	17	381	15	12-25	12-1	32	1.25	M24	7/8	120	135
350	400	14	535	21	476	18.75	413	16.25	12-29	12-1.12	35	1.38	M27	1	135	145
400	450	16	600	23.5	540	21.25	470	18.5	16-29	16-1.12	37	1.44	M27	1	135	145
450	500	18	635	25	578	22.75	533	21	16-32	16-1.25	40	1.56	M30	1 1/8	145	160
500	600	20	700	27.5	635	25	584	23	20-32	20-1.25	43	1.69	M30	1 1/8	160	170
600	650	24	815	32	749.5	29.5	692	27.25	20-35	20-1.38	48	1.88	M33	1 1/4	170	185
650	700	26	870	34.25	806.5	31.75	749	29.5	24-35	24-1.38	68	2.69	M33	1 1/4	210	/
700	750	28	927	36.5	863.6	34	800	31.5	28-35	28-1.38	71	2.81	M33	1 1/4	220	/
750	800	30	984	38.75	914.4	36	857	33.75	28-35	28-1.38	75	2.94	M33	1 1/4	230	/
800	850	32	1060	41.75	978	38.5	914	36	28-41	28-1.62	81	3.19	M39x3	1 1/2	255	/
850	900	34	1111	43.75	1029	40.5	965	38	32-41	32-1.62	83	3.25	M39x3	1 1/2	260	/
900	950	36	1168	46	1089	42.75	1022	40.25	32-41	32-1.62	90	3.56	M39x3	1 1/2	275	/
950	1000	38	1238	48.75	1149.4	45.25	1073	42.25	32-41	32-1.62	87	3.44	M39x3	1 1/2	270	/
1000	1050	40	1289	50.75	1200.2	47.25	1124	44.25	36-41	36-1.62	90	3.56	M39x3	1 1/2	275	/
1050	1100	42	1346	53	1257.3	49.5	1194	47	36-41	36-1.62	97	3.81	M39x3	1 1/2	290	/
1100	1150	44	1403	55.25	1314.5	51.75	1245	49	40-41	40-1.62	102	4	M39x3	1 1/2	300	/
1150	1200	46	1454	57.25	1365.3	53.75	1295	51	40-41	40-1.62	103	4.06	M39x3	1 1/2	305	/
1200	1250	48	1511	59.5	1422.4	56	1359	53.5	44-41	44-1.62	108	4.25	M39x3	1 1/2	310	/
1250	1300	50	1568	61.75	1479.6	58.25	1410	55.5	44-48	44-1.88	111	4.38	M45x3	1 3/4	330	/
1300	1350	52	1626	64	1537	60.5	1461	57.5	44-48	44-1.88	116	4.56	M45x3	1 3/4	340	/
1350	1400	54	1683	66.25	1594	62.75	1511	59.5	44-48	44-1.88	121	4.75	M45x3	1 3/4	350	/
1400	1450	56	1746	68.75	1651	65	1575	62	48-48	48-1.88	124	4.88	M45x3	1 3/4	355	/
1450	1500	58	1803	71	1708.2	67.25	1626	64	48-48	48-1.88	129	5.06	M45x3	1 3/4	365	/
1500		60	1854	73	1759	69.25	1676	66	52-48	52-1.88	132	5.19	M45x3	1 3/4	375	/

Appendix A ASME Steel Pipe Flanges



Main overall dimensions

CALSS300

SIZE		D		K		d		n-L		C		Bolt diameter		Stud length(mm)	
DN	NPS	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	Convexity 2 mm	Ring connecti
15	1/2	95	3.75	66.7	2.62	35	1.38	4-16	4-0.62	15	0.56	M14	1/2	65	75
20	3/4	120	4.62	82.5	3.25	43	1.69	4-19	4-0.75	16	0.62	M16	5/8	75	90
25	1	125	4.88	89	3.5	51	2	4-19	4-0.75	18	0.69	M16	5/8	75	90
32	1 1/4	135	5.25	98.5	3.88	64	2.5	4-19	4-0.75	19	0.75	M16	5/8	85	95
40	1 1/2	155	6.12	114.5	4.5	73	2.88	4-22	4-0.88	21	0.81	M20	3/4	90	100
50	2	165	6.5	127	5	92	3.62	8-19	8-0.62	23	0.88	M16	5/8	90	100
65	2 1/2	190	7.5	149	5.88	105	4.12	8-22	8-0.88	26	1	M20	3/4	100	115
80	3	210	8.25	168.5	6.62	127	5	8-22	8-0.88	29	1.12	M20	3/4	110	120
100	4	255	10	200	7.88	157	6.19	8-22	8-0.88	32	1.25	M20	3/4	115	125
125	5	280	11	235	9.25	186	7.31	8-22	8-0.88	35	1.38	M20	3/4	120	135
150	6	320	12.5	270	10.62	216	8.5	12-22	12-0.88	37	1.44	M20	3/4	120	140
200	8	380	15	330	13	270	10.62	12-26	12-1	42	1.62	M24	7/8	140	150
250	10	445	17.5	387.5	15.25	324	12.75	16-29	16-1.12	48	1.88	M27	1	160	170
300	12	520	20.5	451	17.75	381	15	16-32	16-1.25	51	2	M30	1 1/8	170	185
350	14	585	23	514.5	20.25	413	16.25	20-32	20-1.25	54	2.12	M30	1 1/8	180	190
400	16	650	25.5	571.5	22.5	470	18.5	20-35	20-1.38	58	2.25	M33	1 1/4	190	205
450	18	710	28	628.5	24.75	533	21	24-35	24-1.38	61	2.38	M33	1 1/4	195	210
500	20	775	30.5	686	27	584	23	24-35	24-1.38	64	2.5	M33	1 1/4	205	220
600	24	915	36	813	32	692	27.25	24-41	24-1.62	70	2.75	M39x3	1 1/2	230	255
650	26	972	38.25	876.3	34.5	749	29.5	28-45	28-1.75	79	3.12	M42x3	15/8	260	285
700	28	1035	40.75	934	37	800	31.5	28-48	28-1.75	86	3.38	M42x3	15/8	275	300
750	30	1092	43	997	39.25	857	33.75	28-48	28-1.88	92	3.62	M45x3	13/4	290	320
800	32	1149	45.25	1054.1	41.5	914	36	28-51	28-2.00	99	3.88	M48x3	17/8	310	340
850	34	1207	47.5	1105	43.5	965	38	32-51	32-2.00	102	4	M48x3	17/8	315	345
900	36	1270	50	1168.4	46	1022	40.25	32-54	32-2.12	105	4.12	M52x3	2	330	360
950	38	1168	46	1092.2	43	1029	40.5	32-41	32-1.62	108	4.25	M39x3	1 1/2	310	/
1000	40	1238	48.75	1156	45.5	1086	42.75	32-45	32-1.75	114	4.5	M42x3	15/8	330	/
1050	42	1289	50.75	1207	47.5	1137	44.75	32-45	32-1.75	119	4.69	M42x3	15/8	340	/
1100	44	1353	53.25	1264	49.75	1194	47	32-48	32-1.88	124	4.88	M45x3	13/4	355	/
1150	46	1416	55.75	1321	52	1245	49	28-51	28-2.00	129	5.06	M48x3	17/8	370	/
1200	48	1467	57.75	1372	54	1302	51.25	32-51	32-2.00	133	5.25	M48x3	17/8	380	/
1250	50	1530	60.25	1429	56.25	1359	53.5	32-55	32-2.12	140	5.5	M52x3	2	400	/
1300	52	1581	62.25	1480	58.25	1410	55.5	32-55	32-2.12	145	5.69	M52x3	2	410	/
1350	54	1657	65.25	1549	61	1467	57.75	28-60	28-2.38	152	6	M56x3	2 1/4	435	/
1400	56	1708	67.25	1600	63	1518	59.75	28-60	28-2.38	154	6.06	M56x3	2 1/4	440	/
1450	58	1759	69.25	1651	65	1575	62	32-60	32-2.38	159	6.25	M56x3	2 1/4	450	/
1500	60	1810	71.25	1702	67	1626	64	32-60	32-2.38	164	6.44	M56x3	2 1/4	460	/

Appendix A ASME Steel Pipe Flanges



Main overall dimensions

CALSS600

SIZE		D		K		d		n-L		C		Bolt diameter		Stud length(mm)	
DN	NPS	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	Convexity 2 mm	Ring connection
15	1/2	95	3.75	66.7	2.62	35	1.38	4-16	4-0.62	15	0.56	M14	1/2	75	75
20	3/4	120	4.62	82.5	3.25	43	1.69	4-19	4-0.75	16	0.62	M16	5/8	90	90
25	1	125	4.88	88.9	3.5	51	2	4-19	4-0.75	18	0.69	M16	5/8	90	90
32	1 1/4	135	5.25	98.4	3.88	64	2.5	4-19	4-0.75	21	0.81	M16	5/8	95	95
40	1 1/2	155	6.12	114.3	4.5	73	2.88	4-22	4-0.88	23	0.88	M20	3/4	110	110
50	2	165	6.5	127	5	92	3.62	8-19	8-0.75	26	1	M16	5/8	110	110
65	2 1/2	190	7.5	149.2	5.88	105	4.12	8-22	8-0.88	29	1.12	M20	3/4	120	120
80	3	210	8.25	168.3	6.62	127	5	8-22	8-0.88	32	1.25	M20	3/4	125	125
100	4	275	10.75	215.9	8.5	157	6.19	8-26	8-1.00	38	1.5	M24	7/8	145	145
125	5	300	13	2667	10.5	186	7.31	8-29	8-1.12	45	1.75	M27	1	165	165
150	6	355	14	292.1	11.5	216	8.5	12-29	12-1.12	48	1.88	M27	1	170	170
200	8	420	16.5	349.2	13.75	270	10.62	12-32	12-1.25	56	2.19	M30	1 1/8	190	190
250	10	510	20	431.8	17	324	12.75	16-35	16-1.38	64	2.5	M33	1 1/4	215	215
300	12	560	22	489	19.25	381	15	20-35	20-1.38	67	2.62	M33	1 1/4	220	220
350	14	605	23.75	527	20.75	413	16.25	20-39	20-1.50	70	2.75	M36x3	13/8	235	235
400	16	685	27	603.2	23.75	470	18.5	20-42	20-1.62	77	3	M39x3	1 1/2	255	275
450	18	745	29.25	654	25.75	533	21	20-45	20-1.75	83	3.25	M42x3	15/8	275	290
500	20	815	32	723.9	28.5	584	23	24-45	24-1.75	89	3.5	M42x3	15/8	285	335
600	24	940	37	838.2	33	692	27.25	24-51	24-2.00	102	4	M48x3	17/8	330	360
650	26	1016	40	914.4	36	749	29.5	28-51	28-2.00	108	4.25	M48x3	17/8	350	380
700	28	1073	42.25	965.2	38	800	31.5	28-55	28-2.12	111	4.38	M52x3	2	360	400
750	30	1130	44.5	1022.4	40.25	857	33.75	28-55	28-2.12	114	4.5	M52x3	2	370	410
800	32	1194	47	1079.5	42.5	914	36	28-60	28-2.38	117	4.62	M56x3	2 1/4	380	430
850	34	1245	49	1130.3	44.5	965	38	28-60	28-2.38	121	4.75	M56x3	2 1/4	390	/
900	36	1314	51.75	1194	47	1022	40.25	28-67	28-2.62	124	4.88	M64x3	2 1/2	410	/
950	38	1270	50	1162	45.75	1054	41.5	28-60	28-2.38	152	6	M56x3	2 1/4	450	/
1000	40	1321	52	1213	47.75	1111	43.75	32-60	32-2.38	159	6.25	M56x3	2 1/4	465	/
1050	42	1403	55.25	1283	50.5	1168	46	28-67	28-2.62	168	6.62	M64x3	2 1/2	500	/
1100	44	1454	57.25	1333.5	52.5	1226	48.25	32-67	32-2.62	173	6.81	M64x3	2 1/2	510	/
1150	46	1511	59.5	1391	54.75	1276	50.25	32-67	32-2.62	179	7.06	M64x3	2 1/2	520	/
1200	48	1594	62.75	1460.5	57.5	1334	52.5	32-73	32-2.88	189	7.44	M70x3	2 3/4	555	/
1250	50	1670	65.75	1524	60	1384	54.5	28-80	28-3.12	197	7.75	M76x3	3	580	/
1300	52	1721	67.75	1575	62	1435	56.5	32-80	32-3.12	203	8	M76x3	3	595	/
1350	54	1778	70	1632	64.25	1492	58.75	32-80	32-3.12	210	8.25	M76x3	3	610	/
1400	56	1854	73	1695	66.75	1543	60.75	32-86	32-3.38	217	8.56	M82x3	3 1/4	635	/
1450	58	1905	75	1746	68.75	1600	63	32-86	32-3.38	222	8.75	M82x3	3 1/4	645	/
1500	60	1994	78.5	1822	71.75	1657	65.25	28-94	28-3.62	233	9.19	M90x3	3 1/2	680	/

Appendix A ASME Steel Pipe Flanges



Main overall dimensions

CALSS900

SIZE		D		K		d		n-L		C		Bolt diameter		Stud length(mm)	
DN	NPS	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	Convexity 2 mm	Ring connection
15	1/2	120	4.75	82.6	3.25	35	1.38	4-22	4-0.88	22.5	0.88	M20	3/4	75	75
20	3/4	130	5.12	88.9	3.5	43	1.69	4-22	4-0.88	25.5	1	M20	3/4	90	90
25	1	150	5.88	101.6	4	51	2	4-26	4-1	29	1.12	M24	7/8	90	90
32	1 1/4	160	6.25	111.1	4.38	64	2.5	4-26	4-1	29	1.12	M24	7/8	95	95
40	1 1/2	180	7	123.8	4.88	73	2.88	4-29	4-1.12	32	1.25	M27	1	110	110
50	2	215	8.5	165.1	6.5	92	3.62	8-26	8-1	38.5	1.5	M24	7/8	110	110
65	2 1/2	245	9.62	190.5	7.5	105	4.12	8-29	8-1.12	41.5	1.62	M27	1	120	120
80	3	240	9.5	190.5	7.5	127	5	8-26	8-1	38.5	1.5	M24	7/8	145	145
100	4	290	11.5	235	9.25	157	6.19	8-32	8-1.25	44.5	1.75	M30	1 1/8	170	170
125	5	350	13.75	279.4	11	186	7.31	8-35	8-1.38	51	2	M33	1 1/4	190	190
150	6	380	15	317.5	12.5	216	8.5	12-32	12-1.25	56	2.19	M30	1 1/8	190	195
200	8	470	18.5	393.7	15.5	270	10.62	12-39	12-1.50	63.5	2.5	M36x3	13/8	220	220
250	10	545	21.5	469.9	18.5	324	12.75	16-39	16-1.50	70	2.75	M36x3	13/8	235	235
300	12	610	24	533.4	21	381	15	20-39	20-1.50	79.5	3.12	M36x3	13/8	255	255
350	14	640	25.25	558.8	22	413	16.25	20-42	20-1.62	86	3.38	M39x3	11/2	275	280
400	16	705	27.75	616	24.25	470	18.5	20-45	20-1.75	89	3.5	M42x3	15/8	285	290
450	18	785	31	685.8	27	533	21	20-51	20-2.0	102	4	M48x3	17/8	325	335
500	20	855	33.75	749.3	29.5	584	23	20-55	20-2.12	108	4.25	M52x3	2	350	360
600	24	1040	41	901.7	35.5	692	27.25	20-68	20-2.62	140	5.5	M64x3	2 1/2	440	455
650	26	1086	42.75	952.5	37.5	749	29.5	20-73	20-2.88	140	5.5	M70x3	23/4	455	480
700	28	1168	46	1022.3	40.25	800	31.5	20-80	20-3.12	143	5.62	M76x3	3	475	500
750	30	1232	48.5	1085.9	42.75	857	33.75	20-80	20-3.12	149	5.88	M76x3	3	485	515
800	32	1314	51.75	1155.7	45.5	914	36	20-86	20-3.38	159	6.25	M82x3	3 1/4	520	545
850	34	1397	55	1225.6	48.25	965	38	20-94	20-3.62	165	6.5	M90x3	3 1/2	540	580
900	36	1461	57.5	1289	50.75	1022	40.25	20-94	20-3.62	171.5	6.75	M90x3	3 1/2	565	595
950	38	1461	57.5	1289	50.75	1099	43.25	20-94	20-3.62	191	7.5	M90x3	3 1/2	605	/
1000	40	1511	59.5	1339.9	52.75	1162	45.75	24-94	24-3.62	197	7.75	M90x3	3 1/2	615	/
1050	42	1562	61.5	1390.7	54.75	1213	47.75	24-94	24-3.62	206	8.12	M90x3	3 1/2	635	/
1100	44	1648	64.88	1463.5	57.62	1270	50	24-99	24-3.88	214	8.44	M95x3	33/4	660	/
1150	46	1734	68.25	1536.7	60.5	1334	52.5	24-105	24-4.12	225.5	8.88	M100x3	4	690	/
1200	48	1784	70.25	1587.5	62.5	1384	54.5	24-105	24-4.12	233	9.19	M100x3	4	705	/

Main overall dimensions

CALSS1200

SIZE		D		K		d		n-L		C		Bolt diameter		Stud length(mm)	
DN	NPS	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	Convexity 2 mm	Ring connection
15	1/2	120	4.75	82.6	3.25	35	1.38	4-22	4-0.88	22.5	0.88	M20	3/4	110	110
20	3/4	130	5.12	88.9	3.5	43	1.69	4-22	4-0.88	25.5	1	M20	3/4	115	115
25	1	150	5.88	101.6	4	51	2	4-26	4-1	29	1.12	M24	7/8	125	125
32	1 1/4	160	6.25	111.1	4.38	64	2.5	4-26	4-1	29	1.12	M24	7/8	125	125
40	1 1/2	180	7	123.8	4.88	73	2.88	4-29	4-1.12	32	1.25	M27	1	140	140
50	2	215	8.5	165.1	6.5	92	3.62	8-26	8-1	38.5	1.5	M24	7/8	145	145
65	2 1/2	245	9.62	190.5	7.5	105	4.12	8-29	8-1.12	41.5	1.62	M27	1	160	160
80	3	265	10.5	203.2	8	127	5	8-32	8-1.25	48	1.88	M30	1 1/8	180	180
100	4	310	12.52	241.3	9.5	157	6.19	8-35	8-1.38	54	2.12	M33	1 1/4	195	195
125	5	375	14.75	292.1	11.5	186	7.31	8-42	8-1.62	73.5	2.88	M39x3	1 1/2	250	250
150	6	395	15.5	317.5	12.5	216	8.5	12-39	12-1.50	83	3.25	M36x3	13/8	260	265
200	8	485	19	393.7	15.5	270	10.62	12-45	12-1.75	92	3.62	M42x3	15/8	290	325
250	10	585	23	482.6	19	324	12.75	12-51	12-2	108	4.25	M48x3	17/8	335	345
300	12	675	26.5	571.5	22.5	381	15	16-55	16-2.12	124	4.88	M52x3	2	375	385
350	14	750	29.5	635	25	413	16.25	16-60	16-2.38	133.5	5.25	M56x3	2 1/4	405	425
400	16	825	32.5	704.8	27.75	470	18.5	16-68	16-2.62	146.5	5.75	M64x3	2 1/2	445	470
450	18	915	36	774.7	30.5	533	21	16-74	16-2.88	162	6.38	M70x3	23/4	495	525
500	20	985	38.75	831.8	32.75	584	23	16-80	16-3.12	178	7	M76x3	3	540	565
600	24	1170	46	990.6	39	692	27.25	16-94	16-3.62	203.5	8	M90x3	3 1/2	615	650

Appendix A ASME Steel Pipe Flanges

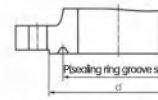


Main overall dimensions

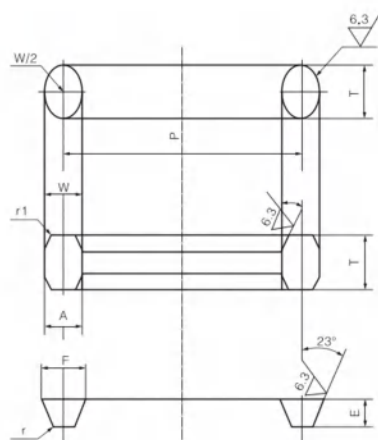
CALSS2500

SIZE		D		K		d		n-L		C		Bolt diameter		Stud length(mm)	
DN	NPS	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	Convexity 2 mm	Ring connection
15	1/2	135	5.25	88.9	3.5	35	1.38	4-22	4-0.88	30.5	1.19	M20	3/4	120	120
20	3/4	140	5.5	95.2	3.75	43	1.69	4-22	4-0.88	32	1.25	M20	3/4	125	125
25	1	160	6.25	108	4.25	51	2	4-26	4-1	35	1.38	M24	7/8	140	140
32	1 1/4	185	7.25	130.2	5.12	64	2.25	4-29	4-1.12	38.5	1.5	M27	1	150	150
40	1 1/2	205	8	146	5.75	73	2.88	4-32	4-1.25	44.5	1.75	M30	1 1/8	170	170
50	2	235	9.25	171.4	6.75	92	3.62	8-29	8-1.12	51	2	M27	1	180	180
65	2 1/2	265	10.5	196.8	7.75	105	4.12	8-32	8-1.25	57.5	2.25	M30	1 1/8	195	205
80	3	305	12	228.6	9	127	5	8-35	8-1.38	67	2.62	M33	1 1/4	220	230
100	4	355	14	273	10.75	157	6.19	8-42	8-1.62	76.5	3	M39x3	1 1/2	255	260
125	5	420	16.5	323.8	12.75	186	7.31	8-48	8-1.88	92.5	3.62	M45x3	13/4	300	310
150	6	485	19	368.3	14.5	216	8.5	8-55	8-2.12	108	4.25	M52x3	2	345	355
200	8	550	21.75	438.2	17.25	270	10.62	12-55	12-2.12	127	5	M52x3	2	380	395
250	10	675	26.5	593.8	21.25	324	12.75	12-67	12-2.62	165.5	6.5	M64x3	2 1/2	490	510
300	12	760	30	619.1	24.38	381	15	12-75	12-2.88	184.5	7.25	M70x3	23/4	540	560

Main overall dimensions

SIZE		150Lb		300Lb		400Lb		600Lb		900Lb		1500Lb		2500Lb	
		d	E	d	E	d	E	d	E	d	E	d	E	d	E
DN	NPS	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
15	1/2	/	/	51	5.6	51	5.6	51	5.6	60.5	6.4	60.5	6.4	65	6.4
20	3/4	/	/	64	6.4	64	6.4	64	6.4	66.5	6.4	66.5	6.4	73	6.4
25	1	64	6.4	70	6.4	70	6.4	70	6.4	71.5	6.4	71.5	6.4	82.5	6.4
32	1 1/4	73	6.4	79	6.4	79	6.4	79	6.4	81	6.4	81	6.4	102	8
40	1 1/2	83	6.4	90	6.4	90	6.4	90	6.4	92	6.4	92	6.4	114	8
50	2	102	6.4	108	8	108	8	108	8	124	8	124	8	133	8
65	2 1/2	121	6.4	127	8	127	8	127	8	137	8	137	8	149	9.6
80	3	133	6.4	146	8	146	8	146	8	156	8	168	8	168	9.6
100	4	171	6.4	175	8	175	8	175	8	181	8	194	8	203	11.13
125	5	194	6.4	210	8	210	8	210	8	216	8	229	8	241	12.7
150	6	219	6.4	241	8	241	8	241	8	241	8	248	9.6	279	12.7
200	8	273	6.4	302	8	302	8	302	8	308	8	318	11.13	340	14.27
250	10	330	6.4	356	8	356	8	356	8	362	8	371	11.13	425	17.48
300	12	406	6.4	413	8	413	8	413	8	419	8	438	14.27	495	17.48
350	14	425	6.4	457	8	457	8	457	8	467	11.13	489	15.88	/	/
400	16	483	6.4	508	8	508	8	508	8	524	11.13	546	17.48	/	/
450	18	546	6.4	575	8	575	8	575	8	594	12.7	613	17.48	/	/
500	20	597	6.4	635	9.6	635	9.6	635	9.6	648	12.7	673	17.48	/	/
600	24	711	6.4	749	10.2	749	10.2	749	10.2	772	15.88	794	20.62	/	/
650	26	/	/	810	12.7	810	12.7	810	12.7	832	17.48	<div></div> <div>Flange sealing ring convex connection diagram</div>			
700	28	/	/	859	12.7	859	12.7	859	12.7	889	17.48				
750	30	/	/	917.5	12.7	917.5	12.7	917.5	12.7	946	17.48				
800	32	/	/	984	14.27	984	14.27	984	14.27	1003	17.48				
850	34	/	/	1035	14.27	1035	14.27	1035	14.27	1067	20.62				
900	36	/	/	1092	14.27	1092	14.27	1092	14.27	1124	20.62				

Appendix B ASME Dimensions Of Ring Joint



Note:

1、When $w < 22.2$ $r1 = 1.59$

2、When $W > 25.4$ $r1 = 2.38$

3、The roughness of other machined surfaces not indicated is $\sqrt{25}$

Main overall dimensions

Ring number	Applicable flange					P (±0.177)	Gasket		A (±0.203)	E (+0.3-0)	F (±.203)	r (max)	
	150 Lb	300 Lb	900 Lb	1500 Lb	2500 Lb		W (±0.203)	Altitude (±0.39)					
		400 Lb 600 Lb						Ellipsoid					Octagon
R11		15(1/2)				34.131	6.35	11.11	9.52	4.318	5.6	7.144	0.7
R12			15(1/2)	15(1/2)		39.688	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R13		20(3/4)			15(1/2)	42.862	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R14			20(3/4)	20(3/4)		44.45	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R15	25(1)					47.625	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R16		25(1)	25(1)	25(1)	20(3/4)	50.8	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R17	32(11/4)					57.15	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R18		32(1/4)	32(1/4)	32(1/4)	20(1)	60.325	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R19	40(11/2)					65.088	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R20		40(11/2)	40(11/2)	40(11/2)		68.262	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R21					32(11/4)	72.231	11.112	17.46	15.88	7.747	8	11.906	0.7
R22	50(2)					82.55	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R23		50(2)			40(11/2)	82.55	11.112	17.46	15.88	7.747	8	11.906	0.7
R24			50(2)	50(2)		95.25	11.112	17.46	15.88	7.747	8	11.906	0.7
R25	65(21/2)					101.6	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R26		65(21/2)			50(2)	101.6	11.112	17.46	15.88	7.747	8	11.906	0.7
R27			65(21/2)	65(21/2)		107.95	11.112	17.46	15.88	7.747	8	11.906	0.7
R28					65(21/2)	111.125	12.7	19.05	17.46	8.661	9.6	13.494	1.5
R29	80(3)					114.3	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R30						117.475	11.112	17.46	15.88	7.747	8	11.906	0.7
R31		80(3)	80(3)			123.825	11.112	17.46	15.88	7.747	8	11.906	0.7
R32					80(3)	127	12.7	19.05	17.46	8.661	9.6	13.494	1.5
R33	31/2					131.762	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R34		31/2				131.762	11.112	17.46	15.88	7.747	8	11.906	0.7
R35				80(3)		136.525	11.112	17.46	15.88	7.747	8	11.906	0.7

Appendix B ASME Dimensions Of Ring Joint



Main overall dimensions

Ring number	Applicable flange					P (±0.177)	Gasket				E (+0.3-0)	F (±.203)	r (max)
	150 Lb	300 Lb	900 Lb	1500 Lb	2500 Lb		W (±0.203)	Altitude(±0.39)		A (±0.203)			
		400 Lb 600 Lb						Ellipsoid	Octagon				
R36	100(4)					149.225	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R37		100(4)	100(4)			149.225	11.112	17.46	15.88	7.747	8	11.906	0.7
R38					100(4)	157.162	15.875	22.22	20.64	10.49	11.2	16.669	1.5
R39				100(4)		161.925	11.112	17.46	15.88	7.747	8	11.906	0.7
B40	125(5)					171.45	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R41		125(5)	125(5)			180.975	11.112	17.46	15.88	7.747	8	11.906	0.7
R42					125(5)	190.5	19.05	25.4	23.81	12.319	12.7	19.844	1.5
R43	150(6)					193.675	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R44				125(5)		193.675	11.112	17.46	15.88	7.747	8	11.906	0.7
R45		150(6)				211.138	11.112	1746	15.88	7.747	8	11.916	0.7
R46				150(6)		211.138	12.7	19.05	17.46	8.661	9.6	13.494	1.5
R47					150(6)	228.6	19.05	25.4	23.81	12.319	12.7	19.844	1.5
R48	200(8)					247.65	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R49		200(8)	200(8)			269.875	11.112	17.46	15.88	7.747	8	11.906	0.7
R50				200(8)		269.875	15.875	22.22	20.64	10.49	11.2	16.669	1.5
R51					200(8)	279.4	22.225	28.58	26.99	14.808	14.3	23.019	1.5
R52	250(10)					304.8	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R53		250(10)	250(10)			323.85	11.112	17.46	15.88	7.747	8	11.906	0.7
R54				250(10)		323.85	15.875	22.22	20.64	10.49	11.2	16.669	1.5
R55					250(10)	342.9	28.575	36.51	34.92	19.812	17.5	30.162	2.3
R56	300(12)					381	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R57		300(12)	300(12)			381	11.112	17.46	15.88	7.747	8	11.906	0.7
R58				300(12)		381	22.225	28.58	26.99	14.808	14.3	23.019	1.5
R59	350(14)					396.875	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R60					300(12)	406.4	31.75	39.69	38.1	22.237	17.5	33.338	2.3
R61		350(14)				419.1	11.112	17.46	15.88	7.747	8	11.906	0.7
R62			350(14)			419.1	15.875	22.22	20.64	10.49	11.2	16.669	1.5
R63				350(14)		419.1	25.4	33.34	31.75	17.297	15.9	26.988	2.3
R64	400(16)					454.025	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R65		400(16)				469.9	11.112	17.46	15.88	7.747	8	11.906	0.7
R66			400(16)			469.9	15.875	22.22	20.64	10.49	11.2	16.669	1.5
R67				400(16)		469.9	28.575	35.51	34.92	19.812	17.5	30.162	2.3
R68	450(18)					517.525	7.938	14.39	12.7	5.232	6.4	8.731	0.7
R69		450(18)				533.4	11.112	17.46	15.88	7.747	8	11.906	0.7
R70			450(18)			533.4	19.05	25.4	23.81	12.319	12.7	19.844	1.5

Appendix B ASME Dimensions Of Ring Joint



Main overall dimensions

Ring number	Applicable flange					P (±0.177)	Gasket				E (+0.3-0)	F (±.203)	r (max)
	150 Lb	300 Lb	900 Lb	1500 Lb	2500 Lb		W (±0.203)	Altitude(±0.39)		A (±0.203)			
		400 Lb						Ellipsoid	Octagon				
R71		600 Lb		450 (18)		533.4	28.575	36.51	34.92	19.812	17.5	30.162	2.3
R72	500 (20)					558.8	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R73		500 (20)				584.2	12.7	19.05	17.46	8.661	9.6	13.494	1.5
R74			500 (20)			584.2	19.05	25.4	23.81	12.319	12.7	19.844	1.5
R75				500 (20)		584.2	31.75	3960	38.1	22.327	17.5	33.338	2.3
R76	600 (24)					673.1	7.938	14.29	12.7	5.232	6.4	8.731	0.7
R77		600 (24)				692.15	15.875	22.22	20.64	10.49	11.2	16.669	1.5
R78			600 (24)			692.15	25.4	33.34	31.75	17.297	15.9	26.988	2.3
R79				600 (24)		692.15	34.925	44.45	41.28	24.816	20.7	36.512	2.3
R80	550 (22)	550 (22)				615.95	7.938	/	12.7	5.232	6.4	8.731	0.7
R81						635	14.288	/	19.05	9.576	11.2	15.081	1.5
R82						57.15	11.112	/	15.88	7.747	8	11.906	0.7
R83						/	/	/	/	/	/	/	/
R84						63.5	11.112	/	15.88	7.47	8	11.906	0.7
R85						79.375	12.7	/	17.46	8.661	9.6	13.494	1.5
R86						90.488	15.875	/	20.64	10.49	11.2	16.669	1.5
R87						100.012	15.875	/	20.64	10.49	11.2	16.669	1.5
R88						123.825	19.05	/	23.81	12.319	12.7	19.844	1.5
R89						114.3	19.05	/	23.81	12.319	12.7	19.844	1.5
R90						155.575	22.252	/	26.99	14.808	14.3	23.019	1.5
R91						260.35	31.75	/	38.1	22.327	17.5	33.338	2.3
R92		650 (26)				228.6	11.112	17.46	15.88	7.747	8	11.906	0.7
R93		700 (28)				749.3	19.05	/	23.81	12.319	12.7	19.844	1.5
R94		750 (30)				800.1	19.05	/	23.81	12.319	12.7	19.844	1.5
R95		800 (32)				857.25	19.05	/	23.81	12.319	12.7	19.844	1.5
R96		850 (34)				914.4	22.225	/	26.99	14.808	14.3	23.019	1.5
R97		900 (36)				965.2	22.225	/	26.99	14.808	14.3	23.019	1.5
R98						1022.35	22.225	/	26.99	14.808	14.3	23.019	1.5
R99						234.95	11.112	/	15.88	7.747	8	11.906	0.7
R100			650 (26)			749.3	28.575	/	34.92	19.812	17.5	30.162	2.3
R101			700 (28)			800.1	31.75	/	38.1	22.327	17.5	33.338	2.3
R102			750 (30)			857.25	31.75	/	38.1	22.327	17.5	33.338	2.3
R103			800 (32)			914.4	31.75	/	38.1	22.327	17.5	33.338	2.3
R104			850 (34)			965.2	34.925	/	41.28	24.816	20.7	36.512	2.3
R105			900 (36)			1022.35	34.925	/	41.28	24.816	20.7	36.512	2.3

Appendix C Ball Valve Minimum Flow Data Sheet



Main overall dimensions

Valve size		API 6D CLASS						
		150	300	400	600	900	1500	2500
DN	NPS	mm	mm	mm	mm	mm	mm	mm
50	2	51	51	51	51	51	51	45
65	2 1/2	64	64	64	64	64	64	54
80	3	76	76	76	76	76	76	63.5
100	4	102	102	102	102	102	102	89
150	6	152	152	152	152	152	146	134
200	8	203	203	203	203	203	194	181
250	10	254	254	254	254	254	241	226
300	12	305	305	305	305	305	289	267
350	14	336	336	336	336	324	318	/
400	16	387	387	387	387	375	362	/
450	18	438	438	438	438	425	410	/
500	20	489	489	489	489	473	456	/
550	22	540	540	540	540	524	502	/
600	24	691	691	691	691	572	548	/
650	26	635	635	635	635	619	597	/
700	28	686	686	686	686	667	641	/
750	30	737	737	737	737	714	692	/
800	32	781	781	781	781	762	/	/
850	34	832	832	832	832	810	/	/
900	36	876	876	876	876	857	/	/
950	38	927	927	927	927	908	/	/
1000	40	978	978	978	978	/	/	/
1050	42	1022	1022	1022	1022	/	/	/
1100	44	1071	1071	1071	1071	/	/	/
1150	46	1119	1119	1119	1119	/	/	/
1200	48	1168	1168	1168	1168	/	/	/
1250	50	1217	1217	1217	1217	/	/	/
1300	52	1266	1266	1266	1266	/	/	/
1350	54	1314	1314	1314	1314	/	/	/
1400	56	1363	1363	1363	1363	/	/	/
1450	58	1412	1412	1412	1412	/	/	/
1500	60	1460	1460	1460	1460	/	/	/

Appendix D Material Chemical Composition And Mechanical Properties



ASTM	Chemical composition%											Mechanical property					
	C %	Mn %	P %	S %	Si %	Cr %	Mo %	Ni %	Cu %	V %	Nb %	Tensile strength MPa, ≥	Yield strength Mpa, ≥	Elongation %, ≥	Percentage of contraction %, ≥	Brinell hardness HB, ≤	Impact force J, ≥
A105	0.35	0.60~1.05	0.035	0.04	6.35	0.3	0.12	0.4	0.4	0.08	0.02	485	250	30	30	187	
A182F11	0.05~0.15	0.30~0.60	0.03	0.03	0.50~1.00	1.00~1.50	0.44~0.65					415	205	20	45	121~174	
A182F22	0.05~0.15	0.30~0.60	0.04	0.04	0.5	2.00~2.50	0.87~1.13					415	205	20	35	170	
A182F304	0.08	2	0.045	0.03	1	18.0~20.0		8.0~11.0				515	205	30	50		
A182F304L	0.03	2	0.045	0.03	1	18.0~20.0		8.0~13.0				485	170	30	50		
A182F316	0.08	2	0.045	0.03	1	16.0~18.0	2.00~3.00	10.0~14.0				515	205	30	50		
A182F316L	0.03	2	0.045	0.03	1	16.0~18.0	2.00~3.00	10.0~15.0				485	170	30	50		
A182F51	0.03	2	0.03	0.02	1	21.0~23.0	2.5~3.5	4.5~6.5				620	450	25	45		
A182F6A	0.15	1	0.04	0.03	1	11.5~13.5		0.5				585	380	18	35	167~229	
A193B7	0.37~0.49	0.65~1.10	0.035	0.04	1	0.75~1.20	0.15~0.25					860	720	16	50	321	
A193B7M	0.37~0.49	0.65~1.10	0.035	0.04	1	0.75~1.20	0.15~0.25					690	550	18	50	235	
A193 B8	0.08	2	0.045	0.03	1	18.0~20.0		8.0~11.0				515	205	30	50	223	
A193B8M	0.08	2	0.045	0.03	1	16.0~18.0	2.00~3.00	10.0~14.0				515	205	30	50	223	
A193B16	0.36~0.49	0.45~0.70	0.035	0.04	1	0.80~1.15	0.50~0.65		25~0.35			860	720	18	50	321	
A1942H	≥0.40	1	0.04	0.05	0.04											248~352	
A1942HM	≥0.40	1	0.04	0.05	0.04											159~237	
A1948	0.08	2	0.045	0.03	1	18.0~20.0		8.0~11.0								126~300	
A1948	0.08	2	0.045	0.03	1	16.0~18.0	2.00~3.00	10.0~14.0								126~300	
MA216WCB	0.3	1	0.04	0.045	0.6	0.5	0.2	0.5	0.3	0.03		485~655	250	22	35		
A216WCC	0.25	1.2	0.04	0.045	0.6	0.5	0.2	0.5	0.3	0.03		485~655	275	22	35		
A217C5	0.2	0.40~0.70	0.04	0.045	0.75	4.00~6.50	0.45~0.65	0.5	0.5			685~195	415	18	35		
A217CA15	0.15	1	0.04	0.04	1.5	11.5~14.0	0.5	1				620~795	450	18	30		

Appendix D Material Chemical Composition And Mechanical Properties



ASTM	Chemical composition%											Mechanical property					
	C %	Mn %	P %	S %	Si %	Cr %	Mo %	Ni %	Cu %	V %	Nb %	Tensile strength MPa, ≥	Yield strength Mpa, ≥	Elongation %, ≥	Percentage of contraction %, ≥	Brinell hardness HB, ≤	Impact force J, ≥
A217WC6	0.05~0.20	0.50~0.80	0.04	0.045	0.6	1.00~1.50	0.45~0.65	0.5	0.5			485~655	275	20	35		
A217WC9	0.05~0.18	0.40~0.70	0.04	0.045	0.6	2.00~2.75	0:26		0.5			485~655	275	20	35		
A276410	0.08~0.15	1	0.04	0.03	1	1335						480	275	20	45		
A276420	≥0.15	1	0.04	0.03	1	12.0~14.0											Average:27 Min:20
A320 L7	0.38~0.048	0.75~1.00	0.035	0.04	0.15~0.35	0.80~1.10	0.15~0.25					860	725	16	50	241	Average:27 Min:20
A320 L7M	0.05~0.15	0.75~1.00	0.035	0.04	0.15~0.35	0.80~1.10	0.15~0.25					690	550	18	50		
A336F22	0.3	0.6	0.025	0.025	0.5	2.00~2.50	0.90~1.10					515~690	310	19	40	235	Average:18 Min:14
A350 LF1	0	0.60~1.35	0.035	0.04	0.15~0.30	0.3	0.12	0.4	0.4	0.08	0.02	415~585	205	28	38		Min:20; Min:16
A350 LF2	0.3	0.60~1.35	0.035	0.04	15~0.30	0.3	0.12	0.4	0.4	0.08	0.02	485~655	250	30	30		
A351 CF3	0.03	1.5	0.04	0.04	2	18.0~21.0	0.5	8.0~12.0				485	205	35			
A351 CF3M	0.03	1.5	0.04	0.04	1.5	18.0~21.0	2.0~3.00	9.0~13.0				485	205	30			
A351 CF8	0.08	1.5	0.04	0.04	2	18.0~21.0	0.5	8.0~11.0				485	205	35			
A351 CF8M	0.08	1.5	0.04	0.04	1.5	18.0~21.0	2.0~3.00	9.0~12.0	4.6			485	205	30			
A351 CF8C	0.08	1.5	0.04	0.04	2	18.0~22.0	0.5	9.0~12.0				485	205	30			
A351 CN7M	0.07	1.5	0.04	0.04	1.5	19.0~22.0	2.0~3.00	27.5~30.5				425	170	35			
A352LC1	0.25	0.50~0.80	0.04	0.045	0.6		0.45~0.65					4626	240	24	35		
A352LC2	0.25	0.50~0.80	0.04	0.045	0.6			2.00~3.00				48	275	24	35		Average:18 Min:14
A352LC3	0.15	0.50~0.80	0.04	0.045	0.6			3.00~4.00				485~655	275	24	35		Average:20 Min:16
A352 LCB	0.3	1	0.04	0.045	0.6	0.5	0.2	0.5	0.3	0.03		450~620	240	24	35		Average:20 Min:16
A352LCC	0.25	1.2	0.04	0.045	0.6	0.5	0.2	0.5		0.03		485~655	275	22	35	139~202	Average:18 Min:14
A439 D2	3	0.70~1.25	0.08		1.50~3.00	1.75~2.75		18.00~22.00				400	207	8			Average:20 Min:16

Schedule /(Interior Materials)

TRIM NO	Valve seat or body	Gate, Disc, Ball or Body	valve rod	TRIM NO	Valve seat or body	Gate, Disc, Ball or Body	valve rod
1	13Cr	13Cr	13Cr	31	STELLITE	321SS	321SS
2	304SS	304SS	304SS	32	STELLITE	STELLITE	321SS
3	310SS	310SS	310SS	33	347SS	347SS	347SS
4	HARED13Cr	HARED13Cr	13Cr	34	STELLITE	347SS	347SS
5	STELLITE	STELLITE	13Cr	35	NICKEL ALLOY	13Cr	13Cr
6	Cu-Ni	13Cr	13Cr	36	A105/PTFE	A105+ENP	A105+ENP
7	13Cr	HARD 13Cr	13Cr	37	A105/PTFE	WCB+ENP	WCB+ENP
8	STELLITE	13Cr	13Cr	38	13Cr/PTFE	13Cr	13Cr
9	Cu-Ni	Cu-Ni	Cu-Ni	39	304/PTFE	304SS	304SS
10	316SS	316SS	316SS	40	316SS/PTFE	316SS	316SS
11	Cu-Ni	STELLITE	Cu-Ni	41	A105/RPTFE	A105+ENP	A105+ENP
12	STELLITE	316SS	316SS	42	A105/RPTFE	WCB+ENP	A105+ENP
13	ALLOY 20	ALLOY 20	ALLOY 20	43	13Cr/RPTFE	13Cr	13Cr
14	STELLITE	ALLOY 20	ALLOY 20	44	304SS/RPTFE	304SS	304SS
15	STELLITE	STELLITE	304SS	45	316SS/RPTFE	316SS	316SS
16	STELLITE	STELLITE	316SS	46	A105/NYLON	A105+ENP	A105+ENP
17	STELLITE	STELLITE	347SS	47	A105/NYLON	WCB+ENP	A105+ENP
18	STELLITE	STELLITE	ALLOY 20	48	A105/NYLON	304SS	304SS
19	MONEL	MONEL	MONEL	49	A105/NYLON	316SS	316SS
20	BRONZE	BRONZE	13Cr	50	13Cr/NYLON	13Cr	13Cr
21	HASTELLOYB	HASTELLOY B	HASTELLOY B	51	304SS/NYLON	304SS	304SS
22	HASTELLOYB	HASTELLOY C	HASTELLOY C	52	316SS/NYLON	316SS	316SS
23	STELLITE	304SS	304SS	53	A105/PEEK	A105+ENP	A105+ENP
24	304LSS	304LSS	304LSS	54	A105/PEEK	WCB+ENP	A105+ENP
25	STELLITE	304LSS	304LSS	55	13Cr/PEEK	13Cr	13Cr
26	STELLITE	STELLITE	304LSS	56	304SS/PEEK	304SS	304SS
27	316LSS	316LSS	316LSS	57	316SS/PEEK	316SS	316SS
28	STELLITE	316LSS	316LSS				
29	STELLITE	STELLITE	316LSS				
30	321SS	321SS	321SS	99	Special request		

1 Pre-sale service

Being a good consultant and assistant of the customer; making customers get rich repayment to every investment.

- A. Selection to equipment pattern.
- B. Designing and producing according to the customer's requirement.
- C. Training technician for customer
- D. Offering technical consultation or drawing up proper producing programs for new, special, and difficult projects.

2 Sale service

Respecting our customers; making our customer assured, relaxed and pleasant; being devoted to improving the customer's whole value.

- A. On-spot service in guarantee period.
- B. Pre-acceptance and check of the products.
- C. Introducing the Enterprise service system to customers.

3 After-sale service

Improving the customer's whole value; letting customers have no worry.

- A. Assisting the customer to draw up the initial project plan.
- B. Debugging of the equipment installation.
- C. Training technician on-spot.
- D. Checking and testing the equipment on terms.
- E. Quick and active; removing the malfunction on spot.
- F. Delivering the guaranteed parts to customers.
- G. Follow-up service for key projects.
- H. Offering over-value service.
- I. Offering opportunities for technical exchanges.
- J. Offering the business for large maintenance.