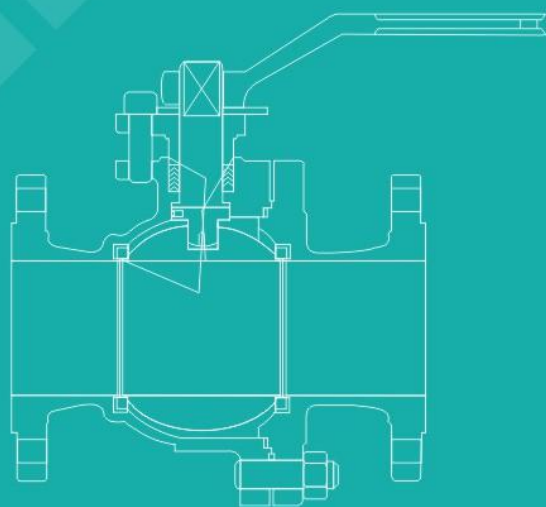




球 閥 系 列

BALL VALVE SERIES



GB FLOATING BALL VALVE 国标浮动球阀

结构特点 Structure characteristics

浮动软密封不锈钢球阀用于PN16~PN63的各种管路上,用于截断或接通管路中的介质,选用不同的材质,可分别适用于水、蒸汽、油品、液化气、天然气、煤气、醋酸、氧化性介质、尿素等多种介质。

- a、在各种阀门中,球阀的流动阻力最小,全径球阀打开时,球体通道、阀体通道和连接管径相等并成一直径,介质几乎可以毫无损失的流过。
b、球阀旋转90°即可全关全开,启闭迅速。与相同规格的闸阀、截止阀比较,球阀体积小、重量轻、便于管道安装。

Soft floating seal stainless steel ball valve used for PN16 ~ PN63 various piping, used to truncate or on line in the medium, choose no material, can be respectively suitable for water, steam, oil, liquefied petroleum gas, natural gas, coal gas, acetic acid, oxidizing medium, urea, and other media.

A, in all kinds of valve, ball valve flow resistance of the smallest, full bore ball valve is opened, the sphere channels, the body and connected to equal diameter and diameter, flow medium can be almost no losses.

B, ball valve can be rotated 90° seated fully open, opening and closing fast. Compared with the same specifications of the gate valve, globe valve, ball valve, small volume, light weight, easy to pipeline installation.

标准与规范 Standards and norms

设计标准 Design standard	结构长度 Face to Face	法兰连接尺寸 Flange End	试验与检验 Test & Check	压力-温度 Pressure-Temp.
GB/T 12237 API6D	GB/T 12221	JB/T 79 HG20592	JB/T 9092 GB/T 13927	GB/T 12224 ASME B16.34

性能参数 performance parameters

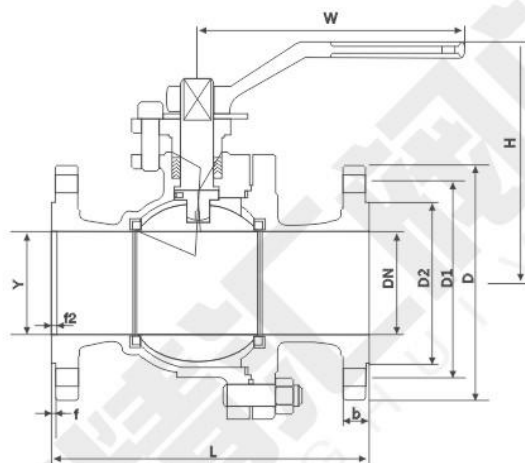
序号 NO.	项目名称 Project name	项目名称 Project name			
		PN16	PN25	PN40	PN64
1	公称压力 (MPa)	1.6	2.5	4.0	6.4
2	壳体强度试验压力 (MPa) Shell strength test pressure	常温下公称压力的1.5倍 1.5 Times the nominal pressure at room temperature			
3	高压密封试验压力 (MPa) High pressure seal test pressure	常温下公称压力的1.1倍 1.1 Times the nominal pressure at room temperature			
4	常温下工作压力 (MPa) Operating pressure at room temperature	≤1.6	≤2.5	≤4.0	≤6.4

主要零件材料 Materials for Main Parts

名称 Name	材料 Material								
阀体/阀盖 Body/Bonnet	CF8	CF3	CF8M	CF3M	WCB	LCB	WC6	WC9	C5
球体 Ball	CF8	CF3	CF8M	CF3M	WCB Hcr	CF8	CF8	CF8	CF8
阀杆 Stem	F304	F304L	F316	F316L	2CR13	F304	F304	F304	F304
阀座 Seat	PTFE/PPL/304								
填料/垫片 Packing/Gasket	PTFF					石墨 Graphite			
螺栓 Bolt	不锈钢 Stainless Steel					35CrMoA			
螺母 Nut	不锈钢 Stainless Steel					45、35CrMoA			
手柄 Handle	铸钢 Cast Steel								

GB FLOATING BALL VALVE 国标浮动球阀

Q41/641/941F-16C/P/R/RL



PN16 国标浮动球阀

主要外形和连接尺寸 Main external and connection dimension

单位Unit:mm

公称通径 DN	主要外形和连接尺寸 Main external and connecting dimensions								
	L	D	D1	D2	b	f	Z-Φd	H	W
15	130	95	65	45	14	2	4-Φ14	78	140
20	140	105	75	55	14	2	4-Φ14	84	160
25	150	115	85	65	14	2	4-Φ14	95	180
32	165	135	100	78	17	2	4-Φ18	150	250
40	180	145	110	85	17	2	4-Φ18	150	300
50	200	160	125	100	18	2	4-Φ18	170	350
65	220	180	145	120	19	2	4-Φ18	195	350
80	250	195	160	135	20	2	8-Φ18	215	400
100	280	215	180	155	21	2	8-Φ18	250	500
125	320	245	210	185	22	3	8-Φ18	265	600
150	360	280	240	210	24	3	8-Φ23	270	800
200	400	335	295	265	26	3	12-Φ23	330	800
250	533	405	355	320	28	3	12-Φ25	450	1300

GB FLOATING BALL VALVE 国标浮动球阀

PN25 国标浮动球阀

JB/T 79.2-1994 JB/T 79.1-1994

主要外形和连接尺寸 Main external and connection dimension

单位Unit:mm

公称通径 DN	主要外形和连接尺寸Main external and connecting dimensions									
	L	D	D1	D2	b	Y	f2	Z-Φd	H	W
15	130	95	65	45	16	-	-	4-Φ14	103	100
20	140	105	75	55	16	-	-	4-Φ14	112	160
25	150	115	85	65	16	-	-	4-Φ14	123	160
32	165	135	100	78	18	-	-	4-Φ18	150	250
40	180	145	110	85	18	-	-	4-Φ18	156	250
50	200	160	125	100	20	-	-	4-Φ18	172	350
65	220	180	145	120	22	-	-	8-Φ18	197	350
80	250	195	160	135	22	-	-	8-Φ18	222	450
100	280	230	190	160	24	-	-	8-Φ23	253	450
125	320	270	220	188	28	-	-	8-Φ25	275	600
150	360	300	250	218	30	-	-	8-Φ25	286	800
200	400	360	310	278	34	-	-	12-Φ25	340	1200
250	533	425	370	332	36	-	-	12-Φ30	470	1400

PN40 国标浮动球阀

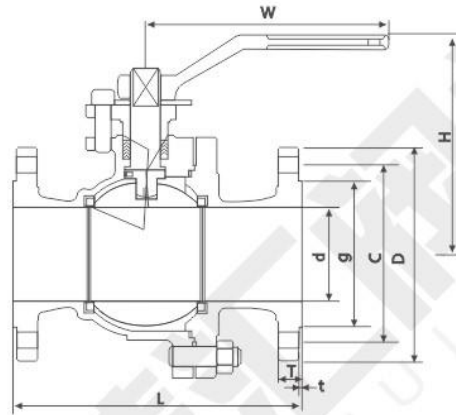
15	130	95	65	45	16	40	4	4-Φ14	103	100
20	140	105	75	55	16	51	4	4-Φ14	112	160
25	150	115	85	65	16	58	4	4-Φ14	123	160
32	180	135	100	78	18	66	4	4-Φ18	150	250
40	200	145	110	85	18	76	4	4-Φ18	156	250
50	220	160	125	100	20	88	4	4-Φ18	172	350
65	250	180	145	120	22	110	4	8-Φ18	197	350
80	280	195	160	135	22	121	4	8-Φ18	222	450
100	320	230	190	160	24	150	4.5	8-Φ23	253	450
125	400	270	220	188	28	176	4.5	8-Φ25	275	600
150	400	300	250	218	30	204	4.5	8-Φ25	286	800
200	550	375	320	282	38	260	4.5	12-Φ30	340	1200
250	568	445	385	345	42	313	4.5	12-Φ34	470	1400

PN63 国标浮动球阀

15	140	105	75	55	18	40	4	4-Φ14	105	130
20	155	125	90	68	20	51	4	4-Φ18	125	130
25	180	135	100	78	22	58	4	4-Φ18	135	160
32	200	150	110	82	24	66	4	4-Φ23	150	160
40	220	165	125	95	24	76	4	4-Φ23	165	230
50	250	175	135	105	26	88	4	4-Φ23	175	230
65	280	200	160	130	28	110	4	8-Φ23	200	400
80	320	210	170	140	30	121	4	8-Φ23	210	400
100	350	250	200	168	32	150	4.5	8-Φ25	250	700
125	455	295	240	202	36	176	4.5	8-Φ30	295	1100
150	495	340	280	240	38	204	4.5	8-Φ34	340	1500

API FLANGE FLOATING BALL VALVE 美标法兰浮动球阀

Q41F-150Lb



应用标准

球阀符合API 608/API 6D标准
球阀符合ISO 10434/ISO 14313标准
防火标志采用API 607 标准
防静电采用API 608标准
符合ASME B 16.34标准
结构长度符合ASME B 16.10标准
法兰尺寸符合ASME B 16.5标准
对接焊符合ASME B 16.25标准
试验与检验符合API 598/API 6D标准

设计描述

全通径设计
螺栓连接
浮动结构
防脱阀杆
防火设计
静电装置
切断装置
ISO5211 固定盘
法兰/焊接端
蜗轮操作

Applicable standards

BALL VALVES, API 608/API 6D
BALL VALVES, ISO 10434/ISO 14313
FIRE DURABLE, API 607
ANTI STATIC, API 608
VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

FULL PORT DESIGN
BB, BOLTED BONNET, SPLIT BODY
FLOATING BALL TYPE
BLOW-OUT PROOF STEM
FIRE DURABLE CONSTRUCTION
ANTI STATIC DEVICE
STOPPER DEVICE
ISO5211 MOUNTING PAD
FLANGED OR BUTT WELDING ENDS
AVAILABLE WITH BG OPERATOR

各部件材质 Materials of parts

序号 NO	零件名称 Part Name	ASTM材质 ASTM Material		
		碳钢Carbon Steel	CF8M	CF8
1	阀体Body	A216-WCB	A351-CF8M	CF8
2	阀盖Bonnet	A216-WCB	A351-CF8M	CF8
3	球Ball	A182-F3041)	A182-F316	F304
4	阀杆Stem	A276-304	A276-316	F304
5	阀座Seat seat		R.PTFE	
6	垫片Gasket	石墨+3042) Graphite+3042)	PTFE	PTFE
7	阀盖螺栓 Valve cover bolt	A193-B7	A193-B8M	A193-B8M
8	阀盖螺母 Valve cover nut	A194-2H	A194-8M	A194-8M
9	填料Packing		PTFE	PTFE
10	填料压板Packing press plate	A216-WCB	CF8	CF8
11	填料螺栓Packing bolt	A193-B7	A193-B8M	A193-B8M
12	定位片Positioning sheet	碳钢Carbon Steel	F304	F304
13	手柄Handle		碳钢Carbon Steel	

注释：1、A105+ENP 可选的 Note:1).A105+ENP optional

2、缠绕石墨垫片 2).Spiral wound construction.

API FLANGE FLOATING BALL VALVE 美标法兰浮动球阀

Class 150LB 美标法兰球阀

主要连接尺寸 Main connection dimensions

Size DN	Dimensions(mm)									
	d	L	D	C	g	T	t	H	W	n-Φ
1/2"	15	108	89	60.5	35	12.7	1.6	87.5	142	4-15
3/4"	20	117	98	70.0	43	12.7	1.6	87.5	142	4-15
1"	25	127	108	79.5	51	13	1.6	91.5	142	4-15
1 1/4"	32	140	117	89	64	14.5	1.6	107	190	4-15
1 1/2"	40	165	127	98.5	73	15	1.6	128	200	4-15
2"	50	178	152	120.5	92	16	1.6	136	200	4-19
2 1/2"	65	190	178	139.5	105	18	1.6	158	300	4-19
3"	80	203	190	152.5	127	19	1.6	196	350	4-19
4"	100	229	229	190.5	157	24	1.6	212	700	4-19
5"	125	256	254	215.9	186	24	1.6	252	1100	8-22
6"	150	394	279	241.5	261	26	1.6	272	1100	8-22
8"	200	457	343	298.5	270	29	1.6	342	1500	8-22
10"	250	533	406	362	324	30	1.6	345	1500	12-25
12"	305	610	483	432	381	32	1.6	385		12-25
14"	337	686	535	476	413	35	1.6	430		12-29
16"	387	762	597	540	470	37	1.6	470		16-29
18"	489	914	698	635	582	43	1.6	590		16-32

Class 300LB 美标法兰球阀

1/2"	15	140	95	66.5	35	15	1.6	87.5	142	4-15
3/4"	20	152	117	82.5	43	16	1.6	87.5	142	4-15
1"	25	165	124	89.0	51	18	1.6	91.5	142	4-19
1 1/4"	32	178	133	98.5	64	19	1.6	107	190	4-19
1 1/2"	40	190	156	114.5	73	21	1.6	128	200	4-22
2"	50	216	165	127	92	23	1.6	136	200	8-19
2 1/2"	65	241	190	149	105	26	1.6	158	300	8-22
3"	80	283	210	168.5	127	29	1.6	202	350	8-22
4"	100	305	254	200	157	32	1.6	218	700	8-22
5"	125	381	279	235	186	35	1.6	252	1100	8-22
6"	150	403	318	270	216	37	1.6	272	1100	12-22
8"	200	502	381	330	270	41	1.6	342	1500	12-25
10"	250	568	444	387.5	324	48	1.6	345	1500	16-29

Class 600LB 美标法兰球阀

1/2"	15	165	95	66.5	35	15	6.4	59	160	4-16
3/4"	20	190	117	82.5	43	16	6.4	63	160	4-19
1"	25	216	124	89.0	51	18	6.4	75	230	4-19
1 1/4"	32	229	133	98.5	64	21	6.4	85	300	4-19
1 1/2"	40	241	156	114.5	73	22.3	6.4	95	400	4-22
2"	50	292	165	127	92	25.4	6.4	107	700	8-19
4"	100	432	273	216	157.2	38	6.4	178	1100	8-25
5"	125	491	330	267	186	44.5	6.4	225	1100	8-29
6"	152	559	356	282	216	47.2	6.4	250	1500	12-29
8"	203	660	419	349	282	55.7	6.4	294	1500	12-32

FIXED BALL VALVE Q47F/Y/H型固定式球阀

执行标准 Implementation of standards

- 1、设计和制造 Design and manufacture : GB/T 12237-1989; API 608
- 2、检验和试验 Inspection and test : GB/T 13927-1992; API 598
- 3、法兰连接 Flange connection : JB/T 79.1 ~ 2-1994; ASME/ANSI B 16.5
- 4、结构长度 Structure length : GB/T 12221-1989; ASME/ANSI B 16.10

性能规范 Performance Specifications

试验压力 Test pressure

单位 Unit : MPa

公称压力 PN	常温最大工作压力 Max temperature Working pressure	壳体试验压力 Case Test pressure	气密封试验压力 Gas Seals test pressure	高压密封试验压力 High-pressure sealing Test pressure
1.6	1.6	2.4	0.6	1.76
2.5	2.5	3.8	0.6	2.75
4.0	4.0	6.0	0.6	4.4
6.4	6.4	9.6	0.6	7.1
Class 150	2.0	3.0	0.6	2.2
Class 300	5.0	7.5	0.6	5.5

使用范围 Terms of Use

壳体材料 Shell material	阀座材料 Seat material	适用温度 Applicable temperature	适用介质 Applicable media
碳钢C型 Carbon Steel C	聚四氟乙烯PTFE	≤150°C	水、蒸汽、油品等 Water, steam, oil, etc.
	对位聚苯 Counterpoint polystyrene	≤250°C	
铬镍钛钢P型 Chrome P-type nickel-titanium steel	聚四氟乙烯PTFE	≤150°C	硝酸类 Nitric acid
	对位聚苯 Counterpoint polystyrene	≤200°C	
铬镍钼钛钢R型 Chrome-nickel steel R-Mo Ti	聚四氟乙烯PTFE	≤150°C	醋酸类 Acetic acid
	对位聚苯 Counterpoint polystyrene	≤200°C	

主要零件材料 Main components material

阀体、阀盖 Body, bonnet	GB	WCB	ZG0Cr18Ni9	ZG0Cr17Ni12Mo2
	ASTM	WCB	CF8	CF8M
球体 Ball body	GB	2Cr13	0Cr18Ni9	0Cr17Ni12Mo2
	ASTM	420	304	316
阀杆 Stem	GB	2Cr13	0Cr18Ni9	1Cr18Ni12Mo2Ti
	ASTM	420	304	316
阀座 Seat	GB	2Cr13/PTFE	0Cr18Ni9/PTFE	0Cr17Ni12Mo2/PTFE
	ASTM	420/PTFE	304/PTFE	316/PTFE
填料 Packing	GB	PTFE	PTFE	PTFE
	ASTM	PTFE	PTFE	PTFE
螺栓 Bolt	GB	35	0Cr18Ni9	0Cr18N89
	ASTM	A193 B7	A320-B8	A320-B8
螺母 Nut	GB	45	0Cr18Ni9	0Cr18Ni9
	ASTM	A194 2H	A190-8	A194-8

Q47F/Y/H FIXED METAL SEAL BALL VALVE Q47F/Y/H型固定金属密封球阀

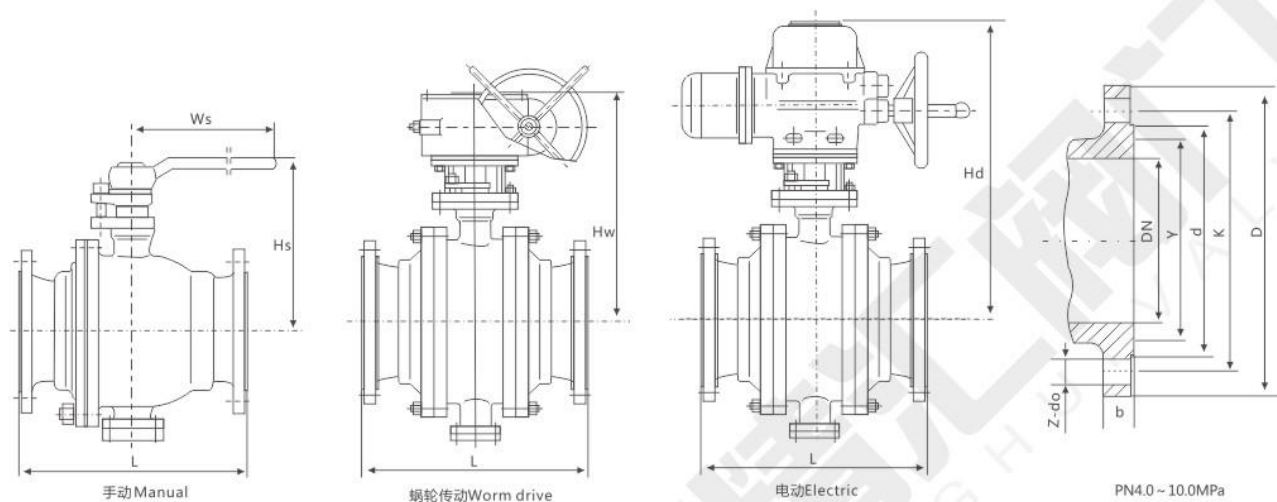


主要连接尺寸 Main connection dimensions

JB/T79.1

公称压力 PN	公称口径 DN	尺寸Size (mm)										
		L	D	K	d	Y	b	Z-do	Ws	Hs	Hw	Hd
1.6MPa	150	394	280	240	210	-	22	8-23	1000	305	470	540
	200	457	335	295	265	-	24	12-23	-	-	520	580
	250	533	405	355	320	-	26	12-25	-	-	610	640
	300	610	460	410	375	-	28	12-25	-	-	650	690
	350	686	520	470	435	-	32	16-25	-	-	740	785
	400	762	580	525	485	-	36	16-30	-	-	795	830
	450	864	640	585	545	-	38	20-30	-	-	860	910
	500	914	705	650	608	-	42	20-34	-	-	945	990
	600	1067	840	770	718	-	46	20-41	-	-	1040	1090
	700	1245	910	840	788	-	48	24-41	-	-	1150	1210
	800	1372	1020	950	898	-	50	24-41	-	-	1280	1340
	900	1524	1120	1050	998	-	52	28-41	-	-	1430	1510
	1000	1753	1255	1170	1110	-	54	28-48	-	-	1580	1640
1200	2032	1485	1390	1325	-	56	32-54	-	-	1810	1910	
1400	2300	1685	1590	1525	-	60	36-54	-	-	2010	2115	
2.5MPa	150	403	300	250	218	-	30	8-25	1000	305	470	555
	200	502	360	310	278	-	34	12-25	-	-	540	595
	250	568	425	370	332	-	36	12-30	-	-	630	655
	300	648	485	430	390	-	40	16-30	-	-	650	705
	350	762	550	490	448	-	44	16-34	-	-	740	795
	400	838	610	550	505	-	48	16-34	-	-	795	830
	450	914	660	600	555	-	50	20-34	-	-	860	910
	500	991	730	660	610	-	52	20-41	-	-	945	990
	600	1143	840	770	718	-	56	20-41	-	-	1040	1090
	700	1346	955	875	815	-	60	24-48	-	-	1150	1210
	800	1524	1070	990	930	-	64	24-48	-	-	1305	1340
	900	1727	1180	1090	1025	-	66	28-54	-	-	1505	1600
	1000	1880	1305	1210	1140	-	68	28-58	-	-	1615	1705
1200	2184	1525	1420	1350	-	72	32-58	-	-	1925	2035	
1400	2300	1750	1640	1560	-	78	36-65	-	-	2110	2185	

Q47F/Y/H FIXED METAL SEAL BALL VALVE Q47F/Y/H型固定金属密封球阀

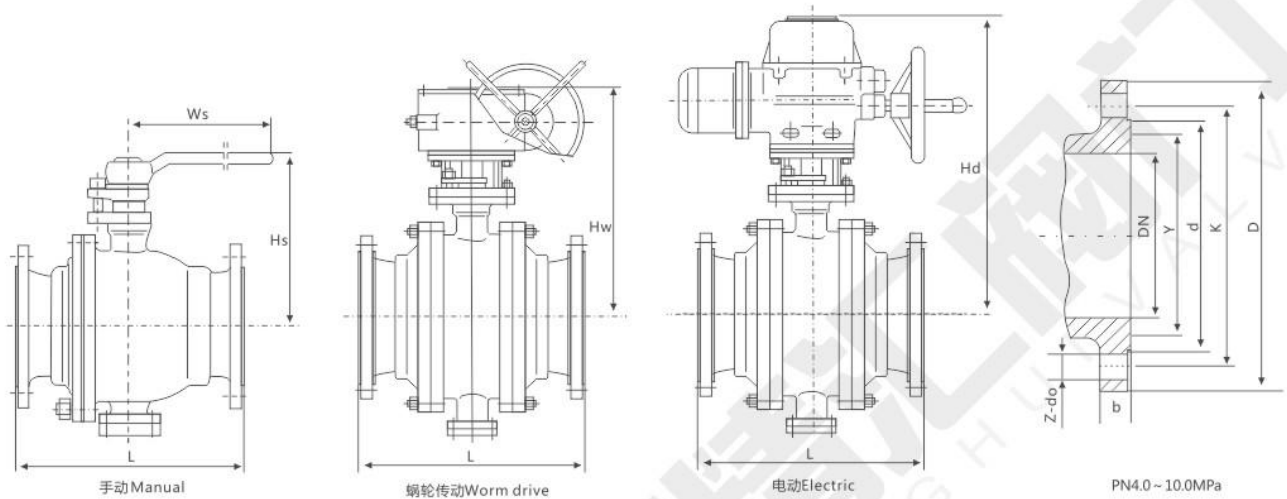


主要连接尺寸 Main connection dimensions

JB/T 79.2-1994

公称压力 PN(MPa)	公称通径 DN(mm)	尺寸Size (mm)										
		L	D	K	d	Y	b	Z-do	Ws	Hs	Hw	Hd
4.0MPa	150	403	300	250	218	204	30	8-25	1200	360	485	590
	200	502	375	320	282	260	38	12-30	-	-	580	640
	250	568	445	385	345	313	42	12-34	-	-	665	680
	300	648	510	450	408	364	46	16-34	-	-	760	810
	350	762	570	510	465	422	52	16-34	-	-	820	890
	400	838	655	585	535	474	58	16-41	-	-	860	940
	450	914	680	610	560	524	60	20-41	-	-	930	1010
	500	991	755	670	612	576	62	20-48	-	-	980	1130
	600	1143	890	795	730	678	62	20-54	-	-	1040	1090
	700	1346	995	900	835	768	68	24-54	-	-	1150	1210
	800	1524	1135	1030	960	876	76	24-58	-	-	1305	1340
	900	1727	1270	1168	1022	-	105	32-54	-	-	1505	1600
	1000	1880	1238	1156	1086	-	114	32-44	-	-	1615	1705
	1200	2184	1467	1372	1302	-	133	32-51	-	-	1925	2035
1400	-	1708	1600	1518	-	154	28-60	-	-	2110	2185	
6.4MPa	150	495	340	280	240	204	38	8-34	1200	360	485	590
	200	597	405	345	300	260	44	12-34	-	-	580	650
	250	673	470	400	352	313	48	12-41	-	-	665	720
	300	762	530	460	412	364	54	16-41	-	-	760	840
	350	826	595	525	475	422	60	16-41	-	-	820	930
	400	902	670	585	525	474	66	16-48	-	-	870	990
	500	1054	800	705	640	576	70	20-54	-	-	995	1150
	600	1232	930	820	750	678	76	20-58	-	-	1100	1180
	700	1397	1035	940	800	-	95	28-51	-	-	1180	1230
	800	1651	1149	1054	914	-	108	28-54	-	-	1345	1385
	900	1880	1270	1168	1022	-	114	32-54	-	-	1550	1655
	1000	1981	1270	1175	1092	-	133	32-51	-	-	1675	1745
	1200	2311	1511	1403	1308	-	152	28-60	-	-	1945	2075

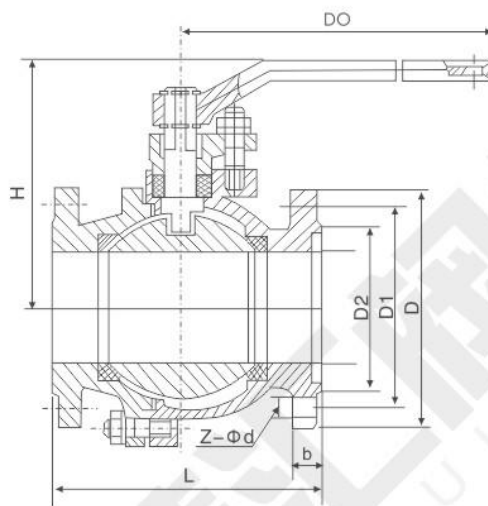
Q47F/Y/H FIXED METAL SEAL BALL VALVE Q47F/Y/H型固定金属密封球阀



主要连接尺寸 Main connection dimensions

公称压力 PN(MPa)	公称口径 DN(mm)	尺寸Size (mm)										
		L	D	K	d	Y	b	Z-do	Ws	Hs	Hw	Hd
Class 150	2"	178	152	120.7	92	-	14.3	4-19	260	155	-	-
	2 1/2"	190	178	139.7	105	-	15.9	4-19	350	185	-	-
	3"	203	190	152.4	127	-	17.5	4-19	500	205	-	-
	4"	229	229	190.5	157	-	22.3	8-19	650	255	390	500
	5"	356	254	215.9	186	-	22.3	8-22.5	800	285	410	520
	6"	394	279	241.3	216	-	23.9	8-22.5	1000	305	470	540
	8"	457	343	298.5	270	-	27.0	8-22.5	-	-	520	580
	10"	533	406	362	324	-	28.6	12-25.5	-	-	610	640
	12"	610	483	431.8	381	-	30.2	12-25.5	-	-	650	690
	14"	686	533	476.3	413	-	33.4	12-28.5	-	-	740	785
	16"	762	597	539.8	470	-	35.0	16-28.5	-	-	795	830
	18"	864	635	577.9	533	-	38.1	16-32	-	-	860	910
	20"	914	699	635.0	584	-	41.3	20-32	-	-	945	990
24"	1067	813	749.3	692	-	46.1	20-35	-	-	1040	1090	
28"	1245	927	864	800	-	71	28-35	-	-	1150	1210	
32"	1372	1060	978	914	-	81	28-41	-	-	1280	1340	
Class 300	2"	216	165	127	92	-	20.7	8-19	260	155	-	-
	2 1/2"	241	190	149.2	105	-	23.9	8-22.5	350	185	-	-
	3"	282	210	168.3	127	-	27.0	8-22.5	500	205	-	-
	4"	305	254	200	157	-	30.2	8-22.5	800	270	410	530
	5"	381	279	235	186	-	33.4	8-22.5	1000	305	470	560
	6"	403	318	269.9	216	-	35.0	12-22.5	1200	340	485	590
	8"	502	381	330.2	270	-	39.7	12-25.5	-	-	5809	640
	10"	568	445	387.4	324	-	46.1	16-28.5	-	-	665	680
	12"	648	521	450.8	381	-	49.3	16-32	-	-	760	810
	14"	762	584	514.4	413	-	52.4	20-32	-	-	820	890
	16"	838	648	571.5	470	-	55.6	20-35	-	-	860	940
	18"	914	711	628.5	533	-	58.8	24-35	-	-	930	1010
	20"	991	775	685.8	584	-	62.0	24-35	-	-	980	1130
Class 600	2"	292	165	127	108	-	25.4	8-19	350	175	-	-
	2 1/2"	330	190	149.2	127	-	28.6	8-22.5	500	200	-	-
	3"	356	210	168.3	146	-	31.8	8-22.5	650	235	-	-
	4"	432	273	215.9	175	-	38.1	8-25.5	1000	275	395	550
	5"	508	330	266.7	210	-	44.5	8-28.5	1200	325	430	580
	6"	559	356	292.1	241	-	47.7	12-28.5	-	-	495	620
	8"	660	419	349.2	302	-	55.6	12-32	-	-	595	680
	10"	787	508	431.8	356	-	63.5	16-35	-	-	680	740
12"	838	559	489.0	413	-	66.7	20-35	-	-	790	850	

JIS BALL VALVE 日标球阀



执行标准 Execution standard

设计标准 Design standard	结构长度 Face to Face	法兰连接尺寸 Flange End	压力-温度 Pressure-Temp.	试验与检验 Test & Check
BS 5351	JIS B2002	JIS B2212 B2214	JIS B2201	JIS B2003

规格主要尺寸 Main size

DN		10K							
mm	in	L	D	D1	D2	B	Z-Φd	H	D0
15	½"	108	95	70	52	12	4-Φ15	59	130
20	¾"	117	100	75	58	14	4-Φ15	63	130
25	1"	127	125	90	70	14	4-Φ19	75	160
32	1¼"	140	135	100	80	16	4-Φ19	75	160
40	1½"	165	140	105	85	16	4-Φ19	95	230
50	2"	178	155	120	100	16	4-Φ19	107	230
65	2½"	190	175	140	120	18	4-Φ19	142	400
80	3"	203	185	150	130	18	8-Φ19	152	400
100	4"	229	210	175	155	18	8-Φ19	178	700
125	5"	356	250	210	185	20	8-Φ23	252	1100
150	6"	394	280	240	215	22	8-Φ23	272	1100
200	8"	457	330	290	265	22	12-Φ23	342	1500
		20K							
15	½"	140	95	70	52	14	4-Φ15	59	130
20	¾"	152	100	75	58	16	4-Φ15	63	130
25	1"	165	125	90	70	16	4-Φ19	75	160
32	1¼"	178	135	100	80	18	4-Φ19	75	160
40	1½"	190.5	140	105	85	18	4-Φ19	95	230
50	2"	216	155	120	100	18	8-Φ19	107	230
65	2½"	241	175	140	120	20	8-Φ19	142	400
80	3"	283	200	160	135	22	8-Φ22	152	400
100	4"	305	225	185	160	24	8-Φ22	178	700
125	5"	381	270	225	195	26	8-Φ22	252	1100
150	6"	403	305	260	230	28	12-Φ22	272	1100
200	8"	502	350	305	275	30	12-Φ25	342	1500

FORGED STEEL BALL VALVE

锻钢球阀

结构特点及用途

- 1、抗硫化应力裂化：阀门接触介质的材料都是按美国腐蚀工程师协会 NACE0 1-75 的标准进行选择，且按标准进行表面镀镍，能满足硫化环境工况的要求。
- 2、用聚合物或金属作密封材料，在高温、高压工况具有优良的密封性能。
- 3、设置填料箱，防止阀门内腔压力异常升高而使阀杆飞出，增置倒密封结构，能确保填料可靠密封。
- 4、广泛适用于化工、炼油、油气、天然气、钢铁等介质管路。

Unique feature and use

- 1、Anti-curing stress cracking: The valve contact medium's material is corrodes Engineer according to the US the association NACE0 1-75 standards to carry on the choice, and carries on the superficial nickel plating according to the standard, can satisfy the curing environment operating mode the request.
- 2、Make the packing material with the polymer or the metal, in the high temperature, the high-pressured operating mode has the fine sealing property.
- 3、The establishment stuffing box, prevents the valve cavity pressure anomalously to elevate causes the valve lever to depart, increases ets seals the structure but actually, can guarantee that the padding seals reliably.
- 4、Widely is suitable for medium pipelines and so on chemical industry, refinery, oil gas, natural gas, steel and iron.

执行标准 Implementation of standards

- 1、设计和制造 Design and manufacture: GB/T 12237-1989; API 608
- 2、检验和试验 Inspection and test: GB/T 13927-1992; API 598
- 3、法兰连接 Flange connection: JB/T 79.1-4-1994; ASME/ANSI B 16.5
- 4、结构长度 Structure length: GB/T 12221-1989; GB/T 15188.1-1994; ASME/ANSI B 16.10

性能规范 Performance Specifications

试验压力 Test pressure

单位 Unit : MPa

使用范围 Terms of use

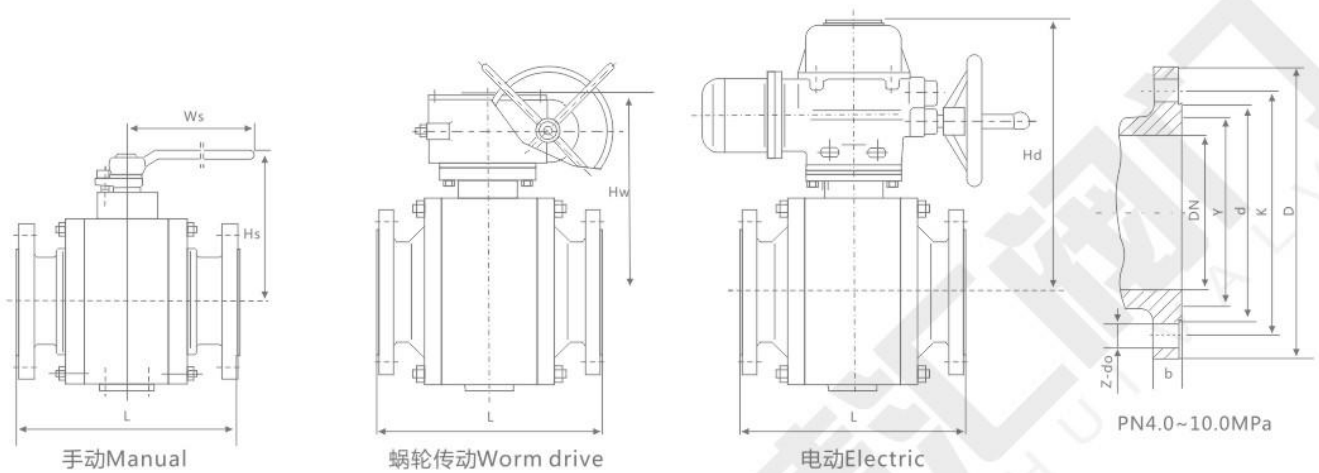
公称压力 PN	常温最大工作压力 Max temperature Working pressure	壳体试验压力 Case Test pressure	气密封试验压力 Gas Seals test pressure	高压密封试验压力 High-pressure sealing test pressure
1.6	1.6	2.4	0.6	1.76
2.5	2.5	3.8	0.6	2.75
4.0	4.0	6.0	0.6	4.4
6.4	6.4	9.6	0.6	7.1
10.0	10.0	15.0	0.6	11.0
16.0	16.0	24.0	0.6	17.6
20.0	20.0	30.0	0.6	22.0
25.0	25.0	37.5	0.6	27.5
Class 150	2.0	3.0	0.6	2.2
Class 300	5.0	7.5	0.6	5.5
Class 600	10.0	15.0	0.6	11.0
Class 900	15.0	22.5	0.6	16.5
Class 1500	25.0	37.5	0.6	27.5

壳体材料 Shell material	阀座材料 Seat Material	适用温度 Applicable medium	适用介质 Applicable temperature
碳钢 C 型 Carbon Steel C	PTFE PTFE	≤150°C	水、蒸汽、油品等 Water, steam, oil, etc.
	不锈钢 Stainless steel	≤425°C	
铬镍钛钢 P 型 Chrome P-type nickel-titanium steel	PTFE PTFE	≤150°C	硝酸类 Nitric acid
	不锈钢 Stainless steel	≤200°C	
铬镍钼钛钢 R 型 Chrome-nickel steel R-Mo Ti	PTFE PTFE	≤150°C	醋酸类 Acetic acid
	不锈钢 Stainless steel	≤200°C	
铬钼钒钢 I 型 Cr-Mo steel I-V	硬质合金 Hard alloy	≤550°C	蒸汽、冶炼、能源等 Steam, metallurgical, energy, etc.

主要零件材料 Main components material

阀体、阀盖、填料箱 Body, bonnet Packing Box	GB	25	1Cr18Ni9Ti	0Cr18Ni12Mo2Ti	15Cr1Mo1V
	ASTM	1025	304	316	F22a
球体 Ball	GB	2Cr13/表面特殊处理 Special surface treatment	1Cr18Ni9Ti/表面特殊处理 Special surface treatment	0Cr18Ni12Mo2Ti/表面特殊处理 Special surface treatment	25Cr2Mo1V/表面特殊处理 Special surface treatment
	ASTM	420	304+HF	316+HF	F22a+HF
阀杆、固定轴 Stern, fixed axis	GB	2Cr13	0Cr18Ni9	0Cr17Ni12Mo2	25Cr2Mo1V
	ASTM	420	304	316	F22a
阀座 Seat	GB	PTFE 2Cr13	PTFE 0Cr18Ni9	PTFE 0Cr17Ni12Mo2	25Cr2Mo1V
	ASTM	PTFE 420	PTFE 304	PTFE 316	F22a
填料 Packing	GB	PTFE 柔性石墨 Flexible Graphite	PTFE 柔性石墨 Flexible Graphite	PTFE 柔性石墨 Flexible Graphite	柔性石墨 Flexible Graphite
	ASTM	PTFE 柔性石墨 Flexible Graphite	PTFE 柔性石墨 Flexible Graphite	PTFE 柔性石墨 Flexible Graphite	柔性石墨 Flexible Graphite
螺栓 Bolt	GB	35	0Cr18Ni9	0Cr18Ni9	15Cr1Mo1V
	ASTM	A193 B7	A320-B8	A320-B8	A193 B16
螺母 Nut	GB	45	1Cr13	1Cr13	20CrMo
	ASTM	A194 2H	A194-8	A194-8	A194-4

FORGED STEEL BALL VALVE 锻钢球阀

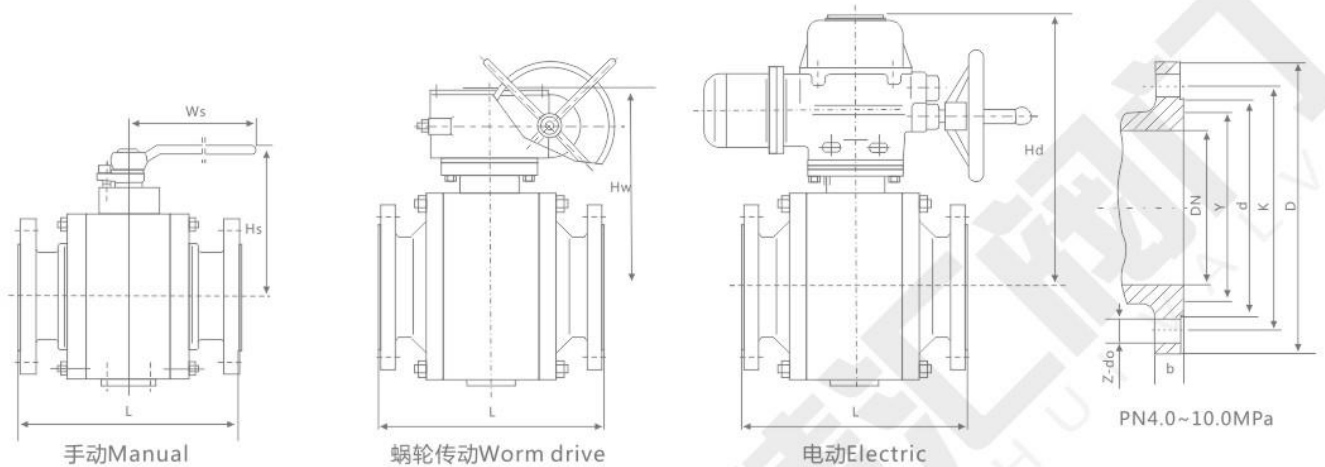


主要连接尺寸 Main connection dimensions

JB/T 79.1-1994

公称压力 PN	公称直径 DN	尺寸Size (mm)										
		L	D	K	d	Y	b	Z-do	Ws	Hs	Hw	Hd
1.6MPa	40	165	145	110	85	-	16	4-18	230	135	-	-
	50	203	160	125	100	-	16	4-18	260	150	-	-
	65	222	180	145	120	-	18	4-18	350	180	-	-
	80	241	195	160	135	-	20	8-18	500	195	-	-
	100	305	215	180	155	-	20	8-18	650	245	310	420
	125	356	245	210	185	-	22	8-18	800	270	330	440
	150	394	280	240	210	-	24	8-23	1000	295	390	470
	200	457	335	295	265	-	26	12-23	-	-	440	510
	250	533	405	355	320	-	30	12-25	-	-	490	560
	300	610	460	410	375	-	30	12-25	-	-	530	600
	350	686	520	470	435	-	34	16-25	-	-	620	670
	400	762	580	525	485	-	36	16-30	-	-	675	720
450	864	640	585	545	-	40	20-30	-	-	740	790	
500	914	705	650	608	-	44	20-34	-	-	825	870	
600	1067	840	770	718	-	48	20-41	-	-	920	960	
2.5MPa	40	190	145	110	85	-	18	4-18	230	135	-	-
	50	216	160	125	100	-	20	4-18	260	150	-	-
	65	241	180	145	120	-	22	8-18	350	180	-	-
	80	283	195	160	135	-	22	8-18	500	195	-	-
	100	305	230	190	160	-	24	8-23	650	245	310	420
	125	381	270	220	188	-	28	8-25	800	270	330	440
	150	403	300	250	218	-	30	8-25	1000	295	390	470
	200	502	360	310	278	-	34	12-25	-	-	440	510
	250	568	425	370	332	-	36	12-30	-	-	490	560
	300	648	485	430	390	-	40	16-30	-	-	530	600
	350	762	550	490	448	-	44	16-034	-	-	620	670
	400	838	610	550	505	-	48	16-34	-	-	675	720
450	914	660	600	555	-	50	20-34	-	-	740	790	
500	991	730	660	610	-	52	20-41	-	-	825	870	
600	1143	840	770	718	-	56	20-41	-	-	920	960	

FORGED STEEL BALL VALVE 锻钢球阀

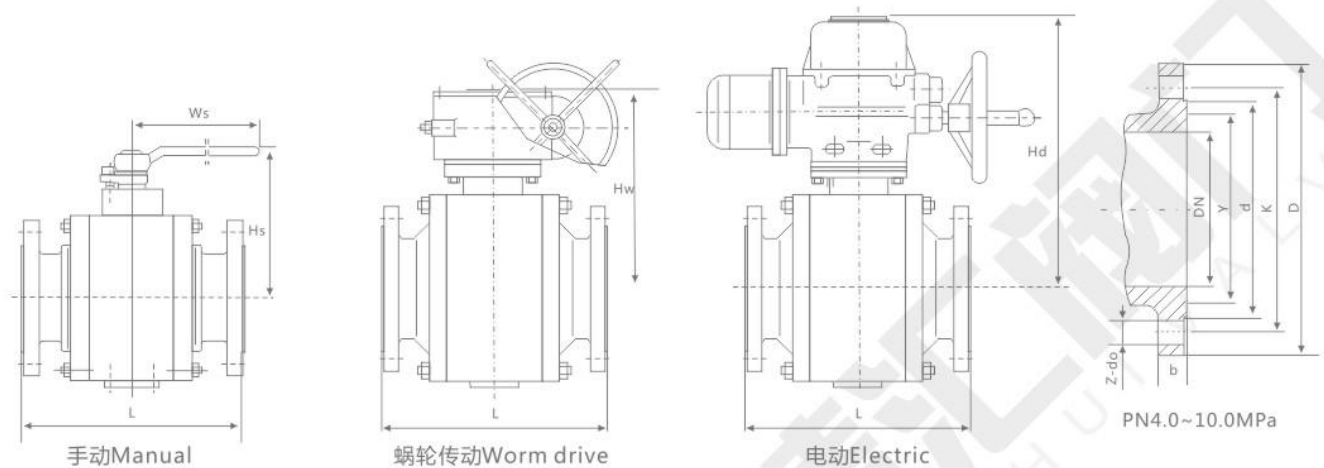


主要连接尺寸 Main connection dimensions

JB/T 79.2-1994

公称压力 PN	公称直径 DN	尺寸Size (mm)										
		L	D	K	d	Y	b	Z-do	Ws	Hs	Hw	Hd
4.0MPa	40	190	145	110	85	76	18	4-18	230	135	-	-
	50	216	160	125	100	88	20	4-18	260	150	-	-
	65	241	180	145	120	110	22	8-18	350	180	-	-
	80	283	195	160	135	121	22	8-18	500	195	-	-
	100	305	230	190	160	150	24	8-23	800	250	320	430
	125	381	270	220	188	176	28	8-25	1000	280	340	450
	150	403	300	250	218	204	30	8-25	1200	300	405	480
	200	502	375	320	282	260	38	12-30	-	-	450	530
	250	568	445	385	345	313	42	12-34	-	-	505	590
	300	648	510	450	408	364	46	16-34	-	-	545	620
	350	762	570	510	465	422	52	16-34	-	-	640	690
	400	838	655	585	535	474	58	16-41	-	-	690	740
	450	914	680	610	560	524	60	20-41	-	-	760	810
500	991	755	670	612	576	62	20-48	-	-	850	900	
6.3MPa	40	241	165	125	95	76	24	4-23	260	140	-	-
	50	292	175	135	105	88	26	4-23	260	160	-	-
	65	330	200	160	130	110	28	8-23	350	180	-	-
	80	356	210	170	140	121	30	8-23	500	220	-	-
	100	406	250	200	168	150	32	8-25	800	250	320	430
	125	400	295	240	202	176	36	8-30	1000	295	340	450
	150	495	340	280	240	204	38	8-34	1200	340	405	480
	200	597	405	345	300	260	44	12-34	-	-	450	530
	250	673	470	400	352	313	48	12-41	-	-	505	590
	300	762	530	460	412	364	54	16-41	-	-	545	620
	350	826	595	525	475	422	60	16-41	-	-	640	690
	400	902	670	585	525	474	66	16-48	-	-	690	740
	500	1054	800	705	640	576	70	20-54	-	-	760	810

FORGED STEEL BALL VALVE 锻钢球阀



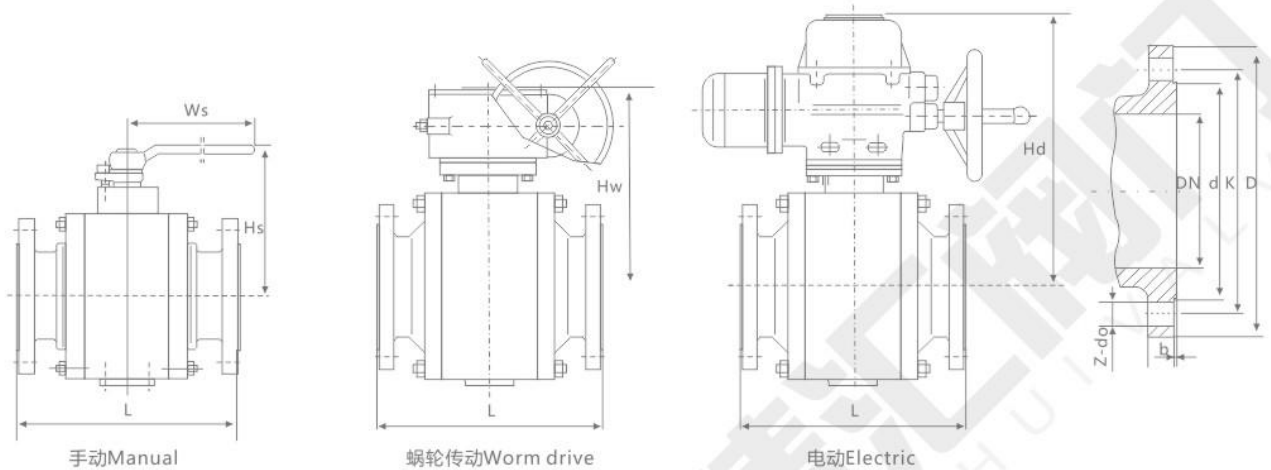
主要连接尺寸 Main connection dimensions

JB/T 79.2-1994

公称压力 PN	公称直径 DN	尺寸Size (mm)										
		L	D	K	d	Y	b	Z-do	Ws	Hs	Hw	Hd
10.0MPa	40	241	165	125	95	76	26	4-23	260	160	-	-
	50	292	195	145	112	88	28	4-25	350	180	-	-
	65	330	220	170	138	110	32	8-25	500	200	-	-
	80	356	230	180	148	121	34	8-25	800	240	310	410
	100	432	265	210	172	150	38	8-30	1000	270	340	450
	125	508	310	250	210	176	42	8-34	1200	320	360	505
	150	559	350	290	250	204	46	12-34	-	-	425	555
	200	660	430	360	312	260	54	12-41	-	-	470	625
	250	787	500	430	382	313	60	12-41	-	-	525	645
	300	838	585	500	442	364	70	16-48	-	-	565	715
16.0MPa	40	305	175	125	92	76	32	4-27	350	160	-	-
	50	368	215	165	132	88	36	8-25	500	180	-	-
	65	419	245	190	152	110	44	8-30	800	200	-	-
	80	381	260	205	168	121	46	8-30	1000	240	310	410
	100	457	300	240	200	150	48	8-34	1200	270	340	450
	125	559	355	285	238	176	60	8-41	-	-	360	505
	150	610	390	318	270	204	66	12-41	-	-	425	560
	200	737	480	400	345	260	78	12-48	-	-	530	630
	250	838	580	485	425	313	88	12-54	-	-	570	720
	300	965	665	570	510	364	100	16-54	-	-	680	780
20.0MPa	40	305	170	124	90	56	34	4-27	500	180	-	-
	50	368	210	160	128	70	40	8-25	650	200	-	-
	65	419	260	203	165	97	48	8-30	800	220	-	-
	80	470	290	230	190	116	54	8-34	1000	260	320	420
	100	546	360	292	245	138	66	8-41	1200	290	360	470
	125	673	385	318	270	170	76	12-41	-	-	380	530
	150	705	440	360	305	190	82	12-48	-	-	440	580
	200	832	535	440	380	245	92	12-54	-	-	550	650
25.0MPa	40	305	180	124	92	68.28	32	4-29.5	500	180	-	-
	50	368	215	165	124	95.25	38.5	8-26	650	200	-	-
	65	419	245	190.5	137	107.95	41.5	8-29.5	800	220	-	-
	80	470	265	203	168	136.52	48	8-32.5	1000	260	320	420
	100	546	310	241.5	194	161.92	54	8-35.5	1200	290	360	470
	125	673	375	292	229	193.68	73.5	8-42	-	-	380	530
	150	705	395	317.5	248	211.12	83	12-39	-	-	440	580
	200	832	485	393.5	318	269.88	92	12-45	-	-	550	650

API FORGED STEEL BALL VALVE

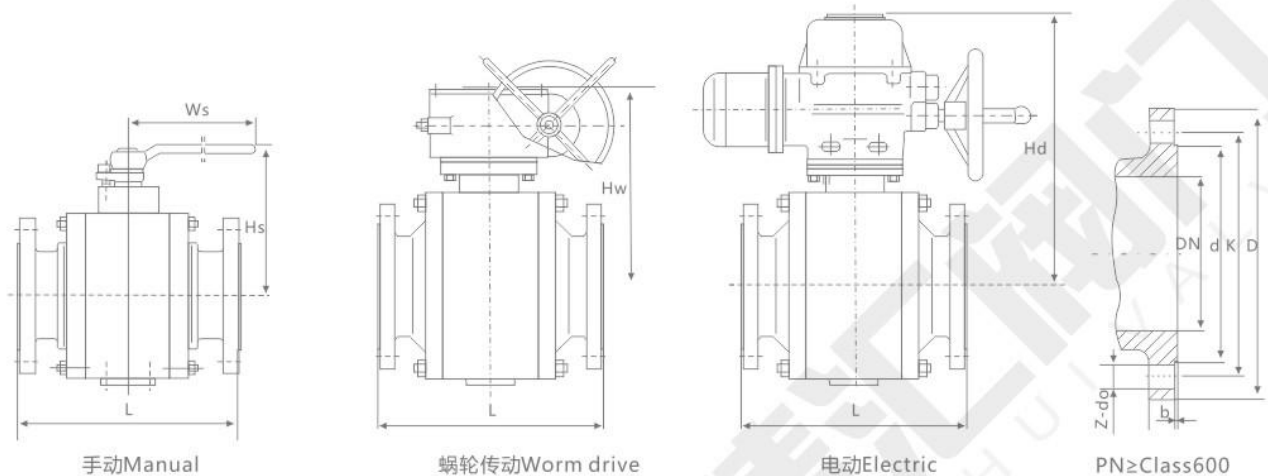
美标锻钢球阀



主要连接尺寸 Main connection dimensions

公称压力 PN	公称直径 DN	尺寸 Size (mm)										
		L	D	K	d	Y	b	Z-do	Ws	Hs	Hw	Hd
Class 150	11/2"	165	125	98.4	73	-	12.7	4-16	230	135	-	-
	2"	178	150	120.7	92	-	14.3	4-19	260	150	-	-
	2 1/2"	190	180	139.7	105	-	15.9	4-19	350	180	-	-
	3"	203	190	152.4	127	-	17.5	4-19	500	195	-	-
	4"	229	230	190.5	157	-	22.3	8-19	650	245	310	420
	5"	356	255	215.9	186	-	22.3	8-22.5	800	270	330	440
	6"	394	280	241.3	216	-	23.9	8-22.5	1000	295	390	470
	8"	457	345	298.5	270	-	27.0	8-22.5	-	-	440	510
	10"	533	405	362	324	-	28.6	12-25.5	-	-	490	560
	12"	610	485	431.8	381	-	30.2	12-25.5	-	-	530	600
	14"	686	535	476.3	413	-	33.4	12-28.5	-	-	620	670
	16"	762	595	539.8	470	-	35.0	16-28.5	-	-	675	720
	18"	864	635	577.9	533	-	38.1	16-32	-	-	740	790
	20"	914	700	635	584	-	41.3	20-32	-	-	825	870
24"	1067	815	749.3	692	-	46.3	20-35	-	-	920	960	
Class 300	1 1/2"	190	155	114.3	73	-	19.1	4-22.5	230	135	-	-
	2"	216	165	127	92	-	20.7	8-19	260	150	-	-
	2 1/2"	241	190	149.2	105	-	23.9	8-22.5	350	180	-	-
	3"	282	210	168.3	127	-	27.0	8-22.5	500	195	-	-
	4"	305	255	200	157	-	30.2	8-22.5	800	250	320	430
	5"	356	280	235	186	-	33.4	8-22.5	1000	280	340	450
	6"	403	320	269.9	216	-	35.0	12-22.5	1200	300	405	480
	8"	502	380	330.2	270	-	39.7	12-25.5	-	-	450	530
	10"	568	445	387.4	324	-	46.1	16-28.5	-	-	505	590
	12"	648	520	450.8	381	-	49.3	16-32	-	-	545	620
	14"	762	585	514.4	413	-	52.4	20-32	-	-	640	690
	16"	838	650	571.5	470	-	55.6	20-35	-	-	690	740
	18"	914	710	628.6	533	-	58.8	24-35	-	-	760	810
	20"	991	775	685.8	584	-	62.0	24-35	-	-	850	900

API FORGED STEEL BALL VALVE 美标锻钢球阀

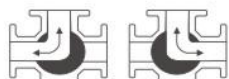
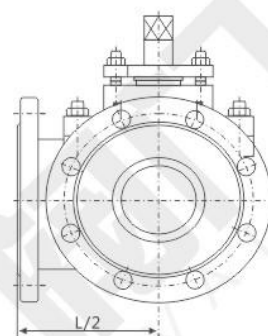
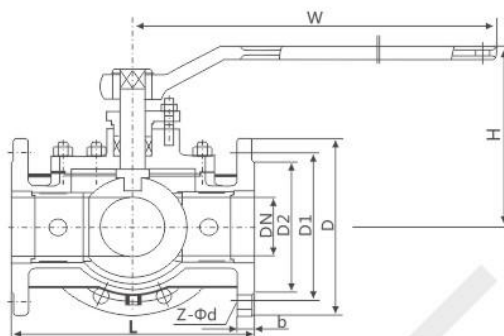


主要连接尺寸 Main connection dimensions

公称压力 PN	公称通径 DN	尺寸Size (mm)										
		L	D	K	d	Y	b	Z-do	Ws	Hs	Hw	Hd
Class 600	1 1/2"	241	155	114.3	90	68.263	22.3	4-22.5	260	160	-	-
	2"	292	165	127	108	82.550	25.4	8-19	350	180	-	-
	2 1/2"	330	190	149.2	127	101.600	28.6	8-22.5	500	200	-	-
	3"	356	210	168.3	146	123.825	31.8	8-22.5	800	240	310	410
	4"	432	275	215.9	175	149.225	38.1	8-25.5	1000	270	340	450
	5"	508	330	266.7	210	180.975	44.5	8-28.5	1200	320	360	505
	6"	559	355	292.1	241	211.138	47.7	12-28.5	-	-	425	555
	8"	660	420	349.2	302	269.876	55.6	12-32	-	-	470	625
	10"	787	510	431.8	356	323.851	63.5	16-35	-	-	525	645
	12"	838	560	489.0	413	381.001	66.7	20-35	-	-	565	715
	14"	889	605	527.0	457	419.101	69.9	20-38	-	-	670	770
	16"	991	685	603.2	508	469.901	76.2	20-41	-	-	720	840
18"	1092	745	654.0	575	533.401	82.6	20-44.5	-	-	780	920	
20"	1194	815	723.9	635	584.201	88.9	24-44.5	-	-	850	995	
Class 900	1 1/2"	305	180	123.8	73	-	31.8	4-28.5	350	160	-	-
	2"	368	215	165.1	92	-	38.1	8-25.5	500	180	-	-
	2 1/2"	419	245	190.5	105	-	41.3	8-28.5	800	200	-	-
	3"	381	240	190.5	156	123.82	38.1	8-25.5	1000	240	310	410
	4"	457	290	235.0	181	149.22	44.5	8-32	1200	270	340	450
	5"	559	350	279.4	216	180.98	50.8	8-35	-	-	360	505
	6"	610	380	317.5	241	211.12	55.6	12-32	-	-	425	560
	8"	737	470	393.7	308	269.88	63.5	12-38	-	-	530	630
	10"	838	545	469.9	362	323.85	69.9	16-38	-	-	570	720
	12"	965	610	533.4	419	381.00	79.4	20-38	-	-	680	780
14"	1029	640	558.8	467	419.10	85.8	20-41	-	-	800	905	
16"	1130	705	616.0	524	469.90	88.9	20-44.5	-	-	910	1010	
Class 1500	1 1/2"	305	180	123.8	92	68.28	31.8	4-28.5	500	180	-	-
	2"	368	215	165.1	124	95.25	38.1	8-25.5	650	200	-	-
	2 1/2"	419	245	190.5	137	107.95	41.3	8-28.5	800	220	-	-
	3"	470	265	203.2	168	136.52	47.7	8-32	1000	260	320	420
	4"	546	310	241.3	194	161.92	54.0	8-35	1200	290	360	470
	5"	673	375	292.1	229	193.68	73.1	8-41	-	-	380	530
	6"	705	395	317.5	248	211.12	82.6	12-38	-	-	440	580
	8"	832	485	393.7	318	269.88	92.1	12-45	-	-	550	650

STAINLESS STEEL FLANGE THREE-WAY BALL VALVE 不锈钢法兰三通球阀

Q44/644/944/45/645/945F-16C/P



"L"型 L-type



"T"型 T-type

PN16 不锈钢法兰三通球阀

主要外形和连接尺寸 Main external and connection dimension

JB/T79.1

公称通径 DN	主要外形尺寸和连接尺寸(mm) Main external and connection dimensions							
	L	D	D1	D2	b	Z-φd	H	W
15	150	95	65	45	14	4-φ14	95	140
20	160	105	75	55	14	4-φ14	105	160
25	180	115	85	65	14	4-φ14	113	180
32	200	135	100	78	16	4-φ18	135	250
40	220	145	110	85	16	4-φ18	142	300
50	240	160	125	100	16	4-φ18	165	350
65	260	180	145	120	18	4-φ18	175	350
80	280	195	160	135	20	8-φ18	190	400
100	320	215	180	155	20	8-φ18	225	500
125	380	245	210	185	22	8-φ18	245	600
150	440	280	240	210	24	8-φ23	265	800
200	550	335	295	265	26	12-φ23	305	800
250	670	405	355	320	30	12-φ25	370	1300

STAINLESS STEEL FLANGE THREE-WAY BALL VALVE 不锈钢法兰三通球阀

PN40 不锈钢法兰三通球阀

JB/T79.1

公称通径 DN	主要外形尺寸和连接尺寸(mm) Main external and connection dimensions							
	L	D	D1	D2	D6	b	Z-Φd	H
15	150	95	65	45	16	4-Φ14	95	100
20	160	105	75	55	16	4-Φ14	105	160
25	180	115	85	65	16	4-Φ14	113	160
32	200	135	100	78	18	4-Φ18	135	250
40	220	145	110	85	18	4-Φ18	142	250
50	240	160	125	100	20	4-Φ18	154	350
65	260	180	145	120	22	8-Φ18	175	350
80	280	195	160	135	22	8-Φ18	190	450
100	320	230	190	160	24	8-Φ23	225	450
125	380	270	220	188	28	8-Φ25	245	600
150	440	300	250	218	30	8-Φ25	265	800
200	550	360	310	278	34	12-Φ25	305	1200
250	670	425	370	332	36	12-Φ30	370	1400

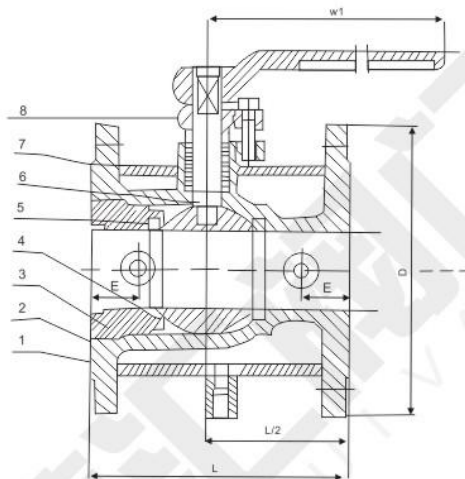
PN40 不锈钢法兰三通球阀

JB/T79.2

公称通径 DN	主要外形尺寸和连接尺寸(mm) Main external and connection dimensions							
	L	D	D1	D2	D6	b	Z-Φd	H
15	180	95	65	45	40	16	4-Φ14	100
20	190	105	75	55	51	16	4-Φ14	160
25	200	115	85	65	58	16	4-Φ14	160
32	210	135	100	78	66	18	4-Φ18	250
40	230	145	110	85	76	18	4-Φ18	250
50	250	160	125	100	88	20	4-Φ18	350
80	310	195	160	135	121	22	8-Φ18	450
100	350	230	190	160	150	24	8-Φ23	450
125	381	270	220	188	176	28	8-Φ25	600
150	403	300	250	218	204	30	8-Φ25	800
200	502	375	320	282	260	38	12-Φ30	1200
250	568	445	385	345	313	42	12-Φ34	1400

JACKET INSULATED BALL VALVE 夹套保温球阀

BQ41F



主要零件材料 Main parts and materials

序号	零件名称	材料名称		
1	夹套 Jacket	25	25	25
2	阀座 valve seat	WCB	1Cr18Ni9Ti	0Cr18Ni12Mo2Ti
3	阀体 valve body	WCB	CF8(304)	CF8M(316)
4	密封圈 seal ring	聚四氟乙烯、对位聚苯		
5	球体 sphere	2Cr13	1Cr18Ni9Ti	0Cr18Ni12Mo2Ti
6	阀杆 Stem	2Cr13	1Cr18Ni9Ti	0Cr18Ni12Mo2Ti
7	填料 filler	聚四氟乙烯、柔性石墨		
8	填料压盖 Packing gland	WCB	CF8(304)	CF8M(316)

注：主要零部件及密封面的材质可根据实际工况条件或用户特殊要求设计选用。

公称口径 DN	主要外形尺寸和连接尺寸(mm) Main external and connection dimensions								夹套连接尺寸		配应法兰 DN(mm)
	L	D	D1	D2	b	f	Z-Φd	H	内螺纹连接	法兰连接	
15	130	95	65	45	14	2	4-Φ14	78	G3/8	15	32
20	150	105	75	55	14	2	4-Φ14	84	G3/8	15	40
25	160	115	85	65	14	2	4-Φ14	95	G1/2	15	50
32	165	135	100	78	16	2	4-Φ18	150	G1/2	15	65
40	180	145	110	85	16	3	4-Φ18	150	G1/2	15	65
50	200	160	125	100	16	3	4-Φ18	190	G1/2	15	80
65	220	180	145	120	18	3	4-Φ18	195	G1/2	20	125
80	250	195	160	135	20	3	8-Φ18	215	G1/2	20	150
100	280	215	180	155	20	3	8-Φ18	250	G1/2	20	200
125	320	245	210	185	22	3	8-Φ18	285	G1/2	20	200
150	360	280	240	210	24	3	8-Φ23	370	G1/2	20	250