Asia
- Malaysia
- Indonesia
- Singapore
- Thailand
- Vietnam
- Philippines

Gulf Area
- UAE
- Iran
- Saudi Arabia
- Oman
- Lebanon
- Syria
- Jordan
- Bahrain
- Kuwait

Africa
- Nigeria
- Kenya
- Egypt
- Morocco
- South Africa
- South Sudan
- Ghana
- Angola

Europe
- Spain
- Italy
- Netherland
- France
- Austria
- UK

America
- USA
- Canada
- Mexico
- Chile
- Argentina
- Brazil
- Venezuela

JTC and its global parters are dedicating to build a fast & secure supply network, the international teams stand ready to meet clients' requirement with a local approach.

JTC VALVES

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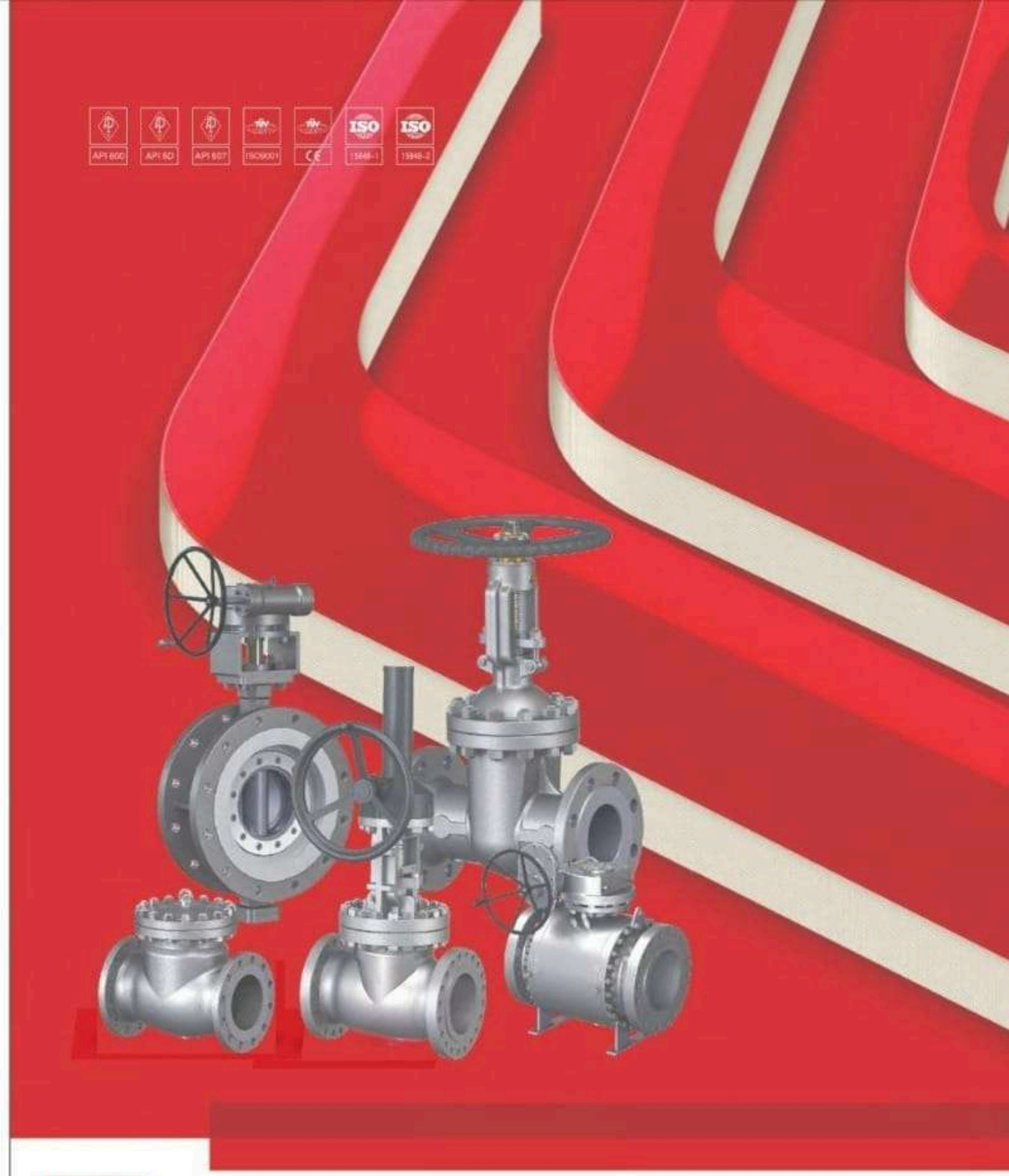
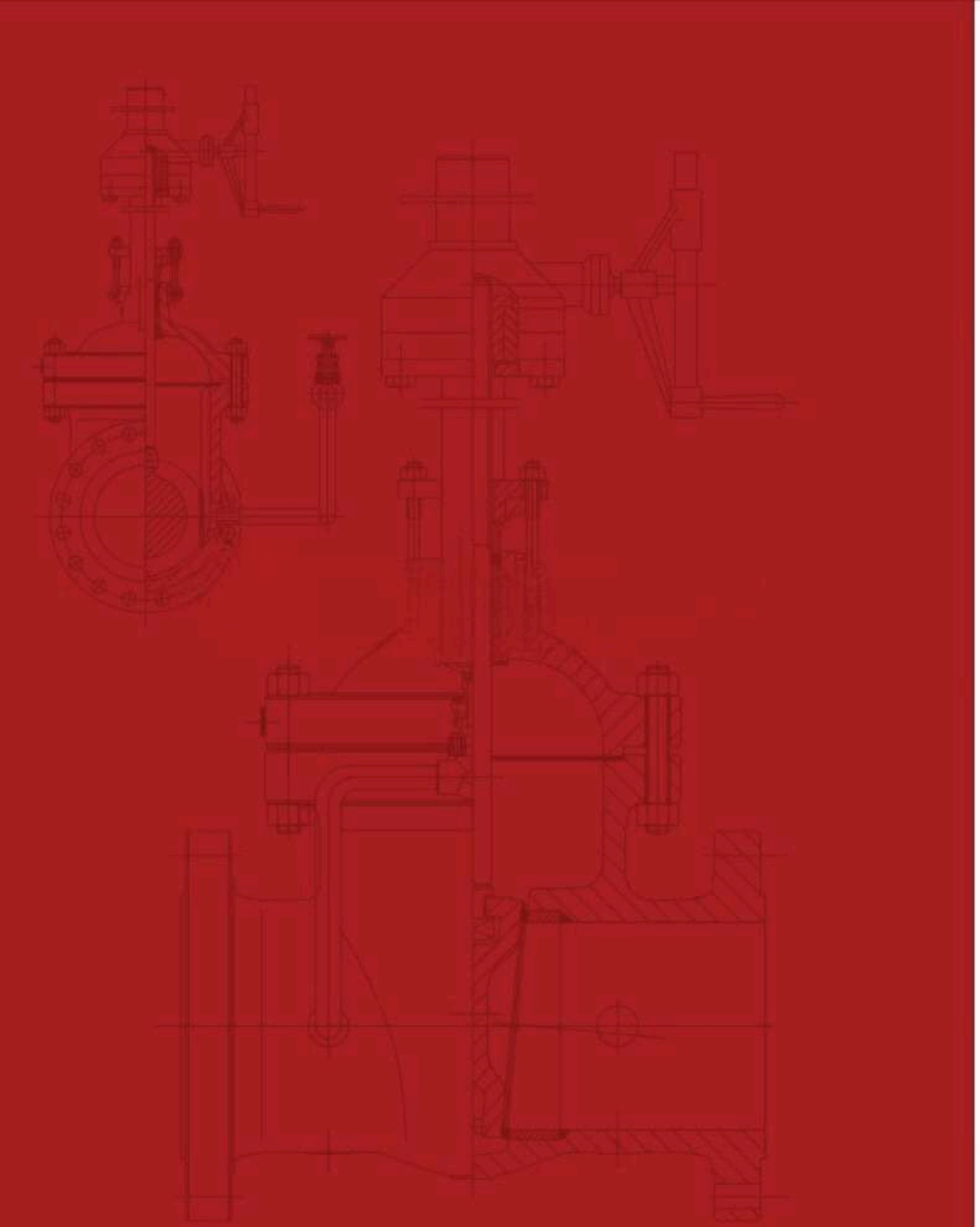
FAX: +2 25178218
EMAIL: Sales@Jtcvalves.com
WEP: https:// jtcvalves.com
Address: Building 6,288 Street,2nd Floor, New Maadi, Cairo ,111435 Egypt





JTC

ENTERPRISE BRIEF INTRODUCTION

JTC Company was founded in 2016 aiming at being international leading valve manufacturer, committed to providing customers with customers with customized Valve products and reliable Valve solutions.

Our product series, includes Gate Valves, Globe Valves, ball Valves Butterfly Valves, and functional Valves such as control and filter Valves Raw materials include carbon steel, alloy steel, stainless steel, cast iron, copper nickel alloy. Monel, etc.

JTC Valves design standards follow ASME API, ISO, DIN, BS, GOST Product specification range from DN (1/2"-120") (15mm-3000mm) NOMINAL Pressure (150LB-2500LB) (1.0MPa-42MPa): Applied temperature ranges from (-196 C-850C)

JTC Valves are widely used in petroleum, chemical, water treatment. Mining power industries Based on different application scenarios and customer needs, we supply optional actuator methods manual, Gear, Pneumatic, Electric, Hydraulic transmission for choice.

Besides supplying industrial Valves, JTC also offers Valves customization and kinds of steel pipes. Since establishment JTC has served over 30+ customers in Valve industry Over ten sales offices and branches worldwide. distributed in Europe. America Southeast Asia, Middle East, Africa. Customer servies team always ready to help solving any problem

At JTC, we appreciate simple, Quick and Reliable solution AjMING to be your convenient Valve store" JTC is dedicated to providing client NONSTOP service and ONESTOP solution across the globe.

Culture of Welkin:

Professionality, Effiency, Reliability

JTC Customer Service

- ★ Flexible production management
- ★ State of art manufacturing Facilities
- ★ Customized Design upon Request
- ★ Minimized MOQ
- ★ 24H On–duty Onsite service

Industrial Application

LNG Oil & Natural Gas

Petrolchemical Water Treatment

Chemical

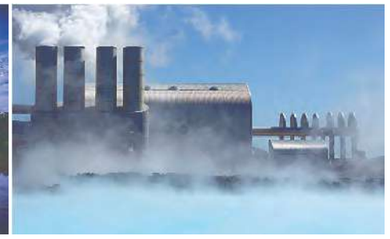
Mining

Steam

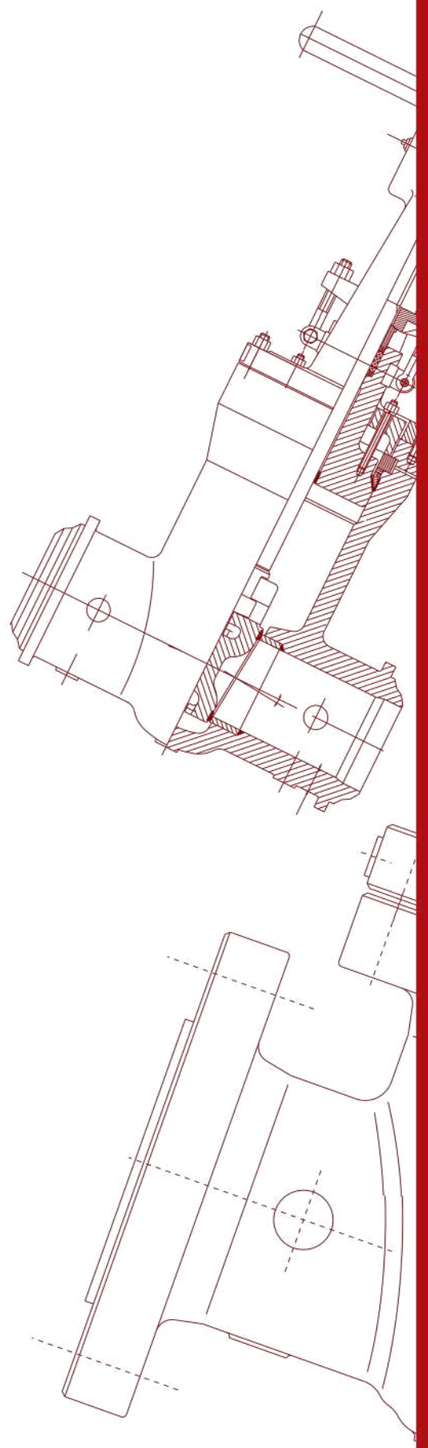
Slurry

Offshore Industry

Power Generation



Geothermal



Content Page

Gate Valve Products

Gate Valve

Related Standards:
Design and Manufacture: API600/ API6D/ API602
Face to Face and End to End: ASME B16.10
Flanged End: ASME B16.5/ ASME B16.47
Butt Welded End: ASME B16.25
Test & Inspection: API 598

Design DESCRIPTION
Outside Screw & Yoke
Bolted Bonnet with Yoke
Renewable Seat Ring upon request
Flange or butt welding ends
Solid or split wedge gate
Flexible Wedge fully guided
Resistant to corrosion and wear
Special features according to Customer's requirement

Body and Bonnet Connection
Bolts and Nuts for 150LB~2500LB , Pressure Seal for 600LB~2500LB, also optional by application or customer's request.

Seat Sealing Surface
JTC Valve has welded seat, renewable threaded seat and integral seat ,Spray welded with hard alloy specified sealling surface optional application or customer's request.

Stem
Integral forged design and precisely machined surface (Ra 0.8 μ m), T type/ connection of Stem and Disc.

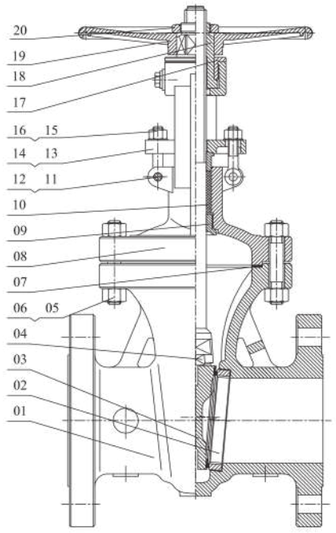
Packing Seal
Molded flexible graphite and PTFE or combined packing material is used for packing material. Excellent finish (Ra3.2 μ m) of packing box's internal surface to ensure the reliable tightness of stem and packing box

Back Seat Sealing
Renewable back seat (carbon steel gate valve) or welded/ integral back seat (Stainless steel globe valve). Optional by application or customer' s request

Cover Flange Gasket
Stainless steel + flexible graphite combined gasket (150LB~300LB recommended), Stainless steel + flexible. graphite wounded gasket (600LB recommended), Ring joint gasket (≥900LB), Optional by application or customer' s request

Driving method
Actuators are optional according to customer request.

STANDARD MATERIAL SPECIFICATIONS (ASTM)



NO.	Part Name	ASTM CARBON STEEL		ASTM ALLOY STEEL			ASTM STAINLESS STEEL			
		Standard	Cryogenic	High Temprature			CF8	CF8M	CF3	CF3M
1	Body	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351CF3	A351 CF3M
2	Seat Ring	A105	A350 LF2	A182 F11	A182 F22	A182 F5	A182 F304	A182 F316	A182 F304L	A182 F316L
3	Wedge	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351CF3	A351 CF3M
4	Stem	A182 F6	A182 F6		A182 F304		A182 F304	A182 F316	A182 F304L	A182 F316L
5	Bonnet Bolt	A193 B7	A320 L7	A193 B16			A193 B8			
6	Bonnet Nut	A1942H	A194 4	A194 7			A194 8			
7	Gasket	SS Spiral Wound/graphite or SS Spiral Wound/PTFE								
8	Bonnet	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351CF3	A351 CF3M
9	Backseat	A182 F6	A182 F6	A182 F304			A182 F304	A182 F316	A182 F304L	A182 F316L
10	Stem Packing	Graphite or PTFE								
11	Lantern Ring	A182 F6	A182 F6	A182 F304			A182 F304	A182 F316	A182 F304L	A182 F316L
12	Pin	Carbon steel or Stainless Steel								
13	Gland	A182 F6					A182 F304	A182 F316	A182 F304L	A182 F316L
14	Gland Flange	A216WCB					A351 CF8			
15	Gland Eyebolt	A194 B7					A193B8			
16	Gland Nut	A1942H					A194 B			
17	Stem Nut	A439 02 or B148-952A								
18	Retaining Nut	Carbon steel								
19	Handwheel	Ductile Iron or carbon steel								
20	Handwheel Lock Nut	Carbon steel								

Note：Different raw materials and trims are available according to application conditions or customer requests

TECHNICAL SPECIFICATIONS:

2"–48"

Up to 650℃

Class 150LB–2500LB

Optional Operating Actuator

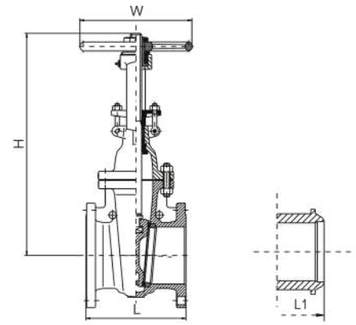
Handwheel

Gear Box

Pneumatic

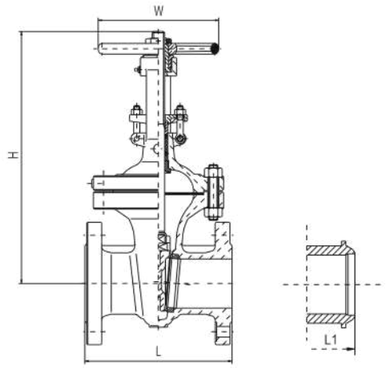
Electric

Gate Valve



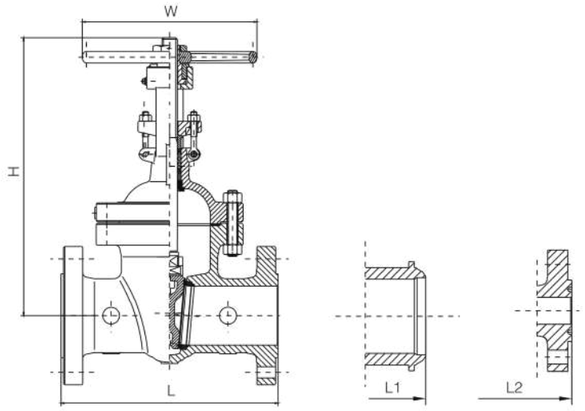
Class 150 Cast Steel Gate Valve

NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L(RF)	in	7	7.5	8	9	10	10.5	11.5	13	14	15	16	17	18	20	22	24	24	26	28	30	31	34
	mm	178	191	203	229	254	267	292	330	356	381	406	432	457	508	559	610	610	660	711	762	787	864
L1(BW)	in	8.5	9.5	11.12	12	15	15.88	16.5	18	19.75	22.5	24	26	28	32	34	36	36	38	40	42	43	46
	mm	216	241	283	305	381	403	419	457	502	572	610	660	711	813	864	914	914	965	1016	1067	1092	1168
W	in	8	8	10	12	12	12	14	16	18	20	22	24	27	30	24	24	24	24	24	24	32	32
	mm	200	200	250	300	300	300	350	400	450	500	550	600	680	760	610	610	610	610	610	610	610	610
H	in	15.2	17.1	18.9	23	26.8	30.1	37.6	45.2	53.2	59.4	67	74.5	83.4	98.4	110	117	124	129	146	157	190	233
	mm	386.5	434.5	480.5	584.5	681	765	956	1149	1350.5	1508	1703	1892	2119	2500	2806	2960	3148	3281	3721	3980	4820	5920



Class 300 Cast Steel Gate Valve

NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L-L1 (RF/ BW)	in	8.5	9.5	11.12	12	15	15.88	16.5	18	19.75	30	33	36	39	45	49	53	55	60	68	76	78	88
	mm	216	241	283	305	381	403	419	457	502	762	838	914	991	1143	1245	1346	1397	1524	1727	1930	1981	2235
W	in	8	8	10	10	12	14	16	18	20	22	24	24	24	24	24	24	24	32	40	40	40	40
	mm	200	200	250	250	300	350	400	450	500	550	600	610	610	610	610	610	610	810	1000	1000	1000	1000
H	in	16.1	17.8	20	24.1	26.4	31.7	39.4	47.6	55.7	62.3	67.9	77.1	86.4	102.3	117.6	122.8	126.2	145.4	161.6	179	186.6	211.5
	mm	410	453	509	612	670	805	1000	1209	1416	1582	1725	1959	2194	2598	2986	3120	3205	3692	4104	4547	4739	5373

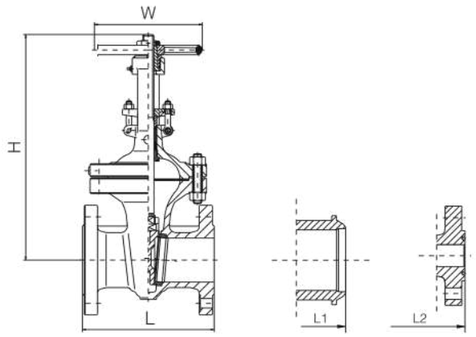


Class 600 Cast Steel Gate Valve

NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L-L1 (RF/ BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43	47	55	57	61	65	70	82	90	96	100
	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651	1778	2082	2286	2438	2540
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.5	61.5	65.5	70.6	82.6	–	–	–
	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1461	1562	1664	1794	2098	–	–	–
W	in	8	10	10	12	16	18	20	24	27	24	24	24	24	24	32	40	40	40	40	42	42	42
	mm	200	250	250	300	400	450	500	600	680	610	610	610	610	610	810	1000	1000	1000	1000	1200	1200	1200
H	in	16.5	18.7	20.4	25.4	30.3	33	40.3	48.4	57.1	62	70.7	76.02	86.9	102	124	133	140	150	168	184	194	231
	mm	418	476	518	646	770	839	1024	1229	1450	1574	1797	1931	2207	2582	3150	3362	3549	3811	4260	4670	4921	5876

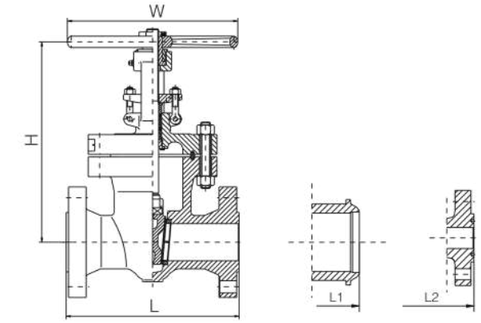
Class 900 Cast Steel Gate Valve

NPS	in	2"	2-1/2"	3"	4"	5"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"
DN	mm	50	65	80	100	125	200	250	300	350	400	450	500	600	650	700	750	800	900
L-L1 (RF/ BW)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48	52	61	65	70	74	78	87
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	1664	1778	1892	2004	2232
L2(RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.50	52.48	61.73	–	–	–	–	–
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1333	1568	–	–	–	–	–
W	in	10	10	12	14	20	24	24	24	24	24	32	40	40	40	40	47	47	47
	mm	250	250	300	350	500	600	610	610	610	610	810	1000	1000	1000	1000	1200	1200	1200
H	in	19.6	21.5	22.6	26.7	35.4	43.4	53	59.8	74.9	80.7	87	95	108.4	111.5	114.8	118	121.4	128
	mm	498	547	573	678	900	1103	1345	1520	1902	2051	2212	2417	2750	2833	2916	3000	3083	3250



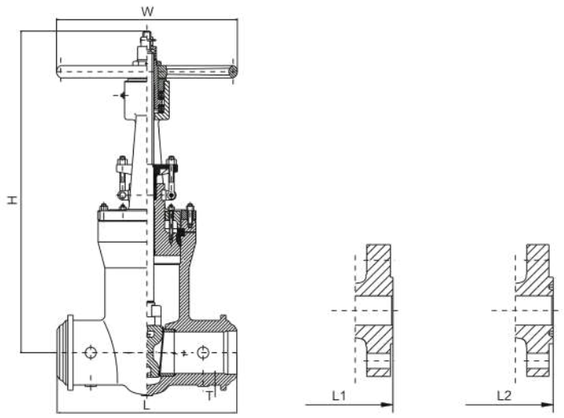
Class 1500 Cast Steel Gate Valve

NPS	in	2"	2-1/2"	3"	4"	5"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	125	200	250	300	350	400	450	500	600	650	700	750
L-L1 (RF/ BW)	in	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5	82	87.5	93
	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943	2083	2222.5	2362
L2(RTJ)	in	14.62	16.62	18.62	21.62	28.00	33.13	39.38	45.12	50.25	55.38	61.4	66.4	77.6	–	–	–
	mm	371	422	473	549	711	842	1000	1146	1276	1407	1559	1686	1972	–	–	–
W	in	10	12	14	20	24	18	18	24	24	24	40	40	40	47	47	47
	mm	250	300	350	500	600	458	458	610	610	610	1000	1000	1000	1200	1200	1200
H	in	19.2	22.5	23.7	27.6	38.7	45.1	54	64.3	70.8	77.3	111	121	140.5	151	158	172
	mm	487	572	603	700	984	1146	1371	1633	1798	1963	2812	3078	3570	3836	4012	4368



Class 2500 Cast Steel Gate Valve

NPS	in	2"	2-1/2"	3"	4"	5"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	125	200	250	300	350	400	450	500	600
L-L1 (RF/ BW)	in	17.75	20	22.75	26.5	36	40.25	50	56	62	68	74	80	92
	mm	451	508	578	673	914	1022	1270	1422	1575	1727	1879	2031	2335
L2(RTJ)	in	17.88	20.25	23.00	26.88	36.50	40.88	50.88	56.88	–	–	–	–	–
	mm	454	514	584	683	927	1038	1292	1445	–	–	–	–	–
W	in	14	18	18	20	24	24	24	24	32	32	40	40	40
	mm	350	450	450	500	610	610	610	610	810	810	1000	1000	1000
H	in	22.2	22.2	22.9	34.3	57.1	63.4	81.7	89.8	319.7	400	100.6	112.6	136.6
	mm	563	563	582	870	1450	1610	2076	2281	1945	2250	2555	2860	3470



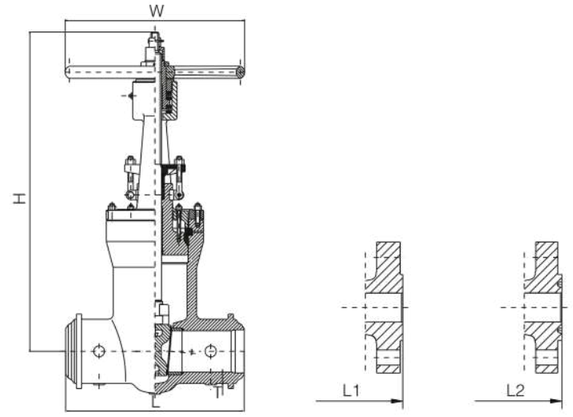
Class 600 Pressure Seal Cast Steel Gate Valve

NPS	in	2"	2–1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750
L-L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43	47	55	57	61	65
	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.13	47.25	55.38	57.50	61.50	65.50
	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1460.5	1562	1664
W	in	7.9	9.8	9.8	13.8	15.7	17.7	19.7	23.6	26.8	24	24	24	24	31.50	31.50	39.38	39.38
	mm	200	250	250	350	400	450	500	600	680	610	610	610	610	800	800	1000	1000
H	in	23.2	24.8	26.3	36	39.4	42.5	49.9	59.5	70.5	73.1	85.1	88.63	97.25	118.13	128	137.88	149
	mm	590	629	667	914	1000	1080	1267	1511	1791	1857	2162	2251	2470	3000	3251	3502	3785

Class 900 Pressure Seal Cast Steel Gate Valve

NPS	in	2"	2–1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750
L (BW)	in	8.5	10	12	14	20	26	31	36	39	43	48	52	61	64.5	68	71.5
	mm	216	254	305	356	508	660	787	914	991	1092	1219	1321	1549	1638	1727	1816
L1 (RF)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48	52	61	–	–	–
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	–	–	–
L2(RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.5	52.5	61.75	–	–	–
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1333	1568	–	–	–
W	in	10	10	12	14	20	24	24	24	24	24	30.5	30.5	39.38	39.38	39.38	47.25
	mm	250	250	300	350	500	600	610	610	610	610	800	800	1000	1000	1000	1200
H	in	23	30	30	34	40	50	61	70	80	89	97.25	108.25	127.62	138.25	149	159.5
	mm	594	753	756	864	1013	1276	1543	1781	2026	2261	2470	2750	3242	3512	3785	4051

Pressure Seal Gate Valve



Class 1500 Pressure Seal Cast Steel Gate Valve

NPS	in	2"	2–1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L (BW)	in	8.5	10	12	16	22	28	34	39	42	47	53	58	66
	mm	216	254	3053	406	559	711	864	991	1067	1194	1346	1473	1676
L1 (RF)	in	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5
	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
L2(RTJ)	in	14.62	16.62	18.62	21.62	28	33.13	39.87	45.15	50.25	55.38	61.38	66.38	77.63
	mm	371	422	473	549	711	842	1000	1146	1276	1407	1559	1686	1972
W	in	10	12	14	20	24	18	18	24	24	24	40	48	36
	mm	250	300	350	500	600	460	460	610	610	610	1000	1200	900
H	in	23	30	30	35	39	53	58.3	73.6	87	92	111.2	122.2	148.3
	mm	294	753	756	864	994	1349	1480	1870	2216	2331	2823	3102	3766

Class 2500 Pressure Seal Cast Steel Gate Valve

NPS	in	2"	2–1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L (BW)	in	11	13	14.5	18	24	30	36	41	44	49	55	61	68
	mm	279	330	368	457	610	762	914	1041	1118	1245	1397	1549	1727
L1 (RF)	in	17.75	20	22.75	26.5	36	40.25	60	56	–	–	–	–	–
	mm	451	508	578	673	914	1022	1270	1422	–	–	–	–	–
L2(RTJ)	in	17.88	20.25	23	26.88	36.5	4088	50.88	56.88	–	–	–	–	–
	mm	454	514	584	683	927	1038	1292	1445	–	–	–	–	–
W	in	14	18	18	20	24	24	24	24	24	24	31.5	31.5	40
	mm	350	450	450	500	610	610	610	610	610	610	800	800	1000
H	in	23	30	30	34	44	55	69	74	97.25	97.25	116.2	128.8	153.7
	mm	594	753	756	870	1129	1389	1748	1873	2291	2470	2950	3270	3902

Globe Valve Products

JTC

JTC

Related Standards:

Design and Manufacture: API 600& ASME B16.34
Face to Face and End to End: ASME B16.10
Flanged End: ASME B16.5/ ASME B16.47
Butt Welded End: ASME B16.25
Test & Inspection: API 598

Design DESCRIPTION

Design DESCRIPTION
Outside Screw & Yoke
Bolted Bonnet with Yoke
Renewable Seat Ring upon request
Flange or butt welding ends
Solid or split wedge gate
Flexible Wedge fully guided
Resistant to corrosion and wear
Special features according to Customer's requirement

Body and Bonnet Connection

Bolts and Nuts for 150LB~900LB, Pressure Seal for 1500LB~2500LB, also optional by application or customer's request.

Stem

Integral forged design and precisely machined surface (Ra 0.8 μ m).
T type/ connection of Stem and Disc.

Packing Seal

Molded flexible graphite and PTFE or combined packing material is used for packing material, Excellent finish (Ra3.2 μ m) of packing box's internal surface to ensure the reliable tightness of stem and packing box.

Seat Sealing Surface

JTC Valve has welded seat, renewable threaded seat and integral seat ,Spray welded with hard alloy specified sealling surface optional application or customer's request.

Back Seat Sealing

Renewable back seat (carbon steel gate valve) or welded/ integral back seat (Stainless steel globe valve). Optional by application or customer's request

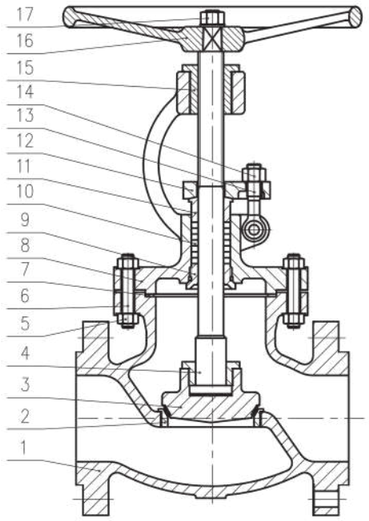
Cover Flange Gasket

Stainless steel + flexible graphite combined gasket (150LB~300LB recommended), Stainless steel + flexible, graphite wounded gasket (600LB recommended), Ring joint gasket (>900LB). Optional by application or customer' s request

Driving method

Actuators are optional according to customer request.

STANDARD MATERIAL SPECIFICATIONS (ASTM)



NO.	Part Name	ASTM CARBON STEEL		ASTM ALLOY STEEL			ASTM STAINLESS STEEL			
		Standard	Cryogenic	High Temprature			CF8	CF8M	CF3	CF3M
1	Body	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A351CF8	A351 CF8M	A351CF3	A351 CF3M
2	Seat Ring	A105	A350 LF2	A182 F11	A182 F22	A182 F5	A182 F304	A182 F316	A182 F304L	A182 F316L
3	Disc	A105	A350 LF2	A182 F11	A182 F22	A182 F5	A351CF8	A351 CF8M	A351CF3	A351 CF3M
4	Stem	A182 F6	A182 F6		A182 F304		A182 F304	A182 F316	A182 F304L	A182 F316L
5	Bonnet Bolt	A193 B7	A320 L7	A193 B16			A193 B8			
6	Bonnet Nut	A1942H	A194 4	A194 7			A194 8			
7	Gasket	SS Spiral Wound/graphite or SS Spiral Wound/PTFE								
8	Bonnet	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A351CF8	A351 CF8M	A351CF3	A351 CF3M
9	Backseat	A182 F6	A182 F6	A182 F304			A182 F304	A182 F316	A182 F304L	A182 F316L
10	Stem Packing	Graphite or PTFE								
11	Gland	A182 F6					A182 F304	A182 F316	A182 F304L	A182 F316L
12	Gland Flange	A216WCB					A351 CF8			
13	Gland Eyebolt	A194 B7					A193B8			
14	Gland Nut	A1942H					A194 B			
15	Stem Nut	A439 02 or B148-952A								
16	Handwheel	Ductile Iron or carbon steel								
17	Handwheel Lock Nut	Carbon steel								

Note：Different raw materials and trims are available according to application conditions or customer requests

TECHNICAL SPECIFICATIONS:

2"–24"

Up to 650℃

Class 150LB–2500LB

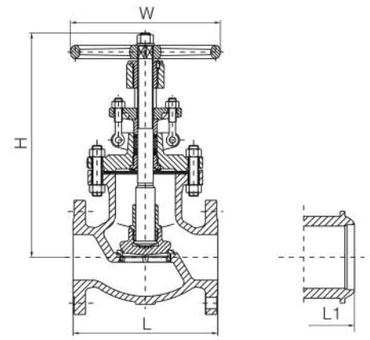
Optional Operating Actuator

Handwheel

Gear Box

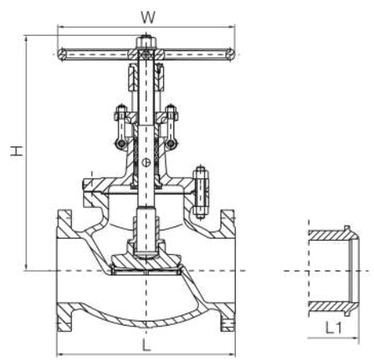
Pneumatic

Electric



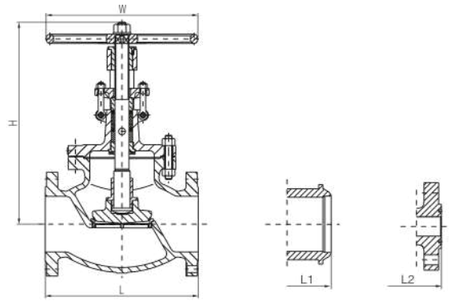
Class 150 Cast Steel Globe Valve

NPS	in	2"	2–1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L-L1 (RF-BW)	in	8	8.5	9.5	11.5	14	16	19.5	24.5	27.5	31	36	38.5	38.5	51
	mm	203	216	241	292	356	406	495	622	699	787	914	978	978	1295
W	in	8	10	10	12	14	14	16	20	20	22	26	24	24	31.9
	mm	200	250	250	300	350	350	400	500	500	560	650	610	610	810
H	in	13.3	14.7	15.6	18.7	19.6	20.6	23.1	29.1	33.9	37.4	39.2	44.9	49.7	60
	mm	338	373	396	476	497	524	588	738	862	950	994	1140	1262	1524



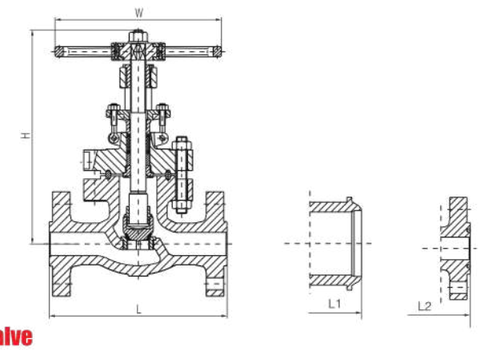
Class 300 Cast Steel Globe Valve

NPS	in	2"	2–1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500
L-L1 (RF-BW)	in	10.5	11.5	12.5	14	15.75	17.5	22	24.5	28	33	34	38.5	40
	mm	267	292	318	356	400	445	559	622	711	838	864	978	1016
W	in	8	10	10	14	18	20	22	24	26	24	24	38.5	40
	mm	200	250	250	350	450	500	560	600	650	610	610	610	810
H	in	13.9	15.3	16.6	19.5	22.7	26.6	35.9	37.4	40.6	44.5	51.6	57.5	64.3
	mm	353.5	388.5	420.5	495.5	576.5	674.5	911.5	949	1032	1130	1310	1460	1632



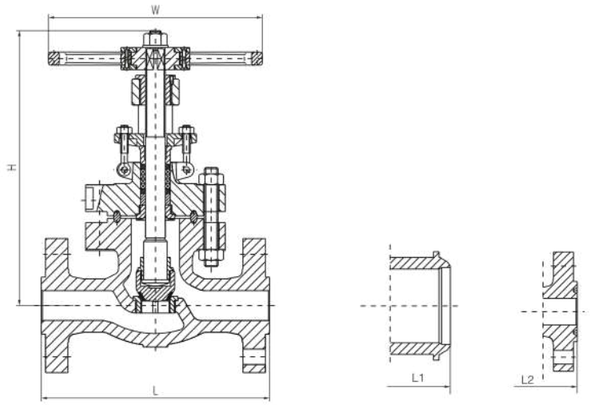
Class 600 Cast Steel Globe Valve

NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450
L-L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43
	mm	292	330	356	432	508	559	660	787	838	889	991	1092
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.1
	mm	295	333	359	435	511	562	663	790	841	892	994	1095
W	in	10	10	14	18	20	22	24	28	24	24	30	32
	mm	250	250	350	450	500	560	600	700	610	610	762	810
H	in	15.6	17.6	19.5	23.6	27.6	31.1	39.9	46.5	55	57.1	63.4	70.9
	mm	396.5	446	495.5	599	700	791	1014	1180	1397	1450	1610	1801



Class 900 Cast Steel Globe Valve

NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"
DN	mm	50	65	80	100	150	200	250	300	350	400
L-L1 (RF-BW)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5
	mm	368	419	381	457	610	737	838	965	1029	1130
L2(RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.1	38.1	40.9	44.9
	mm	371	422	384	460	613	740	841	968	1038	1140
W	in	14	14	18	20	24	24	24	31.9	31.9	31.9
	mm	350	350	450	500	610	610	610	810	810	810
H	in	23.2	26	27.5	31.3	43.6	46.6	58.2	69.1	76.1	87
	mm	590	660	699	795	1108	1184	1479	1755	1934	2210

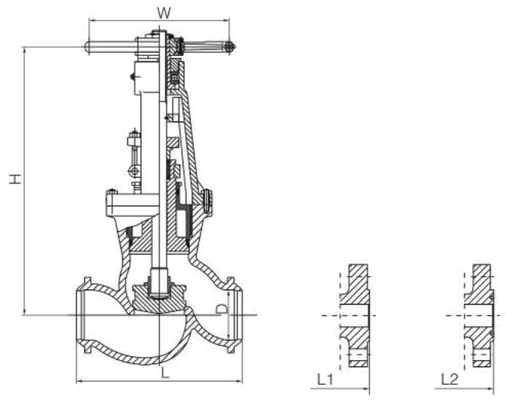


Class 1500 Cast Steel Globe Valve

NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"	12"
DN	mm	50	65	80	100	150	200	250	300
L-L1 (RF-BW)	in	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5
	mm	368	419	470	546	705	832	991	1130
L2(RTJ)	in	14.62	16.62	18.62	21.62	28.00	33.13	39.4	45.1
	mm	371	422	473	549	711	842	1000	1146
W	in	14	14	20	22	24	24	31.9	31.9
	mm	350	350	500	560	610	610	810	810
H	in	21.7	22.5	22.9	31.3	50.3	77.2	96.5	114.3
	mm	550	572	582	795	1278	1960	2450	2904

Class 2500 Cast Steel Globe Valve

NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"
DN	mm	50	65	80	100	150	200	250
L-L1 (RF-BW)	in	17.75	20	22.75	26.5	36	40.25	50
	mm	451	508	578	673	914	1022	1270
L2(RTJ)	in	17.88	20.25	23.00	26.88	36.50	40.88	50.9
	mm	454	514	584	683	927	1038	1292
W	in	16	20	22	24	24	24	31.9
	mm	400	500	560	610	610	610	810
H	in	28.3	31.5	34.8	49.6	75	97	122.4
	mm	720	800	885	1260	1905	2465	3108



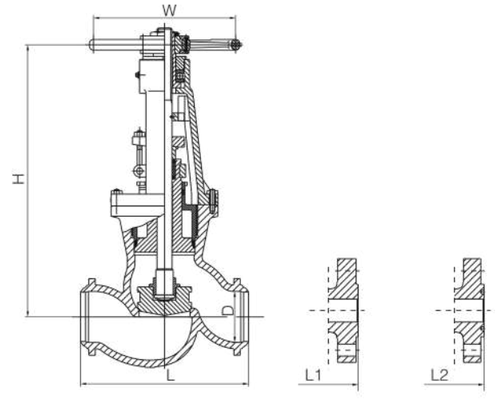
Class 600 Pressure Seal Cast Steel Globe Valve

NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
DN	mm	50	65	80	100	125	150	200	250	300	350	400
L-L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39
	mm	292	330	356	432	508	559	660	787	838	889	991
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12
	mm	295	333	359	435	511	562	663	790	841	892	994
W	in	9.8	11.8	13.8	17.7	19.7	22	23.6	27.6	24	24	29.9
	mm	250	300	350	450	500	560	600	700	610	610	760
H	in	21.7	24.8	26.8	29.5	39.4	45.3	49.2	55.1	61	70.9	85
	mm	550	630	680	750	1000	1150	1250	1400	1550	1800	2160

Class 900 Pressure Seal Cast Steel Globe Valve

NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"
DN	mm	50	65	80	100	150	200	250	300	350	400
L-L1 (RF-BW)	in	14.5	16.5	15	18	24	29	33	38	40.50	44.50
	mm	368	419	381	457	610	737	838	965	1029	1130
L2(RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.13	38.13	40.88	44.88
	mm	371	422	384	460	613	740	841	968	1038	1140
W	in	14	14	18	20	24	24	24	39.38	39.38	47.25
	mm	350	350	450	500	610	610	610	1000	1000	1200
H	in	24.4	25.2	28.4	33.5	48.2	53.1	61	68.88	78.75	91
	mm	619	641	721	850	1225	1350	1550	1750	2000	2310

Pressure seal Globe Valve



Class 1500 Pressure Seal Cast Steel Globe Valve

NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"
DN	mm	50	65	80	100	150	200	250	300	350
L-L1 (RF-BW)	in	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5	49.5
	mm	368	419	470	546	705	832	991	1130	1257
L2(RTJ)	in	14.62	16.62	18.62	21.62	28	33.13	39.38	45.13	50.25
	mm	371	422	473	549	711	842	1000	1146	1276
W	in	14	14	20	22	24	24	39.38	39.38	47.25
	mm	350	350	500	560	610	610	1000	1000	1200
H	in	24.4	25.2	32.9	33.7	48.4	70.9	78.78	91	106
	mm	619	641	835	857	1230	1800	2000	2311	2692

Class 2500 Pressure Seal Cast Steel Globe Valve

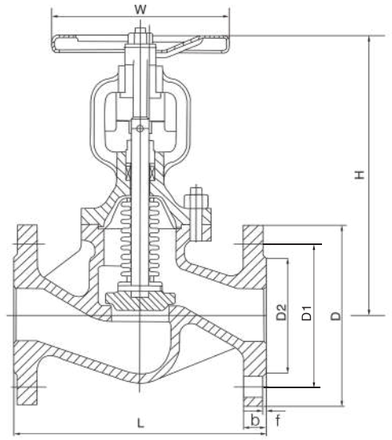
NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"	12"
DN	mm	50	65	80	100	150	200	250	300
L-L1 (RF-BW)	in	17.75	20	22.75	26.5	36	40.25	50	56
	mm	451	508	578	673	914	1022	1270	1422
L2(RTJ)	in	17.88	20.25	23	26.88	36.5	40.88	50.88	56.88
	mm	454	541	584	683	927	1038	1292	1445
W	in	16	20	22	24	24	24	39.38	39.38
	mm	400	500	560	610	610	610	1000	1000
H	in	24.3	30.7	31.5	51.2	53.9	85	100	106
	mm	616	781	800	1300	1370	2160	2540	2692

Applicable Condition

Hydrogen system, ammonia system, hot oil system, steam system, all kinds of flammable and explosive condition, toxic and harmful gases.

Technical Specifications

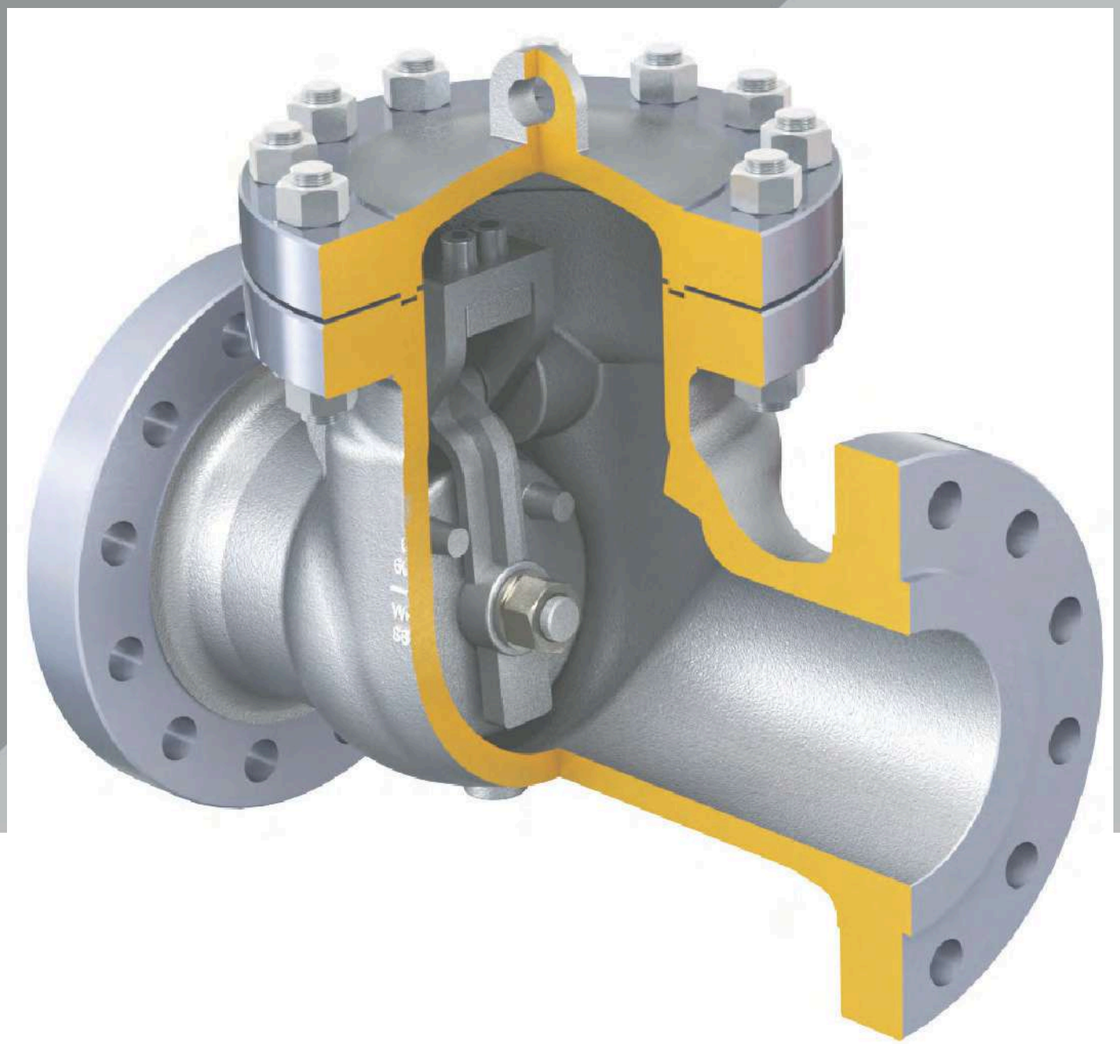
Design standards: ASME B16.34 EN12516
Structure length: ASME B16.10 EN558
Connection flange: ASME B16.5 EN1092-1
Inspection and test: API 598 EN12266



Main Connection Dimensions

DN	L	D	D1	D2	b	f	n-Φd	W	H
150Lb									
15	108	90	60.3	35	10	2	4-Φ16	120	240
20	117	100	69.9	43	10.9	2	4-Φ16	120	240
25	127	110	79.4	51	11.6	2	4-Φ16	140	256
32	140	115	88.9	63.5	13.2	2	4-Φ16	140	267
40	165	125	98.4	73	14.7	2	4-Φ16	160	325
50	203	150	120.7	92	16.3	2	4-Φ19	180/220	348/315
65	216	180	139.7	105	17.9	2	4-Φ19	220	330
80	241	190	152.4	127	19.5	2	4-Φ19	250	380
100	292	230	190.5	157	24.3	2	8-Φ19	300	405
125	356	255	215.9	186	24.3	2	8-Φ22	300	455
150	406	280	241.3	216	25.9	2	8-Φ22	350	513
200	495	345	298.5	270	29	2	8-Φ22	400	683
300Lb									
15	152	95	66.7	35	14.7	2	4-Φ16	120	240
20	178	115	82.6	43	16.3	2	4-Φ19	120	240
25	203	125	88.9	51	17.9	2	4-Φ19	140	256
32	216	135	98.4	63.5	19.5	2	4-Φ19	140	267
40	229	155	114.3	73	21.1	2	4-Φ22	160	325
50	267	165	127	92	22.7	2	8-Φ19	180/220	348/328
65	292	190	149.2	105	25.9	2	8-Φ22	220	355
80	318	210	168.3	127	29	2	8-Φ22	250	414
100	356	255	200	157	32.2	2	8-Φ22	300	433
125	400	280	235	186	35.4	2	8-Φ22	350	452
150	444	320	269.9	216	37	2	12-Φ22	450	545
200	559	380	330.2	270	41.7	2	12-Φ26	500	765

Check Valve Products



Related Standards:

Design and Manufacture: API 6D (Cast Steel)
API 602 (forged steel)
ASME B16.34 BS1868
Face to Face and End to End: ASME B16.10
Flanged End (RF/ RTJ): ASME B16.5
Socket welded end (SW): ASME B16.11
Butt Welded End (BW): ASME B16.25
Threaded End (NPT): ASME B1.20.1
Test & Inspection: API 598

Design DESCRIPTION

Bolted Bonnet (BB)
Metallic seating surfaces
Renewable Seat Ring upon request
Flange or BW/SW ends
Straight body patten design
Resistant to corrosion and wear
Special features according to Customer's requirement

Product structure characteristics

Body and Bonnet Connection

Bolts and Nuts for 150LB~2500LB, Pressure Seal for 900LB, also optional by application or customer's request.

Yoke

Yoke and Hinge pin installed inside valve body can fully move the valve disc.

Packing Seal

Molded flexible graphite and PTFE or combined packing material is used for packing material. Excellent finish (Ra3.2 μ m) of packing box's internal surface to ensure the reliable tightness of stem and packing box.

Seat Sealing Surface

JTC Valve has welded seat, renewable threaded seat and integral seat ,Spray welded with hard alloy specified sealling surface optional application or customer's request.

Protrusion for discharge hole

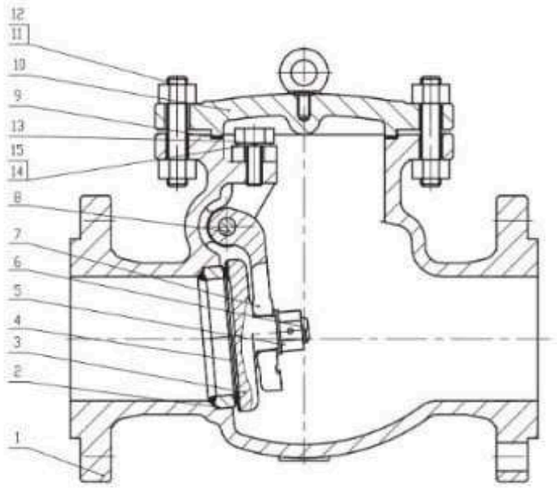
Standard protrusions for opening discharge holes can be reserved at the bottom of valve body centerline, position according to customer requirements.

Driving method

Actuators are optional according to customer request.

Check Valve

STANDARD MATERIAL SPECIFICATIONS (ASTM)



TECHNICAL SPECIFICATIONS:

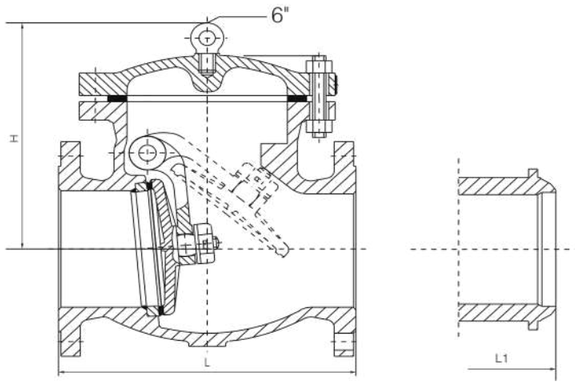
2"~48"

Up to 570℃

Class 150LB~2500LB

NO.	Part Name	ASTM CARBON STEEL		ASTM ALLOY STEEL			ASTM STAINLESS STEEL			
		Standard	Cryogenic	High Temprature			CF8	CF8M	CF3	CF3M
1	Body	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A351CF8	A351 CF8M	A351CF3	A351 CF3M
2	Seat	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A351CF8	A351 CF8M	A351CF3	A351 CF3M
3	Disc	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A182 F304	A182 F316	A182 F304L	A182 F316L
4	Disc Washer			A182 F304			A351CF8	A351 CF8M	A351CF3	A351 CF3M
5	Disc Nut			A182 F304			A182 F304	A182 F316	A182 F304L	A182 F316L
6	Disc Pin			A182 F304			A182 F304	A182 F316	A182 F304L	A182 F316L
7	Hinge	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A182 F304	A182 F316	A182 F304L	A182 F316L
8	Hinge Pin			A182 F304			A182 F304	A182 F316	A182 F304L	A182 F316L
9	Cover Gasket	SS Spiral Wound/graphite or SS Spiral Wound/PTFE								
10	Cover	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A182 F304	A182 F316	A182 F304L	A182 F316L
11	Stud Bolt	A194 2H	A1944	A194 7			A194 8			
12	Nut	A193B7	A30L7	A193B16			A193B8			
13	Eyebolt Screw	Steel								
14~15	Plug Gasket~Plug	SS Spiral Wound/graphite or SS Spiral Wound/PTFE								

Note: Different raw materials and trims are available according to application conditions or customer requests



Classs 150 Cast Steel Check Valve

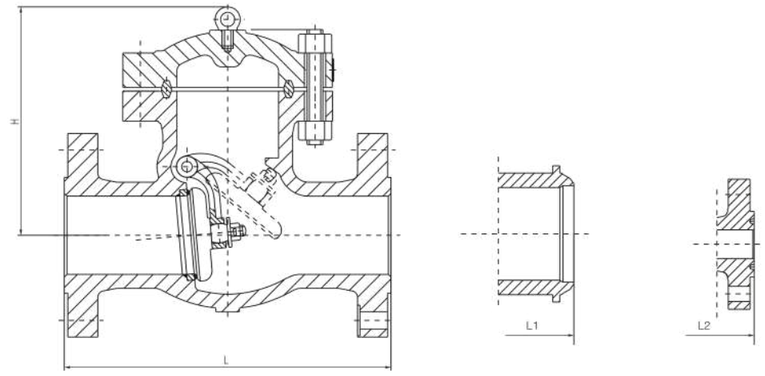
NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L-L1 (RF-BW)	in	8	8.5	9.5	11.5	13	14	19.5	24.5	27.5	31	34	38.5	38.5	51	51	57	60	68	77	85	89	101
	mm	203	216	241	292	330	356	495	622	699	787	864	978	978	1295	1295	1448	1524	1727	1956	2159	2261	2566
H	in	5.9	6.6	6.7	8	9.1	11.7	13.8	15.3	17.2	18.8	20.7	22.9	24.7	34.6	35.8	36.8	38.2	49.2	54.2	55.5	57.8	64.6
	mm	150.5	168	171	204	230	296.5	351.5	389.5	437.5	476.5	525	582	627	880	910	935	970	1250	1377	1410	1468	1642

Classs 300 Cast Steel Check Valve

NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000
L-L1 (RF-BW)	in	10.5	11.5	12.5	14	15.75	17.5	21	24.5	28	33	34	38.5	40	53	53	59	62.75	68	82	96
	mm	267	292	318	356	400	445	533	622	711	838	864	978	1016	1346	1346	1499	1594	1727	2083	2438
H	in	6.9	7.3	8.5	10.2	12	12.5	15	17.1	20.1	22.1	23.5	26.6	28.7	33.9	36.6	45.8	50	50.0	59.4	68.9
	mm	176	185	216	259	304	317	380	434	511	561	596	675	730	860	930	1163	1270	1270	1510	1750

Classs 600 Cast Steel Check Valve

NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L-L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43	47	55	57	63	65	70	82	90	96	100
	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1600	1651	1778	2083	2286	2438	2540
L2 (RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.5	63.5	65.5	70.6	82.6	–	–	–
	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1461	1613	1664	1794	2099	–	–	–
H	in	7.2	8.3	9.1	10.4	11.6	14.7	16.8	20.4	22.4	24.5	26.8	29.6	38.4	43.7	43.7	46.9	52.1	53.8	60.7	67.0	70.9	85.5
	mm	184	210	232	263	295	374	426	517	569	622	680	752	975	1111	1110	1192	1324	1367	1542	1702	1800	2171



Classs 900 Cast Steel Check Valve

NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900
L-L1 (RF-BW)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48.0	52.0	61.0	65.0	69.0	73.0	77.0	84.9
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	1651	1753	1854	1956	2156
L2 (RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.5	52.5	61.7	65.9	69.9	73.9	–	–
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1333	1568	1673	1775	1876	–	–
H	in	11.7	11.8	11.8	12.9	17.4	19.8	26.1	30.5	30.8	33	33.0	36.7	36.4	44.1	54.0	59.9	65.8	71.7
	mm	296	300	300	327	441	502	664	775	782	838	839	932	924	1121	1372	1521	1671	1821

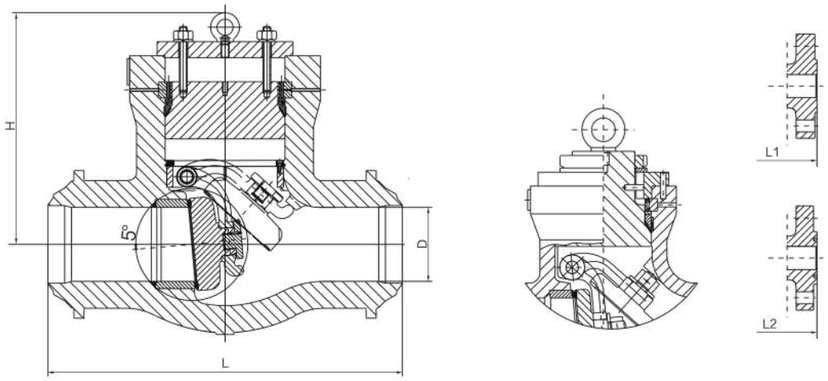
Classs 1500 Cast Steel Check Valve

NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750
L-L1 (RF-BW)	in	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5	82.0	87.5	93.0
	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943	2083	2222.5	2362
L2 (RTJ)	in	14.62	16.62	18.62	21.62	28.00	33.13	39.38	45.12	50.25	55.38	61.4	66.4	77.6	–	–	–
	mm	371	422	473	549	711	842	1000	1146	1276	1407	1559	1686	1972	–	–	–
H	in	11.7	11.8	13.4	16.2	20.1	26.8	29.8	33.7	37.4	40.1	45.2	50.6	60.6	70.6	80.7	90.7
	mm	296	300	341	412	511	680	756	857	950	1020	1147	1284	1539	1794	2049	2304

Classs 2500 Cast Steel Check Valve

NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L-L1 (RF-BW)	in	17.75	20	22.75	26.5	36	40.25	50	56	62.0	68.0	73.9	79.9	91.9
	mm	451	508	578	673	914	1022	1270	1422	1575	1727	1877	2029	2334
L2 (RTJ)	in	17.87	20.25	23.00	26.88	36.50	40.87	50.88	56.88	–	–	–	–	–
	mm	454	514	584	683	927	1038	1292	1445	–	–	–	–	–
H	in	16.4	16.5	17.4	18.9	20.1	28	33.5	39.4	47.2	51.2	55.1	59.1	63.0
	mm	416	419	441	479	511	711	851	1000	1200	1300	1400	1500	1600

Pressure Seal Check Valve



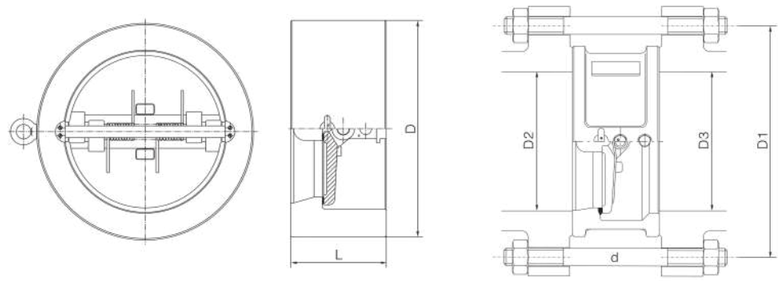
Classs 600 Pressure Seal Cast Steel Check Valve

NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750
L-L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43	47	55	57	63	65
	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1600	1651
L2 (RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.13	47.25	55.38	57.5	63.5	65.5
	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1461	1613	1664
H	in	9.5	10.4	10.6	12.5	15.7	15.7	23.1	23.9	27.4	29.5	28.7	28.75	32.25	37.38	39.38	43.25	47.25
	mm	241	264	270	318	400	400	587	606	695	749	730	730	819	949	1000	1099	1200

Classs 900 Pressure Seal Cast Steel Check Valve

NPS	in	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750
L (BW)	in	8.5	10	12	14	20	26	31	36	39	43	48	52	61	63	67	71
	mm	216	254	305	356	508	660	787	914	991	1092	1219	1321	1549	1600	1702	1803
L1 (RF)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48	52	61	65	69	73
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	1651	1753	1854
L2 (RTJ)	in	14.6	16.1	15.1	18.1	24.1	29.1	33.1	38.1	40.9	44.9	48.5	52.5	61.75	65.88	69.88	73.88
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1333	1568	1673	1775	1876
H	in	9.5	10.4	10.6	12.5	15.7	23.1	23.9	27.4	29.5	28.7	33.50	34	37.75	39.38	45.25	55.13
	mm	241	264	270	318	400	587	606	695	749	730	851	864	959	1000	1149	1400

Wafer Type Dual plate check valve



Classs 150\300 Wafer type Check Vale

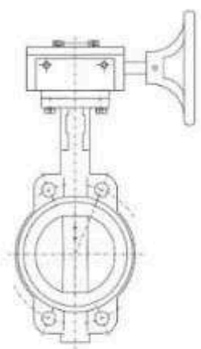
Class	Size		Dimensions(mm)				Pipeline flanges					
	NPS	DN	L	D	D2	D3	D1	Number of bolts	d		L1	
									In	mm	RF	RTJ
150	2	50	60	103	51	56	120.5	4	5/8	M16	140	155
	21/2	65	67	122	65	73	139.5	4	5/8	M16	150	165
	3	80	73	135	80	88	152.5	4	5/8	M16	160	175
	4	100	73	173	102	108	190.5	8	5/8	M16	170	185
	5	125	86	195	127	132	216.0	8	3/4	M20	190	205
	6	150	98	220	152	160	241.5	8	3/4	M20	205	220
	8	200	127	277	203	210	298.5	8	3/4	M20	240	255
	10	250	146	337	254	266	362.0	12	7/8	M24	270	285
	12	300	181	407	305	310	432.0	12	7/8	M24	310	325
	14	350	184	448	350	355	476.0	12	1	M27	325	340
	16	400	191	512	400	405	540.0	16	1	M27	340	355
	18	450	203	547	450	455	578.0	16	11/8	M30	365	380
	20	500	219	604	500	505	635.0	20	11/8	M30	385	400
	24	600	222	715	600	605	749.5	20	11/4	M33	405	420
	28	700	305	773	700	700	795.5	40	3/4	M20	455	–
	30	750	305	824	746	750	846.0	44	3/4	M20	455	–
	32	800	305	878	796	800	900.0	48	3/4	M20	460	–
	36	900	368	983	898	910	1009.5	44	7/8	M24	540	–
	42	1050	432	1142	1050	1055	1171.5	48	1	M27	625	–
	48	1200	524	1302	1200	1205	1335.0	44	11/8	M30	740	–
300	2	50	60	110	51	58	127.0	8	5/8	M16	155	175
	21/2	65	67	128	65	73	149.0	8	3/4	M20	175	195
	3	80	73	147	80	88	168.5	8	3/4	M20	190	210
	4	100	73	179	102	108	200.0	8	3/4	M20.	195	215
	5	125	86	214	127	132	235.0	8	3/4	M20	215	235
	6	150	98	249	152	160	270.0	12	3/4	M20	230	250
	8	200	127	305	203	210	330.0	12	7/8	M24	280	300
	10	250	146	359	254	266	387.5	16	1	M27	315	335
	12	300	181	420	305	310	451.0	16	11/8	M30	365	385
	14	350	222	483	350	355	514.5	20	11/8	M30	410	430
	16	400	232	537	400	405	571.5	20	11/4	M33	435	455
	18	450	264	594	450	455	628.5	24	11/4	M33	475	495
	20	500	292	652	500	505	686.0	24	11/4	M33	510	535
	24	600	318	772	600	608	813.0	24	11/2	M39	560	585
	30	750	368	882	735	740	921.0	36	13/8	M36	650	–
	36	900	483	1044	873	880	1089.0	32	15/8	M42	800	–
	42	1050	568	1196	1035	1045	1244.5	36	13/4	M45	920	–
	48	1200	629	1365	1179	1190	1416.0	40	17/8	M48	1010	–

Concentric Butterfly Valve

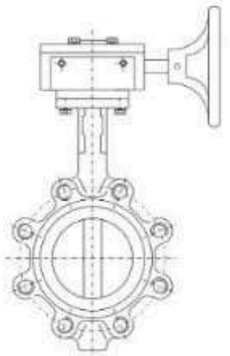
Products

JTC

JTC



Wafer Type



Lug Type

Design Standard

- Equipment used in regulating or cutting off medium in pipeline.
- As to type A, B, LT butterfly valve, the disc and stem is generally connected by the pin, if needs, no pin connection also can be adopted.
- Standards of design and manufacture conform to API609
- Pressure test conform to API598
- Structure length meet to API609
- Side flange standard meet to ASME B16.1

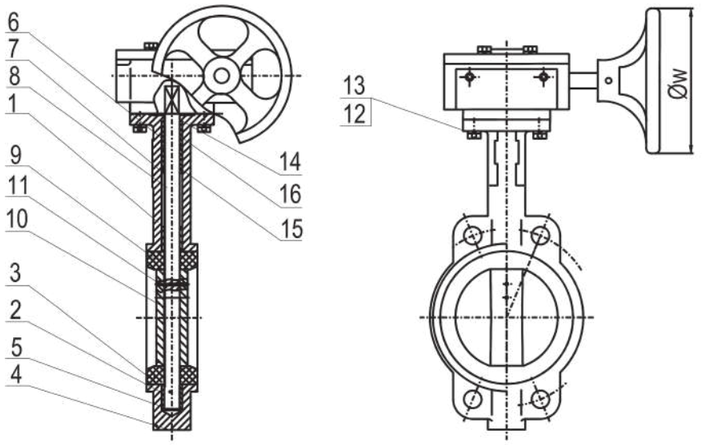
Characteristic of Product

- Small in size & light in weight and easy installation and maintenance. It can be mounted wherever needed.
- Simple, compact structure, quick 90° degree on-off operation.
- Disc has two-way bearing, perfect seal, without leakage under the pressure test.
- Flow curve tending to straight-line. Excellent regulation performance.
- Various kinds of materials, applicable to different medium.
- Strong wash and brush resistance, and can fit to bad working condition.
- Center plate structure, small torque of open and close.
- Long service life. Standing the test of ten thousands opening and closing operation.
- Can be used in cutting off and regulating medium.

Typical application

- Water works and water resource project
- Environment protection
- Public facilities
- Power and Public utilities
- Building industry
- Petroleum, chemical
- Steel, metallurgy
- Paper making industry
- Foods, Beverage

STANDARD MATERIAL SPECIFICATIONS



TECHNICAL SPECIFICATIONS:

- 2"–48"
- UP to 260℃
- Class 150LB–600LB

Optional Operating Actuator

Handwheel　　Gear Box

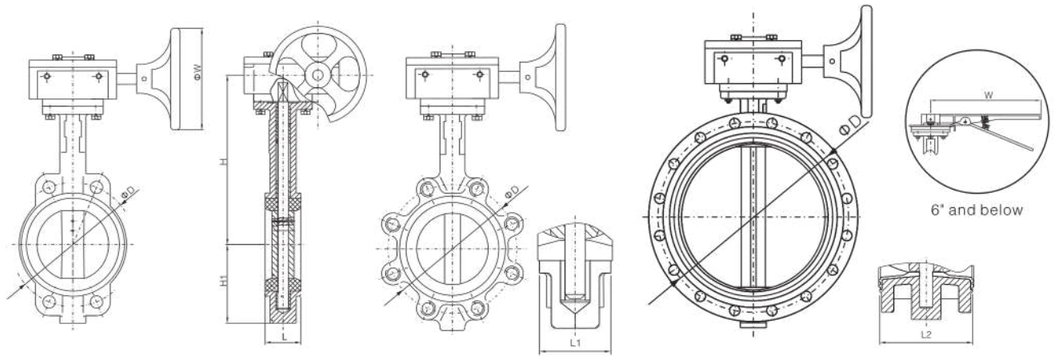
Pneumatic　　Electric

WAFER/ LUG/ FLANGE TYPE

NO.	Part Name	Elastic seal	Metal seal
1	Body	WCB LCB CF8 CF8M CF3 CF3M MONEL	WCB LCB CF8 CF8M CF3 CF3M MONEL
2	Bushing	PTFE	PTFE
3	Lock Plate	WCB LCB CF8 CF8M CF3 CF3M MONEL	WCB LCB CF8 CF8M CF3 CF3M MONEL
4	End Cover	WCB LCB CF8 CF8M CF3 CF3M MONEL	WCB LCB CF8 CF8M CF3 CF3M MONEL
5	Spring Planet	Spring Steel	Spring Steel
6	Stem Bush	SS410 SS431 SS306 SS316 17–4PH	SS410 SS431 SS306 SS316 17–4PH
7	Retainer Ring	Stainless steel	Stainless steel
8	Stem	SS410 SS431 SS306 SS316 17–4PH	SS410 SS431 SS306 SS316 17–4PH
9	Body Seat	PTFE/NBR/EPDM	13Cr+STL S306 S316 17–4PH
10	Disc	WCB LCB CF8 CF8M CF3 CF3M MONEL	WCB LCB CF8 CF8M CF3 CF3M MONEL
11	O ring	PTFE/NBR/EPDM	PTFE/NBR/EPDM
12	Spring Planet	Spring Steel	Spring Steel
13	Screw	Stainless steel	Stainless steel
14	Gland	Stainless steel	Stainless steel
15	Seal Ring	Alloy steel/ Stainless steel	Stainless steel
16	Packaging	Flexible graphite PTFE	Flexible graphite PTFE

Note：Different raw materials and trims are available according to application conditions or customer requests

Concentric Butterfly Valve



Wafer Type　　Lug Type　　Double Flange Type

Class 150 Concentric Butterfly Valve

Size		D		H		H1		W		L/L1		L2		t	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2"	50	4.80	121	6.50	165	3.20	82	10.80	275	1.70	43	4.25	108	0.20	6
21/2"	65	5.50	140	6.90	175	3.50	88	10.80	275	1.80	46	4.41	112	0.20	6
3"	80	6.00	152	7.10	180	3.80	97	10.80	275	1.80	46	4.49	114	0.20	6
4"	100	7.50	191	7.90	200	4.50	114	11.00	280	2.00	52	5.00	127	0.30	7
6"	150	9.50	241	9.30	235	5.50	140	11.40	290	2.20	56	5.51	140	0.30	7
8"	200	11.80	299	11.00	280	6.90	174	11.81	*300	2.40	60	5.98	152	0.30	8
10"	250	14.30	362	10.80	275	7.90	200	11.81	*300	2.70	68	6.50	165	0.30	9
12"	300	17.00	432	12.60	320	8.90	225	11.81	*300	3.10	78	7.01	178	0.40	10
14"	350	18.80	476	14.20	360	9.40	240	13.78	*350	3.10	78	7.48	190	0.40	10
16"	400	21.30	540	16.10	410	11.80	300	19.68	*500	4.00	102	8.50	216	0.40	11
18"	450	22.80	578	17.90	455	12.80	325	19.68	*500	4.50	114	8.74	222	0.50	12
20"	500	25.00	635	20.10	510	14.20	360	23.62	*600	5.00	127	9.02	229	0.50	13
24"	600	29.50	749	21.10	535	16.90	430	23.62	*600	6.10	154	10.51	267	0.60	15
30"	750	36.00	914	25.40	645	20.50	520	27.56	*700	6.50	165	12.52	318	0.70	17
36"	900	42.70	1086	29.90	760	23.60	600	27.56	*700	7.90	200	12.99	330	0.80	19
42"	1050	49.50	1257	31.90	810	27.60	700	31.50	*800	9.90	251	16.14	410	0.90	22
48"	1200	56.00	1422	36.60	930	31.10	790	31.50	*800	10.90	276	18.50	470	1.00	24

Double Eccentric Butterfly Valve

Products

SUMMARY

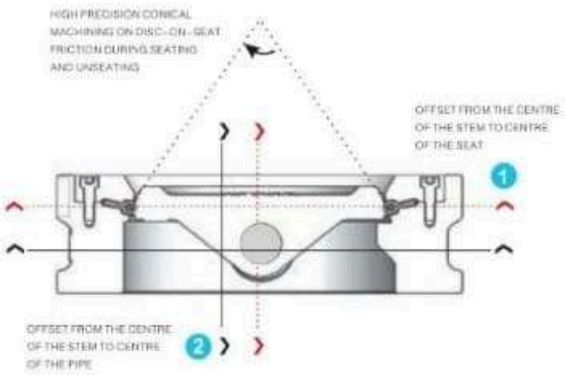
- Pressure Ranting: PN10, PN16,150~900LB
- Size Range: DN50~DN1200(2"~48")
- Body Material: Carbon Steel, Stainless Steel, Duplex S.S., Bronze and Special Alloy
- Seat Material: Standard with RPTFE (energized), Optional with metal seated or fire safe tested design
- Mounting Pad & Stem: ISO 5211
- Standard Lockable Hand leve.
- Temperature Range: -30 to 260°C
- Design: API 609; ASME B16.34
- Valve Inspection & Testing: Standard: API 598
- Shutoff Rating:Bi-directional sealing
- Blowout Proof Stem
- Fire Safe Tested Design (optional design)r

Adjustable Stem Packing

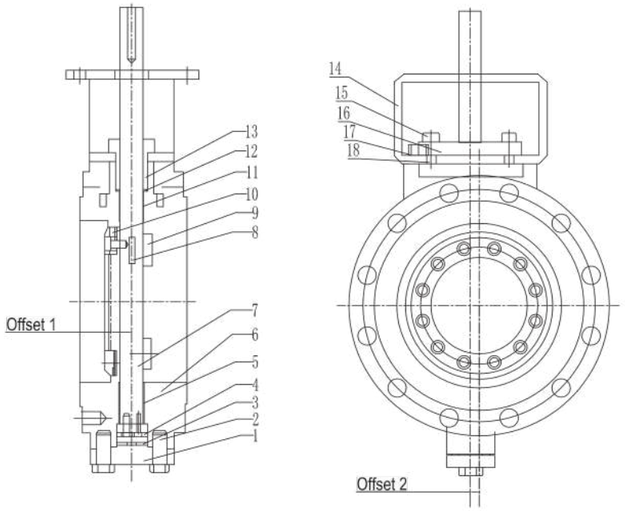
JTC has a raised mounting pad allowing for the packing to be adjusted with the operator in place and preventing fugitive emissions into the operator in case of a leak. There utilizes a premium PTEE Chevron packing system as standard on resilient seated valves, and a graphite packing system on fire safe & metal seated valves. All packing systems have a ph rang of 0~14.

FEATURES

The JTC double offset butterfly valve is a high performance valve that offers superior service life and is trouble-free tolmaintain. The second offset in the design of promotes, effortless operation by virtually eliminating disc-on-seat frictionlduring seating and unseating. The disc lifts quickly out of the seat in the first few degrees of travel, and does not makel contact with the seat again until it is nearly closed, reducing seat wear and the overall operating torque of the valve. The integrally cast disc travel stop perfectly locates the disc and seat, preventing over-travel and consequent seat damage.l This design promotes the self-alignment of the disc and seat, and therefore compensates for change in pressures andl temperatures always ensuring of the disc and seat, and therefore compensates for change in pressures and temperatureslalways ensuring bi-directional bubble tight shutoff. Its double offset design minimize the wears points at the top andlbottom seat. It has performed 100,000 mechanical cycle type testing and meet with zero leakage with high pressure air.



Double Eccentric Butterfly Valve



TECHNICAL SPECIFICATIONS:

- 2"–48"
- Up to 500℃ (Metal Seated)
  260℃ (Soft Seated)
- Class 150LB–600LB

Optional Operating Actuator

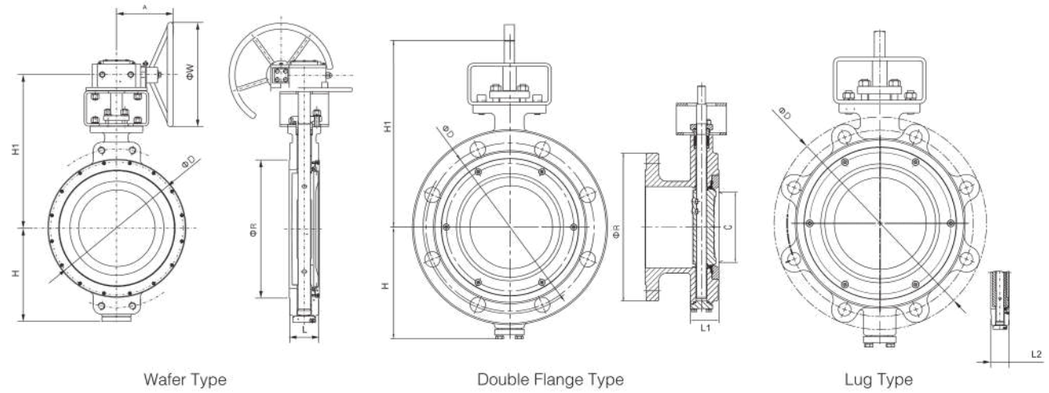
Handwheel | Gear Box | Pneumatic | Electric

Material List

No.	Part	Standard	Low Temperature	Stainless Steel	Sour Service
1	Bottom Cover	ASTM A105N	ASTM A350 Lf2	ASTM A182 F316	ASTM A105N
2	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
3	Gland Bush	PTFE	PCTFE	PTFE	PTFE
4	Locating ring	SS304	SS316	SS316	SS316
5	Axle sleeve	SS304+PTFE	SS316+PTFE	SS316+PTFE	SS316+PTFE
6	Body	ASTM A216 WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
7	Stem	ASTM A564 630	ASTM A182 F316	ASTM A564 630	ASTM A182 F6a NC
8	Bevel pin	ASTM A564 630	ASTM A182 F316	ASTM A564 630	ASTM A182 F6a NC
9	Disc	ASTM A351 CF8M	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
10	Seat ring	PTFE	PCTFE	PTFE	PTFE
10a	Seat retainer	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A105N
11	Bearing bush	SS304+PTFE	SS316+PTFE	SS316+PTFE	SS316+PTFE
12	Stem Packing	SS304	SS316	SS316	SS316
13	Gasket	PTFE	PCTFE	PTFE	PTFE
14	Bracket	AISI 1020	AISI 1020	AISI 1020	AISI 1020
15	Nut	ASTM A194 2H	ASTM A194 4	ASTM A194 8	ASTM A194 2HM
16	Plate	ASTM A216 WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
17	Nut	ASTM A194 2H	ASTM A194 4	ASTMA1948	ASTM A194 2HM
18	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M

Note：Different raw materials and trims are available according to application conditions or customer requests

Double Eccentric Butterfly Valve



Wafer Type | Double Flange Type | Lug Type

Class 150 Double Eccentric Butterfly Valve

Size		R		D		W		L/L2		L1		H		H1		A	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2"	50	3.60	92	4.80	121	8.00	203	1.70	43	4.30	108	2.52	64	7.70	195	7.10	180
3"	80	5.00	127	6.00	152	8.00	203	1.90	48	4.50	114	3.35	85	8.50	215	7.10	180
4"	100	6.20	157	7.50	191	8.00	203	2.10	54	5.00	127	3.62	92	9.50	242	7.10	180
6"	150	8.50	216	9.50	241	11.81	*300	2.20	57	5.50	140	5.79	147	12.00	305	7.30	185
8"	200	10.60	270	11.80	299	11.81	*300	2.50	64	6.00	152	7.28	185	13.80	350	7.30	185
10"	250	12.80	324	14.30	362	11.81	*300	2.80	71	6.50	165	7.87	200	14.60	370	8.50	215
12"	300	15.00	381	17.00	432	15.75	*400	3.20	81	7.00	178	8.74	222	16.70	425	8.50	215
14"	350	16.30	413	18.80	476	15.75	*400	3.60	92	7.50	190	9.72	247	18.10	460	8.50	215
16"	400	18.50	470	21.30	540	19.68	*500	4.00	102	8.50	216	12.44	316	20.10	510	9.60	245
18"	450	21.00	533	22.80	578	19.68	*500	4.50	114	8.70	222	13.46	342	21.50	545	9.60	245
20	500	23.00	584	25.00	635	23.62	*600	5.00	127	9.00	229	14.65	372	22.20	565	9.60	245
24	600	27.30	692	29.50	749	23.62	*600	6.10	154	10.50	267	17.32	440	26.60	675	15.40	390
28"	700	31.50	800	34.00	864	27.56	*700	6.50	165	11.50	292	19.88	505	30.30	770	15.40	390
32"	800	36.00	914	38.50	978	27.56	*700	7.50	190	12.50	318	23.62	600	33.30	845	16.80	427
36"	900	40.30	1022	42.80	1086	27.56	*700	8.00	203	13.00	330	25.39	645	34.40	875	16.80	427

Class 300 Double Eccentric Butterfly Valve

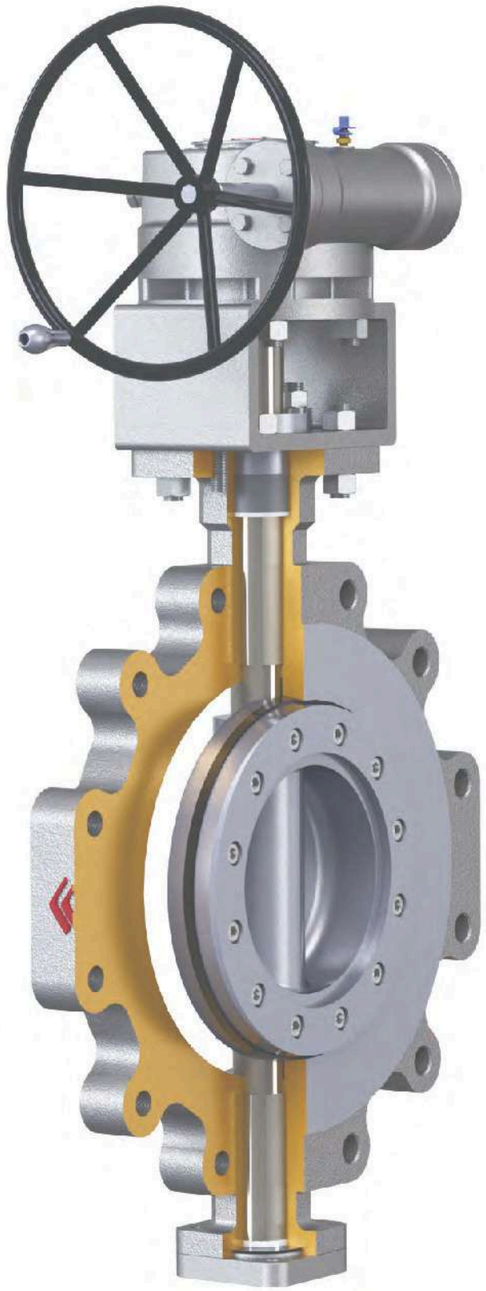
Size		R		D		W		L/L2		L1		H		H1		A	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2"	50	3.60	92	5.00	127	8.00	203	1.70	43	4.30	108	2.50	64	7.70	195	7.10	180
3"	80	5.00	127	6.60	168	8.00	203	1.90	48	4.50	114	3.30	85	8.50	215	7.10	180
4"	100	6.20	157	7.90	200	8.00	203	2.10	54	5.00	127	3.60	92	9.50	242	7.10	180
6"	150	8.50	216	10.60	270	11.81	*300	2.30	59	5.50	140	7.00	178	12.60	320	7.30	185
8"	200	10.60	270	13.00	330	11.81	*300	2.90	73	6.00	152	8.30	210	14.40	365	7.30	185
10"	250	12.80	324	15.30	387	11.81	*300	3.30	83	6.50	165	9.30	235	16.90	430	8.50	215
12"	300	15.00	381	17.80	451	15.75	*400	3.60	92	7.00	178	11.10	282	18.50	470	8.50	215
14"	350	16.30	413	20.30	514	15.75	*400	4.60	117	7.50	190	12.30	312	21.50	545	8.50	215
16"	400	18.50	470	22.50	572	19.68	*500	5.20	133	8.50	216	13.70	349	22.80	580	9.60	245
18"	450	21.00	533	24.80	629	19.68	*500	5.90	149	8.70	222	15.20	386	24.40	620	9.60	245
20	500	23.00	584	27.00	686	23.62	*600	6.30	159	9.00	229	16.10	410	26.40	670	9.60	245
24	600	27.30	692	32.00	813	23.62	*600	7.10	181	10.50	267	18.90	480	28.10	715	15.40	390

Class 600 Double Eccentric Butterfly Valve

Size		R		D		W		L/L2		L1		H		H1		A	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3"	80	5.00	127	6.60	168	8.00	203	2.10	54	7.10	180	4.10	105	10.80	275	7.10	180
4"	100	6.20	157	8.50	216	11.81	*300	2.50	64	7.50	190	5.40	138	10.80	275	7.10	180
6"	150	8.50	216	11.50	292	15.75	*400	3.10	78	8.30	210	7.90	200	15.20	385	7.30	185
8"	200	10.60	270	13.80	349	15.75	*400	4.00	102	9.10	230	9.10	232	17.10	435	7.30	185
10"	250	12.80	324	17.00	432	19.68	*500	4.60	117	9.80	250	10.90	277	20.10	510	8.50	215
12"	300	15.00	381	19.30	489	19.68	*500	5.50	140	10.60	270	11.90	302	21.10	535	8.50	215
14"	350	16.30	413	20.80	527	23.62	*600	6.10	155	11.40	290	13.00	329	24.30	617	8.50	215
16"	400	18.50	470	23.80	603	23.62	*600	7.00	178	12.20	310	17.00	432	26.20	665	9.60	245
18"	450	21.00	533	25.80	654	23.62	*600	7.90	200	13.00	330	18.20	463	28.10	715	9.60	245
20	500	23.00	584	28.50	724	23.62	*600	8.50	216	13.80	350	19.40	492	28.70	730	9.60	245
24	600	27.30	692	33.00	838	27.56	*700	9.10	232	15.40	390	20.70	525	35.20	895	15.40	390

*Gear box
Note:900 lb size data can be supplied according to customer requirements.

Triple Eccentric Butterfly Valve Products



Related Standards:

Design and Manufacture: API 609 ASME B31.3
Face to Face and End to End: ASME B16.10
Flanged End (RF/ RTJ): ASME B16.5
Socket welded end (SW): ASME B16.11
Butt Welded End (BW): ASME B16.25
Threaded End (NPT): ASME B1.20.1
Test & Inspection: API 598

Design DESCRIPTION

Bi-directional sealing
Integral and blow-out proof stem design
Maintenance-free Bushing
Fire proof structure optional
Low torque characteristics & long service life
Special features according to Customer's requirement

Packing Seal

Packing box designed with a pressure plate to adjust the preload to reach low leakage. Soft seals use PTFE V-type packing, and fire protection structure or metal seal structure use graphite packing. All packing material meet PH 0 to 4 with high corrosion resistance. Readjust packing without seat loaded.

Renewable Seat and Seal ring

The design of renewable seat and seal ring could avoid the valve damage caused by the wear of seal ring and reduce the cost of use.

Metal to metal sealing

The design of fully metal to metal sealing. The sealing surface adopts the technology of overlaying stellite alloy, which solves the problem of poor butterfly valve sealing performance under the harsh conditions of high pressure, high temperature and low temperature effectively.

Disc optimum design

Based on principle of fluid mechanics, the optimum design of the airfoil butterfly maximizes the flow coefficient of the valve. The disc sealing surface is designed with a polished finish for a zero leakage seal and reduced seat wear.

Driving method

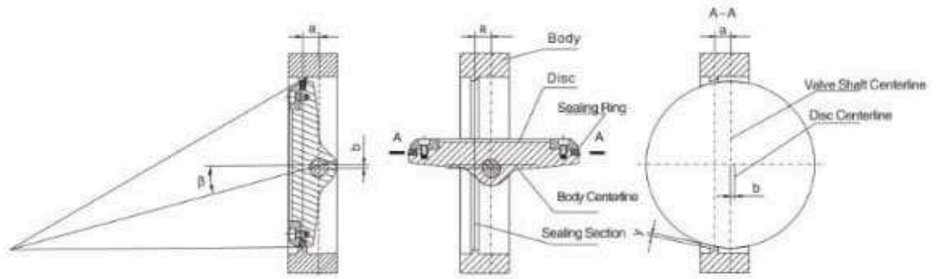
Actuators are optional according to customer request.

Sealing Principle of Triple Eccentric Seal ButterflY Valve

A B eccentric is formed up between the centerline of seat and the centerline of body on the base of double eccentric butterfly valve, making disc sealing face immediately disengaged from seat sealing face upon the opening of butterfly valve, and in close contact with the seat sealing face upon closing. When fully opened, a gap 'Y', which is the same as that in double eccentric seal butterfly valve, is formed up between the two sealing faces. The design of this type of valves has thoroughly eliminated the mech-anical wear and scratch between the two sealing faces, making the sealing performance and service life of butterfly valves greatly improved. When valve is closed, with sealing ring under the extrusion of body sealing face and disc, two upward elastic deformations are produced. the sealing face is fallen under outward tension at long shaft and inward compressive stress at short shaft The long and short shafts produce elastic deformation of different directions, thus to maximizing the sealing force between the sealing faces of valve.

This distinctive eccentric combination not only uses cam effect, but also eliminates friction completely, thus to ensure no friction between seat and sealing ring on disc during the 90° stroke of valve, a perfect solution to clear away the possibilities of abrasion and leakage.

Butterfly valves are used to open and close(seal type)or adjust the medium flow in pipes in the fields of foodstuff, drinks, chemical, industrial water treatment, high-rise constructions, water supply and drainage etc. They are mainly structured as following:



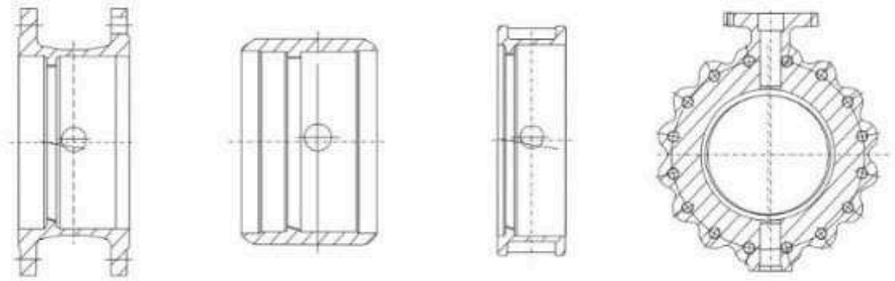
Close State Diagram of Triple Eccentric Seal Butterfly Valve

Open State Diagram of Triple Eccentric Seal Butterfly Valve

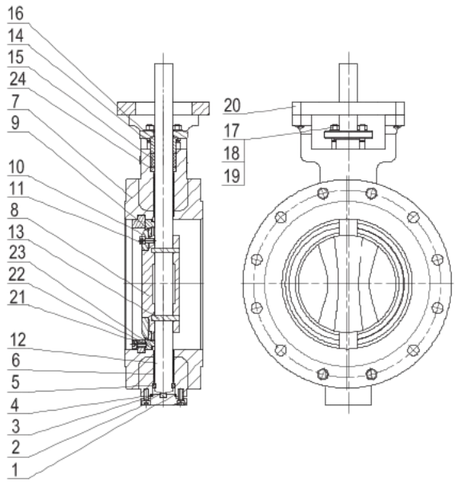
From the principle and structure of the triple eccentric butterfly valve, it has the following advantages:

1)The sealing performance and reliability of the system are improved.
2)Low friction and the valve opening and closing flexibly.
3)The valve service life is longer and it could switch repeatedly.
4)The resistance of pressure and high temperature is improved, and the range of applications is wide.

The highest pressure of Welkin triple eccentric butterfly valve could reach up to 2500 LB, and the temperature range is -196 up to 650℃. The sealing performance could be zero leakage.



Flanged Connection | Butt-welded Connection | Wafer Connection | Lug Wafer Connection



TECHNICAL SPECIFICATIONS:

- 2"–48"
- Up to –196–650℃
- Class 150LB–2500LB

Optional Operating Actuator

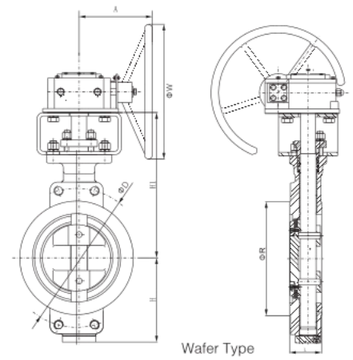
Handwheel | Gear Box | Pneumatic | Electric

Material List

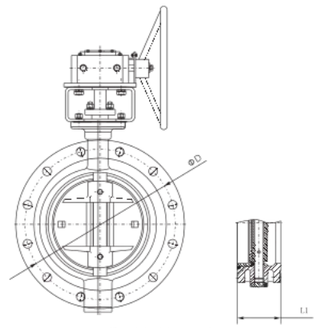
No	Part	Standard	Low Temperature	Stainless Steel	Sour Service
1	Bottom Cover	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A105N
2	Hexagon Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
3	Gasket	Graphite	Graphite	Graphite	Graphite
4	Spacer	ASTM A182 F304	ASTM A182 F304	ASTM A182 F304	ASTM A182 F304
5	Seat Ring	ASTM A182 F304	ASTM A182 F304	ASTM A182 F304	ASTM A182 F304
6	Down Bushing	ASTM A216–WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
7	Body	ASTM A216–WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
8	Disc Cover	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316
9	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
10	Stem	ASTM A182 F6a	ASTM A182 F316	ASTM A182 F316	ASTM A182 F6a NC
11	Pin	ASTM A182 F6a	ASTM A182 F316	ASTM A182 F316	ASTM A182 F6a NC
12	Up Bearing Bushing	Self–lubricating bearing	Self–lubricating bearing	Self–lubricating bearing	Self–lubricating bearing
13	Packing	Graphite	Graphite	Graphite	Graphite
14	Packing Bush	ASTM A182 F304+Nitirde	ASTM A182 F304+Nitirde	ASTM A182 F304+Nitirde	ASTM A182 F304+Nitirde
15	Hexagon Nut	ASTM A194 2H	ASTM A194 7	ASTM A194 8	ASTM A194 2HM
16	Spring Gasket	AISI 1566	AISI 1566	Stainless Steel	AISI 1566
17	Stud	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
18	Support	AISI 1020	AISI 1020	Stainless Steel	AISI 1020
19	Hexagon Nut	ASTM A194 2H	ASTM A1947	ASTM A194 8	ASTM A194 2HM
20	Spring Gasket	AISI 1566	AISI 1566	Stainless Steel	AISI 1566
21	Fixed Ring	ASTM A182 F304	ASTM A182 F304	ASTM A182 F304	ASTM A182 F304
22	Seat	ASTM A182 F304+STL			
23	Body sealing	ASTM A182 F304+Graphit			
24	Packing Gasket	ASTM A182 F304+Graphit			

Note：Different raw materials and trims are available according to application conditions or customer requests

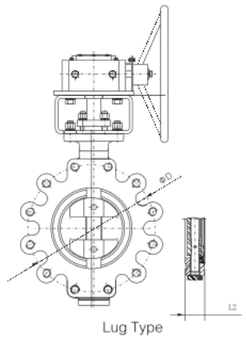
Triple Eccentric Butterfly Valve



Wafer Type



Double Flange Type



Lug Type

Class 150 Triple Eccentric Butterfly Valve

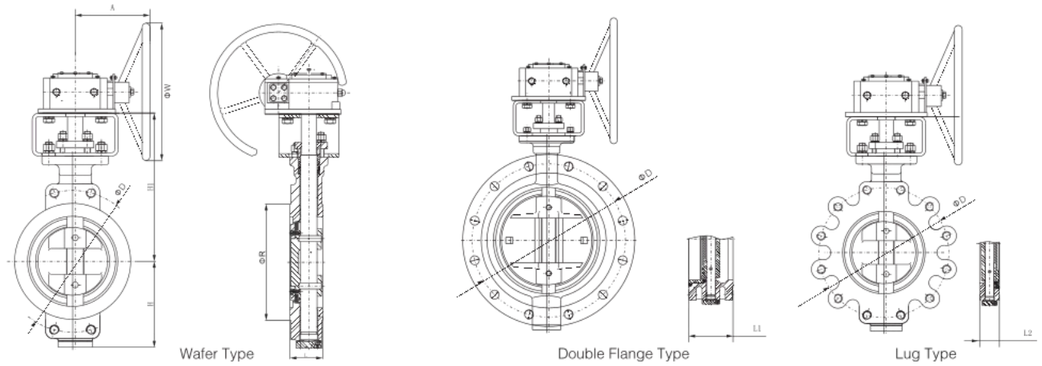
Size		R		D		W		L/L2		L1		H		H1		A		t	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3"	80	5	127	6	152.4	11.81	*300	1.9	48	4.5	114	3.7	95	9.1	230	7.1	180	0.2	6
4"	100	6.2	157.2	7.5	190.5	11.81	*300	2.1	54	5	127	4.5	115	9.4	240	7.1	180	0.3	6.5
6"	150	8.5	215.9	9.5	241.3	15.75	*400	2.2	57	5.5	140	5.8	147	12.2	310	7.3	185	0.3	7.1
8"	200	10.6	269.7	11.8	298.5	15.75	*400	2.5	64	6	152	7.3	185	13.8	350	7.3	185	0.3	8
10"	250	12.8	323.9	14.3	362	15.75	*400	2.8	71	6.5	165	8.5	215	15.8	402	8.5	215	0.3	8.8
12"	300	15	381	17	431.8	19.68	*500	3.2	81	7	178	9.9	252	17.9	455	8.5	215	0.4	9.6
14"	350	16.3	412.8	18.8	476.3	19.68	*500	3.6	92	7.5	190	11.3	287	19.9	505	8.5	215	0.4	10.4
16"	400	18.5	469.9	21.3	539.8	23.62	*600	4	102	8.5	216	12.5	317	22	560	9.6	245	0.4	11.2
18"	450	21	533.4	22.8	577.9	23.62	*600	4.5	114	8.7	222	13.5	342	22.2	565	9.6	245	0.5	12
20"	500	23	584.2	25	635	27.56	*700	5	127	9	229	14.6	372	23.8	605	9.6	245	0.5	12.9
24"	600	27.3	692.2	29.5	749.3	27.56	*700	6.1	154	10.5	267	17.3	440	26.6	675	15.4	390	0.6	14.5

Class 300 Triple Eccentric Butterfly Valve

Size		R		D		W		L/L2		L1		H		H1		A		t	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3"	80	5	127	6.6	168.1	11.81	*300	1.9	48	4.5	114	4.1	105	9.4	240	7.1	180	0.3	6.9
4"	100	6.2	157.2	7.9	200.2	11.81	*300	2.1	54	5	127	5	127.5	10	255	7.1	180	0.3	7.7
6"	150	8.5	215.9	10.6	269.7	15.75	*400	2.3	59	5.5	140	7	178	13.6	345	7.3	185	0.4	9.4
8"	200	10.6	269.7	13	330.2	19.68	*500	2.9	73	6	152	8.5	216	15.7	400	8.5	215	0.4	11
10"	250	12.8	323.9	15.3	387.4	19.68	*500	3.3	83	6.5	165	9.7	247	17.9	455	8.5	215	0.5	12.7
12"	300	15	381	17.8	450.9	23.62	*600	3.6	92	7	178	11.1	282	19.5	495	8.5	215	0.6	14.3
14"	350	16.3	412.8	20.3	514.4	23.62	*600	4.6	117	7.5	190	12.3	312	21.9	555	9.6	245	0.6	16
16"	400	18.5	469.9	22.5	571.5	27.56	*700	5.2	133	8.5	216	13.7	349	22.8	580	9.6	245	0.7	17.6
18"	450	21	533.4	24.8	628.7	27.56	*700	5.9	149	8.7	222	15.2	386	24.4	620	9.6	245	0.8	19.3
20"	500	23	584.2	27	685.8	31.50	*800	6.3	159	9	229	16.1	410	26.4	670	15.4	390	0.8	20.9
24"	600	27.3	692.2	32	812.8	31.50	*800	7.1	181	10.5	267	19.3	491	29.9	760	15.4	390	1	24.2

Class 600 Triple Eccentric Butterfly Valve

Size		R		D		W		L/L2		L1		H		H1		A		t	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3"	80	5	127	6.6	168.1	11.81	*300	2.1	54	7.1	180	4.1	105	10.8	275	7.1	180	0.3	7.9
4"	100	6.2	157.2	8.5	215.9	11.81	*300	2.5	64	7.5	190	5.4	137.5	10.8	275	7.1	180	0.4	9.5
6"	150	8.5	215.9	11.5	292.1	15.75	*400	3.1	78	8.3	210	7.9	200	15.2	385	7.3	185	0.5	12.9
8"	200	10.6	269.7	13.8	349.3	19.68	*500	4	102	9.1	230	9.1	232	17.1	435	8.5	215	0.6	16.3
10"	250	12.8	323.9	17	431.8	19.68	*500	4.6	117	9.8	250	10.9	277	20.1	510	8.5	215	0.8	19.7
12"	300	15	381	19.3	489	23.62	*600	5.5	140	10.6	270	11.9	302	21.1	535	8.5	215	0.9	23
14"	350	16.3	412.8	20.8	527.1	23.62	*600	6.1	155	11.4	290	13	329	24.3	617	9.6	245	1.2	26.4
16"	400	18.5	469.9	23.8	603.3	27.56	*700	7	178	12.2	310	17	432	26.2	665	9.6	245	1.3	29.8
18"	450	21	533.4	25.8	654.1	27.56	*700	7.9	200	13	330	18.2	463	28.1	715	9.6	245	1.4	33.2
20"	500	23	584.2	28.5	723.9	31.50	*800	8.5	216	13.8	350	19.4	492	28.7	730	15.4	390	1.7	36.5
24"	600	27.3	692.2	33	838.2	31.50	*800	9.1	232	15.4	390	20.7	525	35.2	895	15.4	390	1.7	43.3



Class 900 Triple Eccentric Butterfly Valve

Size		R		D		W		L/L2		L1		H		H1		A		t	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
4"	100	6.2	157.2	9.3	235.0	11.8	300	3.1	80	9.3	235	7.1	181	9.4	240	7.1	180	0.5	13.0
6"	150	8.5	215.9	12.5	317.5	15.7	400	4.1	104	9.8	250	9.4	238	12.4	315	7.3	185	0.7	18.2
8"	200	10.6	269.9	15.5	393.7	19.7	500	4.4	112	12.2	310	11.1	281	14.2	360	7.3	185	0.9	23.4
10"	250	12.7	323.8	18.5	469.9	19.7	500	5.3	135	13.8	350	14.1	358	16.2	412	8.5	215	1.1	28.7
12"	300	15.0	381.0	21.0	533.4	23.6	600	6.7	170	15.0	380	15.1	383	18.7	475	8.5	215	1.3	33.9
14"	350	16.3	412.8	22.0	558.8	23.6	600	6.8	173	15.7	400	16.5	419	20.2	512	8.5	215	1.5	39.1
16"	400	18.5	469.9	24.3	616.0	27.6	700	8.3	210	16.9	430	17.9	455	24.0	610	9.6	245	1.7	44.3
18"	450	21.0	533.4	27.0	685.8	27.6	700	9.0	228	18.1	460	19.8	503	26.0	660	9.6	245	2.0	49.6
20"	500	23.0	584.2	29.5	749.3	31.5	800	9.8	250	19.3	490	21.7	550	27.0	685	9.6	245	2.2	54.8
24"	600	27.3	692.2	35.5	901.7	31.5	800	10.8	275	20.9	530	25.8	656	31.1	790	15.4	390	2.6	65.2

Class 1500 Triple Eccentric Butterfly Valve

Size		R		D		W		L/L2		L1		H		H1		A		t	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
6"	150	8.5	215.9	12.5	317.5	15.7	400	6.3	160	11.4	290	10.1	257	13.7	347	7.3	185	1.2	30.2
8"	200	10.6	269.9	15.5	393.7	19.7	500	7.1	180	13.0	330	12.1	307	15.9	405	8.5	215	1.6	39.4
10"	250	12.7	323.8	19.0	482.6	19.7	500	7.9	200	15.4	390	14.6	371	20.1	510	8.5	215	1.9	48.6
12"	300	15.0	381.0	22.5	571.5	23.6	600	9.1	230	16.9	430	16.3	414	21.5	545	9.6	245	2.3	57.9
14"	350	16.3	412.8	25.0	635.0	23.6	600	9.8	250	18.5	470	19.4	493	24.0	610	9.6	245	2.6	67.1
16"	400	18.5	469.9	27.7	704.8	27.6	700	10.4	265	20.1	510	20.9	530	25.8	655	10.8	275	3.0	76.3
18"	450	21.0	533.4	30.5	774.7	27.6	700	11.8	300	21.7	550	23.3	591	29.5	750	10.8	275	3.4	85.5
20"	500	23.0	584.2	32.7	831.8	31.5	800	13.4	340	24.8	630	26.1	664	31.9	810	15.4	390	3.7	94.8
24"	600	27.3	692.2	39.0	990.6	31.5	800	15.7	400	28.0	710	30.7	780	37.4	950	15.4	390	4.5	113.2

Engineering Data

Operating Torque Flow Coefficient (Cv value) Concentric Butterfly Valve

Size	125LB (1.0MPa)					150LB (2.0MPa)				
	N.M	ISO5211 Top Flange	Stem Diameter		Cv	N.M	ISO5211 Top Flange	Stem Diameter		Cv
			Wafer	RF				Wafer	RF	
2"	10	F07	43	108	130	10	F07	43	108	130
2.5"	18	F07	46	112	230	18	F07	46	112	230
3"	25	F07	46	114	340	25	F07	46	114	340
4"	30	F07	52	127	648	30	F07	52	127	648
6"	110	F10	56	140	1830	110	F10	56	140	1830
8"	190	F10	60	152	3400	190	F10	60	152	3400
10"	360	F10	68	165	5270	360	F10	68	165	5270
12"	760	F12	78	178	7590	760	F12	78	178	7590
14"	820	F12	78	190	10332	820	F12	78	190	10332
16"	1180	F14	102	216	13727	1180	F14	102	216	13727
18"	1320	F16	114	222	17372	1320	F16	114	222	17372
20"	2077	F16	127	229	21447	2077	F16	127	229	21447
24"	4200	F16	154	267	30884	4200	F16	154	267	30884
28"	4800	F25	165	292	42038	4800	F25	165	292	42038
30"	6200	F25	190	318	48258	6200	F25	190	318	48258
32"	8000	F25	190	318	54900	8000	F25	190	318	54900
36"	11000	F25	203	330	69490	11000	F25	203	330	69490
40"	13800	F25	216	410	80420	13800	F25	216	410	80420
48"	18920	F30	254	470	123600	18920	F30	254	470	123600

Operating Torque Flow Coefficient (Cv value) Double Offset Butterfly Valve

Size	150LB (2.0MPa)						300LB (5MPa)						600LB (10.0MPa)					
	N.M		Flange No.	Stem Diameter		Cv	N.M		Flange No.	Stem Diameter		Cv	N.M		Flange No.	Stem Diameter		Cv
	Stem Downstream	Stem Upstream		Wafer	RF		Stem Downstream	Stem Upstream		Wafer	RF		Stem Downstream	Stem Upstream		Wafer	RF	
2"	21	30	F07	43	108	65	/	/	F07	43	108	65	/	/	F07	54	150	48
2.5"	24	34	F07	46	112	113	53	76	F07	46	112	113	78	88	F07	54	170	86
3"	26	36	F07	48	114	172	55	78	F07	48	114	172	113	164	F07	54	180	132
4"	36	52	F07	54	127	385	79	113	F07	54	127	385	215	305	F07	64	190	270
6"	95	136	F07&F10	57	140	1050	237	339	F10	59	140	1050	463	655	F12	78	210	850
8"	177	237	F07&F10	64	152	2180	418	599	F12	73	152	1895	1107	1582	F14	102	230	1400
10"	324	463	F10or F14	71	165	3280	791	1130	F14	83	165	3050	1898	2712	F16	114	250	2010
12"	514	735	F12	81	178	5100	1186	1695	F16	92	178	4800	2373	3390	F25	140	270	2980
14	751	1074	F14	92	190	5800	1740	2486	F16	117	190	5395	3390	4858	F25	155	290	3900
16"	1187	1480	F16	102	216	9287	3005	4293	F25	133	216	7900	5141	7344	F25	178	310	5000
18"	1740	2486	F16	114	222	11400	3559	5084	F25	149	222	10086	7276	10390	F25	200	330	6000
20	2136	3051	F16&F25	127	229	13800	4824	6892	F25	159	229	11300	9830	14010	F30	216	350	8000
24"	3480	4972	F16&F25	154	267	21600	7513	10734	F25	181	267	16980	13897	19772	F30	232	390	11000
26"	4580	5980	F25&F30	154	267	21600	/	/	F25	181	267	16980	/	/	F30	232	390	11000
28"	5029	7176	F25&F30	165	292	28080	/	/	F30	229	292	2300	/	/	F35	292	430	13000
30"	5933	8475	F25&F30	190	318	38740	16609	23727	F35	229	318	26520	24518	35025	F35	318	450	15400
32"	6644	9492	F25&F30	190	318	44070	/	/	F35	241	318	31200	/	/	F40	318	470	17500
36"	8701	12430	F25&F30	203	330	55800	22936	32766	F35	241	330	39450	/	/	F48	330	510	22360

Note:

1. Above Torque value are calculated based on room temperature, if other size torque required, please contact with WELKIN Valves (Whatapp/ Tel.: +86 150 1068 2092) .
2. When sizing the actuator, please consider safety factor 1.2–1.5.
3. For more details, the valve torque will be changed under different working temperature and different seat materials. To know more information please contact with WELKIN.
4. Cv value is based on 90° disc open angle.

Operating Torque Flow Coefficient (Cv value)

Triple Offset Butterfly Valve

Size	150LB (2.0MPa)					300LB (5MPa)				
	N.M	ISO5211 Top Flange	Stem Diameter		Cv	N.M	ISO5211 Top Flange	Stem Diameter		Cv
			Wafer	RF				Wafer	RF	
2"	26	F07	43	108	58	78	F07	43	108	58
2.5"	32	F07	46	112	109	88	F07	46	112	109
3"	80	F07	48	114	165	144	F07	48	114	165
4"	142	F07	54	127	318	258	F07	54	127	318
6"	362	F10	57	140	932	798	F12	59	140	682
8"	785	F12	64	152	1970	1960	F14	73	152	1230
10"	1080	F14	71	165	2689	2270	F16	83	165	2370
12"	1510	F14	81	178	3930	2780	F16	92	178	3520
14"	2458	F16	92	190	5290	5680	F25	117	190	4782
16"	2850	F25	102	216	7726	6835	F25	133	216	6280
18"	4536	F25	114	222	9856	7358	F30	149	222	7980
20"	5474	F25	127	229	12180	10518	F30	159	229	10800
24"	8240	F25	154	267	19800	18393	F30	181	267	16180
28"	11682	F30	165	292	27600	27478	F35	229	292	22410
30"	14340	F30	190	318	33700	32971	F35	229	318	27090
32"	17856	F30	190	318	35800	41150	F40	241	318	33050
36"	23345	F30	203	330	45600	53700	F40	241	330	42090
40	28200	F35	216	410	65320	68370	F40	300	410	48964
48	44400	F40	254	470	96000	92970	F48	350	470	69350
56"	64240	F40	318	530	139700	141600	F48	390	530	94390
60	73520	F40	318	530	160380	128000	F48	440	530	108400

Triple Offset Butterfly Valve

Size	600LB (10.0MPa)					900LB (15.0MPa)				
	N.M	ISO5211 Top Flange	Stem Diameter		Cv	N.M	ISO5211 Top Flange	Stem Diameter		Cv
			Wafer	RF				Wafer	RF	
2"	162	F07	54	150	42	265	F10	56	118	95
2.5"	208	F07	54	170	72	380	F12	65	153	120
3"	340	F10	54	180	107	560	F12	71	195	150
4"	633	F12	64	190	250	836	F14	92	229	210
6"	1630	F16	78	210	600	2180	F16	102	267	500
8"	3540	F16	102	230	1079	4692	F16	140	292	923
10"	5462	F25	114	250	1708	6596	F25	155	330	1430
12"	6018	F25	140	270	2620	7955	F30	178	356	2148
14"	10913	F25	155	290	4062	17838	F30	290	381	3025
16"	15757	F30	178	310	5292	23600	F35	310	406	4230
18"	19805	F35	200	330	7395	33734	F35	330	432	5692
20"	25808	F35	216	350	9320	44707	F40	350	457	7430
24"	44799	F40	232	390	13578	67240	F40	350	508	10700
28"	66593	F40	292	430	20326	124700	F48	390	548	14165
30"	79506	F48	318	450	23400	158845	F60	410	570	19370
32"	90160	F48	318	470	26370	179855	F60	425	580	25520
36"	117500	F48	330	510	32816	214580	F60	440	615	32610
40	155240	F60	410	550	40518	314630	F60	465	640	40105
48	227000	F60	470	630	57460	426875				
56"	278000	F60	530	710	78210	506785				
60	314000	F60	600	710	89786	637890				

Note:
1.Above Torque value are calculated based on room temperature, if other size torque required, please contact with WELKIN Valves (Whatapp/ Tel.: +86 150 1068 2092) .
2. When sizing the actuator, please consider safety factor 1.2–1.5.
3. For more details, the valve torque will be changed under different working temperature and different seat materials. To know more information please contact with WELKIN.
4. Cv value is based on 90° disc open angle.

Engineering Data

CV Values of Butterfly Valves at Different Openings

Size		CV Values of Butterfly Valves at Different Openings							
inch	mm	10°	20°	30°	40°	50°	60°	70°	80°
2"	50	1.5	4.2	10	12	16	20	41	80
21/2"	65	5.0	19.6	39	62	85	100	112	121
3"	80	5.6	34	67	103	138	172	185	188
4"	100	9.1	31	70	119	176	231	274	285
5"	125	28.5	90	166	251	343	439	516	546
6"	150	14	70	146	252	394	554	692	781
8"	200	57	157	284	492	767	1053	1337	1586
10"	250	90	274	485	769	1183	1781	2517	3139
12"	300	129	373	662	1109	1719	2472	3252	3829
14"	350	219	552	970	1578	2395	3406	4419	5209
16"	400	263	660	1203	2009	3089	4425	5821	6894
18"	450	384	893	1578	2622	4047	5830	7630	9241
20"	500	520	1068	1872	3112	4896	7195	9842	12103
24"	600	579	1379	2594	4416	7083	10617	15019	18347
28"	700	836	1887	3478	5932	9437	14275	20091	25395
32"	800	1250	2751	5088	8611	13695	20774	28747	35652
36"	900	1166	2775	5493	9650	15681	24181	34260	43229
40"	1000	1463	3455	6816	11803	19299	29498	42837	56229
48"	1200	5030	16384	19720	24950	28834	35524	43980	50340

Note: For Reference Only.

Pressure Temperature Chart

Notes

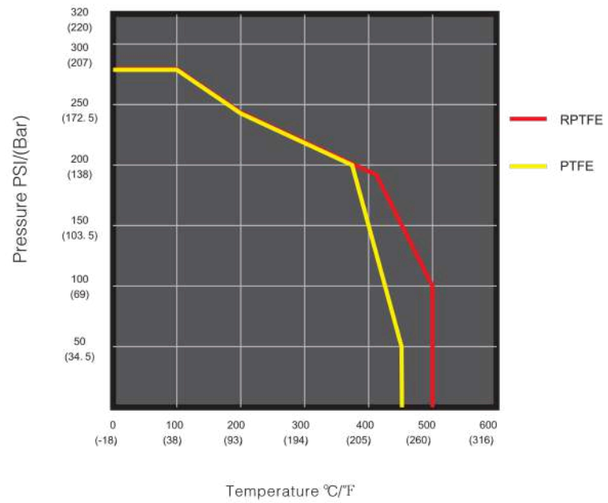
1. All the sizes are in full port.
2. Pressure Ratings are according to B 16.34.

Method of Calculating Flow

The Flow Coefficient Cv of a value is the flow rate of water (gallons/minute)Through a fully opened valve, with a pressure drop of 1 psi across the valve. To find the flow of liquid through the valve from the Cv, use the following formulas:

Liquid Flow:
QL=Cv(P/G)1/2
QL=Flow rate of liquid (gal./min)
P=Differential pressure across the valve
G=Specific gravity of liquid (for water, G=1)

Gas Flow:
Qg=61Cv (P2P/g)1/2
(For non-critical flow,P/P<1.0)
QL=Flow rate of gas (CFH at STP)
P2=Outled pressure(psia)
G=specific gravity of gas (for air, g=1.0)



1-piece floating ball valve

Products

JTC

General features

Floating ball.
End entry.
Reduced bore.
Soft seat.
Bidirectional.
Anti Blow out proof stem.
Auto adjustable packing.
Anti static device.
Self-cavity pressure relief.

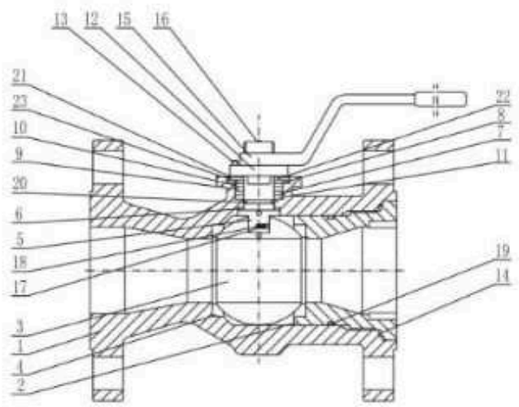
Related Standard

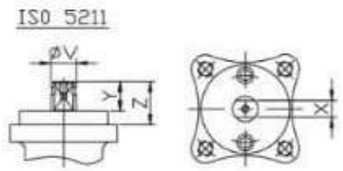
Design standard: ASME 16.34 /API 608/API 6D
Inspection standard: API 598
Top flange: ISO 5211
Flange end: ASME B16.5
Face to face length: ASME B16.10
Fire-proof test: API 607/API6FA
Special requirements: NACEMR0175

Official approvals

CERTIFICATE FIRE SAFE
TA-LUFT VDI 2440
ISO 15848-1
API 6D
ATEX 2014/34/EU
PED 2014/68/EU
SIL 3 CAPABLE
EN 161/EN ISO 23553-1

Material List

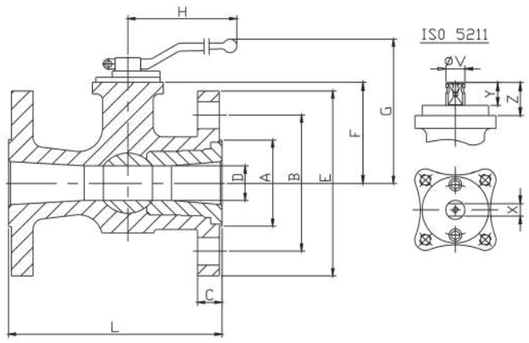


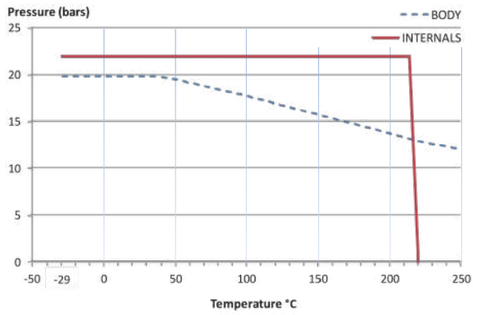


No	Part	Standard
1	Body	C.S. A216 WCC
2	Adapter	C.S. A-105
3	Ball	S.S. A351 CF8M
4	Seat	PTFE (modified)
5	Stem	S.S. AISI 316
6	Stem seal	PTFE (modified)+FG
7	Stem Packing	PTFE (modified)
8	Gland packing 1	S.S. AISI 316
9	Stem Packing 2	Graphite
10	Gland packing 2	S.S. AISI 301
11	Spring washer	S.S. AISI 301
12	Cover	S.S. AISI 301
13	Cover bolt	S.S. (316)
14	Body seal 1	Graphite
15	Handle	WCB
16	Handle bolt	1.045(8.8)
17	Spring	S.S. AISI 316
18	Antistatic Ball	S.S. AISI 316
19	Body seal 2	FKM
20	O ring stem	FKM
21	Subjection ring	S.S. AISI 420
22	Subjection ring seal	S.S. AISI 316 Nitrided
23	Stem bearing	PTFE (modified)+FG

1 PIECE FLOATING BALL VALVE

DIMENSIONS





1 piece floating ball valve-150LB

DN	CL	D	L	E	A	B	C	F	H	G	V	X	Y	Z	nxd	ISO 5211	Torque	MAST
1"	150	20	127	110	51	79	13	47	185	110	14	11	11	13.5	4 × 16	F05	11	42
11/2"	150	32	165	125	73	98	16	57	185	120	18	14	17	19.5	4 × 16	F05	23	92
2"	150	40	178	150	92	121	17	75	293	147	22	17	20	30	4 × 19	F07	32	244
3"	150	65	203	190	127	152	21	96	293	168	22	17	20	30	4 × 19	F07	62	244
4"	150	80	229	230	157	191	25	114	450	204	28	22	22	40	8 × 19	F10	103	510
6"	150	100	267	280	216	241	26	149	740	261	36	27	35	50	8 × 22	F12	264	1047
8"	150	144	292	345	270	299	30	173	740	285	36	27	35	50	8 × 22	F12	400	1047
10"	150	187	330	405	324	362	32	237	336	634	48	36	40	63	12 × 25	F14	720	2482
12"	150	235	356	485	381	432	33	266	336	663	48	36	40	63	12 × 25	F14	1160	2482

1 piece floating ball valve-300LB

DN	CL	D	L	E	A	B	C	F	H	G	V	X	Y	Z	nxd	ISO 5211	Torque	MAST
1"	300	20	165	125	51	89	18	54	185	102	14	11	11	13.5	4 × 19	F05	11	42
11/2"	300	32	190	155	73	114	22	65	185	115	18	14	17	19.5	4 × 22	F05	23	92
2"	300	40	216	165	92	127	23	75	293	129	22	17	20	30	8 × 19	F07	32	244
3"	300	65	283	210	127	168	29	96	293	150	22	17	20	30	8 × 22	F07	62	244
4"	300	80	305	255	157	200	32	114	350	187	28	22	22	40	8 × 25	F10	103	509
6"	300	111	403	320	216	270	37	148	680	237	36	27	35	50	12 × 22	F12	264	1047

**Depending on service conditions. • Dimensions are in mm. • Torque & MAST are in Nm • Weight is in Kilograms
* Torque values have been measured AP at maximum rating at room temperature

2-Piece Floating Ball Valve
Products

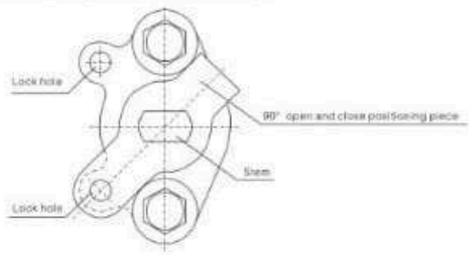
Related Standards:

Design and Manufacture: API 6D, BS5351, ASME B16.34
API 608, MSS-SP-72
Face To Face Dimension: ASME B16.10
Flange Connection Dimension: ASME B16.5
BW Connection Dimension: ASME B16.25
Test And Inspection: API 598
Fire-safe Design: API 607
Anti-static Design&Anti Blow-out Stem

Wrong operation prevention

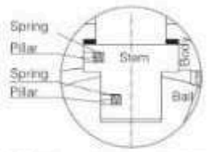
To prevent the ball valve from wrong operation, the keylock with 90° of open and close positioning pad has been provided, Which can be lockable as required. At the stem head, where the lever fixes, a flat is designed so that the valve opens with the lever in parallel to piping, and with the lever right-angled to the piping, the valve is closed. So, it is ensured that the valve indicator of open and close can never make mistake.

Lock And Misoperation Prevention Structure

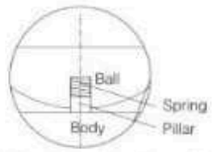


Anti-static feature

The traditional packing flange design has been improved to be of two piece structure, i.e., being as a packing flange plate and a follower, the latter contacts the flange plate with spherical surface. Thus, the follower remains vertical always, and is lined internally with a PTFE bush to prevent the galling against and friction between the stem, which can also reduce the operation torque of the valve.



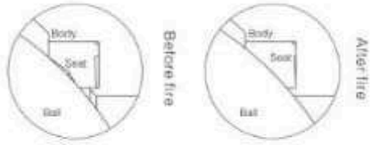
Anti-Static design for ball valve ≥32mm



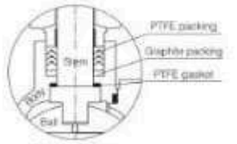
Anti-Static design for ball valve <25mm

Fire safe design

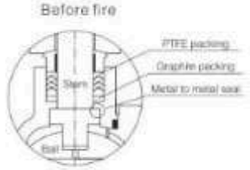
With the valve hested in a fire application, the non-metal material parts such as seat sealing ring of PTFE, stem back seat gasket, gland packing, and the sealing gasket between body and bonnet might disintegrate or be damaged due to high temperature. Our company specially designed structure of auxiliary metal to metal seal is provided to effectively prevent both internal and external leakage of the valve. As required by customers, Our company floating ball valves with design can meet the requirement of API 607.



Fire safe design of seat

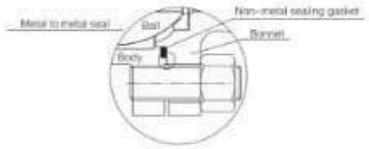


Before fire



After fire

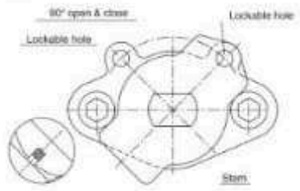
Fire safe design of stem



Fire safe design of valve body and bonnet flanges

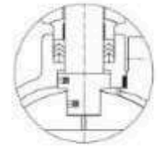
Mounting pad provided

Our company has provided for floating ball valve with a mounting pad , through which it is easy to fix the actuators, such as worm gear, pneumatic and electric actuators.

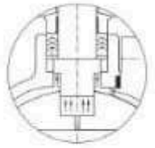


Reliable stem seal

The blow-out proof design has been adopted for the stem to ensure that even if the pressure in the body cavity is risen accidently and the packing flange becomes invalid, the stem may not be blown out by medium. The stem features the design with a backseat, being assembled from underneath. The sealing force against the backseat gets higher as the medium pressure becomes higher. So the reliable seal of the stem can be assured under variable medium pressure.

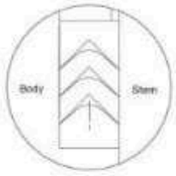


Stem assembled from underneath may not be blown out by medium

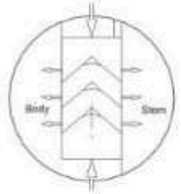


Stem assembled downward may be blown out

V type packing structure has been employed to effectively transform the pushing force of the gland flange and the medium pressure into the sealing force against the stem.



Packing before pressed



Packing after pressed

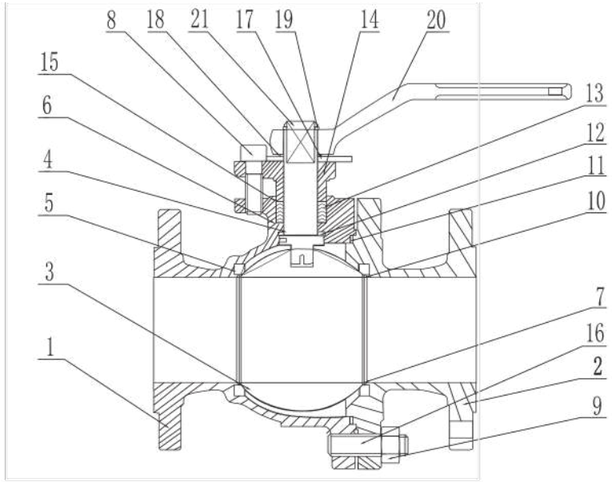
Reliable seat seal

The structure design of elastic sealing ring has been adopted for floating ball valves. This seat design features a bigger sealing pressure ratio between the ring surface and the ball when medium pressure gets lower, where the contacting area is smaller. Thus, the reliable seal is ensured. When the medium pressure gets higher, the contacting area between seat ring and ball becomes bigger as the sealing ring transforms elastically to undertake the bigger force pushed by the medium without any damage.

Application

Floating ball valves are suitable for various kinds of pipelines of Class 150 to Class 600, to turn on or off the pipeline medium, of which the operation types include manual, worm gear and pneumatic or electric actuators.

2-Piece Floating Ball Valve



TECHNICAL SPECIFICATIONS:

- 1/2"–10"
- Up to 260℃
- Class 150LB–600LB

Optional Operating Actuator

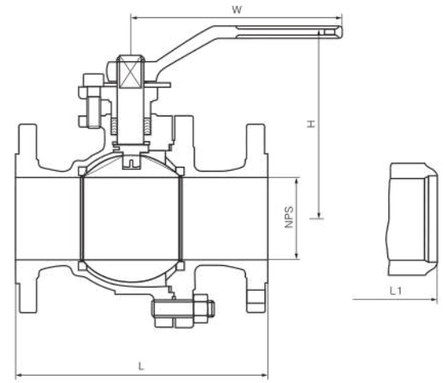
Handwheel Gear Box

Pneumatic Electric

ASTM Material list of floating ball valve

No	Part Name	Carbon Steel to ASTM		Stainless Steel to ASTM			
1	Body	A216 WCB	A352 LCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Bonnet	A216 WCB	A352 LCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
3	Ball	SS304	SS304	SS304	SS316	SS304L	SS316L
4	Stem	A182 F6a	A182 F304	A182 F304	A182 F316	A182 F304L	A182 F316L
5	Seat ring	PTFE, RPTFE, PEEK, DEVLON					
6	Gasket	SS304/SS316+Graphite, PTFE					
7	O–ring	Fluoro Rubber					
8	Bolt	A193 B7	A193 L7	A193 B8/B8M			
9	Nut	A194 2H	A194 7	A194 8/8M			
10	Small spring	SS304/SS316					
11	Small ball	SS304/SS316					
12	Thrust washer	PTFE					
13	Stem packing	Flexible Graphite/PTFE					
14	Packing gland	A216 WCB	A352 LCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF8M
15	Shaft sleeve	PTFE					
16	Screw	A193 B7	A320 L7	A193 B8/B8M			
17	Positioning plate	Galvanized Steel					
18	Rataining ring	Carbon Steel					
19	Lever	Carbon Steel					
20	Gasket	Carbon Steel					
21	Screw	Carbon Steel					

2-Piece Floating Ball Valve



150LB Main size of outside & weight

Size		1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10
	mm	15	20	25	40	50	65	80	100	150	200	250
L (RF)	in	4.25	4.62	5.00	6.50	7.00	7.50	8.00	9.00	15.50	18.00	21.00
	mm	108	117	127	165	178	190	203	229	394	457	533
L1 (BW)	in	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00
	mm	140	152	165	190	216	241	283	305	457	521	559
H	in	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00	13.50
	mm	55	55	70	90	105	155	185	205	255	280	345
WT (Kg)	RF	2.3	3	4.5	7	15	20	25	40	97	160	225
	BW	2	2.5	3.8	5.8	12	17	21	36	92.8	154	200

300LB Main size of outside & weight

Size		1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8
	mm	15	20	25	40	50	65	80	100	150	200
L (RF)	in	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	19.75
	mm	140	152	165	190	216	241	283	305	403	502
L1 (BW)	in	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50
	mm	140	152	165	190	216	241	283	305	457	521
H	in	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00
	mm	55	55	70	90	105	153	187	206	255	280
WT (Kg)	RF	2.5	3.5	5.5	10.5	20	25	31	52	118	200
	BW	2.1	3	4.8	8.7	17	22	28	48	105	180

600LB Main size of outside & weight

Size		1/2	3/4	1	1 1/2	2	2 1/2	3	4
	mm	15	20	25	40	50	65	80	100
L/L1 (RF/BW)	in	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00
	mm	165	190	216	241	292	330	356	432
L2 (RTJ)	in	–	–	–	–	11.62	13.12	14.12	17.12
	mm	–	–	–	–	295	333	359	435
H	in	2.38	2.38	3.00	4.00	4.75	6.88	8.38	9.25
	mm	61.5	61.5	78	101	120	174	212	234
WT (Kg)	RF/RTJ	3.3	4.5	7.2	13.5	19	31	39	71
	BW	2.6	3.1	4.8	8	13	22	27	53

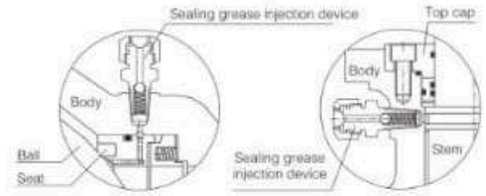
2-Piece Trunnion Mounted Ball Valve Products

Standards

Design and Manufacture: API 6D, BS5351, ASME B16.34
API 608, MSS-SP-72
Face To Face Dimension: ASME B16.10
End flange dimension: ASME B16.5(for NPS≤24); ASME B16.47 series B; ASME B16.47 series A, MSS SP-44(for NPS＞24).
BW Connection Dimension: ASME B16.25
Test And Inspection: API 598
Fire-safe Design: API 607
Anti-static Design&Anti Blow-out Stem

Urgent grease injection device

According to customer's requirement, the trunnion ball valves made by our company are provided with devices for urgent grease injection, which are on both the stem and seat for the trunnion ball valves of DN>150mm (NPS6), and in the body cavity for the valve of DN<125mm. When the O ring of stem or the body seat ring is damaged due to accident, the medium leakage between body and stem can be prevented by injecting the sealing grease through the device.

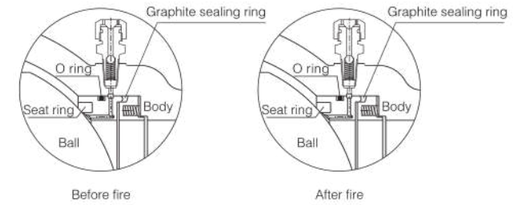


Mounting pad provided

Our company has provided for trunnion ball valve with a mounting pad for fixing the actuators, such as worm gear, pneumatic, electric, hydraulic, and pneumatic & hydraulic acturtors.

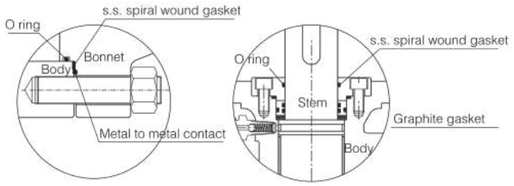
Fire safe design

With the valve heated in a fire application, the non-metal material parts such as seat sealing ring of PTFE, O ring for the stem, and sealing gasket for body and bonnet, might be damaged due to high temperature. Our company special design of auxiliary metal to metal or the graphite seal is provited for the trunnion ball valve to effectively prevent both internal and external leakage of the valve. As required by customers, our company fire safe design for the trunnion ball valve meets the requirement of API 607, API 6Fa, BS 6755.



Before fire　　After fire

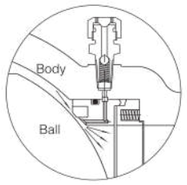
Fire safe design of seat



Fire safe design of valve body and bonnet flanges　　Fire safe design of stem

Self-relief in the body cavity

As the liquid medium left in the body cavity gasifies due to increased temperature, the pressure in the body cavity becomes abnormally higher when the medium itself in the cavity would propel the seat and self-relieves the pressure to ensure the safety of valve.

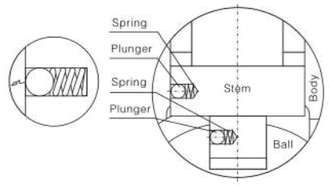


Blow-out proof stem

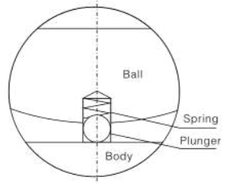
Blow-out proof structure is provided with for the stem, which is positioned by the up-end cap and screw, being guaranteed not to be blown-out by the medium even if at abnormal risen pressure in the cavity.

Anti-static Structure

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



Anti-static structure design of ball valve with DN≥32



Anti-static structure design of ball valve with DN≥25

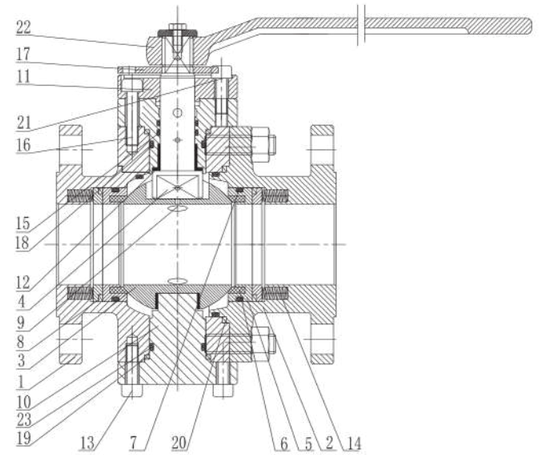
Anti-static Structure

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

Typical application

- Water works and water resource project
- Environment protection
- Public facilities
- Power and Public utilities
- Building industry
- Petroleum, chemical
- Steel, metallurgy
- Paper making industry
- Foods, Beverage

2-Piece Trunnion Mounted Ball Valve



TECHNICAL SPECIFICATIONS:

2"-18"

Up to 260℃

Class 150LB-600LB

Optional Operating Actuator

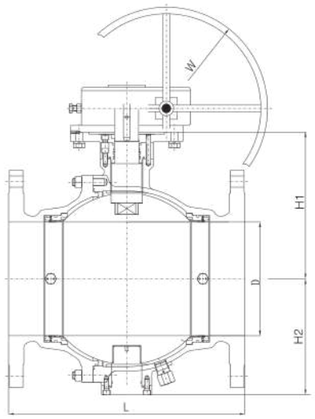
Handwheel　　Gear Box

Pneumatic　　Electric

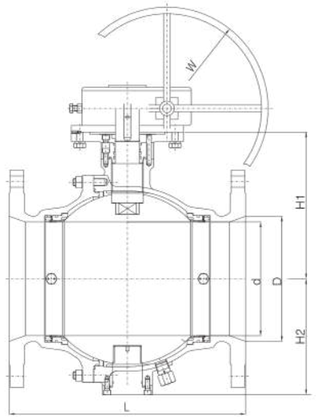
Material List

No	Part	Carbon Steel		Stainless Steel	
		A216 WCB	A352 LCB	A351 CF8M	A351 CF8
1	Body	ASTM A216 WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A351 CF8
2	Body End	ASTM A216 WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A351 CF8
3	Ball	ASTMA105N+ENP	ASTM A350 LF2+ENP	ASTMA182 F316	ASTM A182 F304
4	Stem	ASTMA105N+ENP	ASTM A350 LF2+ENP	ASTMA182 F316	ASTM A182 F304
5	Seat Ring	ASTMA105N+ENP	ASTM A350 LF2+ENP	ASTMA182 F316	ASTM A182 F304
6	Seat insert	PTFE	PTFE	PTFE	PTFE
7	O-Ring	VITON	VITON	VITON	VITON
8	Fire Safe Seal	Graphite	Graphite	Graphite	Graphite
9	Grounding Spring	SS304	SS304	SS316	SS304
10	Lower Trunnion	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A182 F304
11	Gland Cap	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A182 F304
12	Gasket	SS+Graphite	SS+Graphite	SS+Graphite	SS+Graphite
13	Buttom Screw	ASTMA193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A182 F304
14	Spring	Inconel X-750	Inconel X-750	Inconel X-750	InconelX-750
15	Fire Safe Gasket	Graphite	Graphite	Graphite	Graphite
16	Screw	ASTMA193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B8
17	Top Flange	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A182 F304
18	Key	Viton A	Viton A	Viton A	Viton A
19	Injection	A105	SS 304	SS316	SS 304
20	Drain Valve	SS 304+Graphit	SS 304+Graphit	SS 304+Graphit	SS 304+Graphit
21	Vent Valve	ASTM A193 GR. B7	ASTM A193 GR. B7	ASTM A193 GR. B7	ASTM A193 GR. B7
22	Operator	Handle or Gear box	Handle or Gear box	Handle or Gear box	Handle or Gear box
23	O ring	Viton A	Viton A	Viton A	Viton A

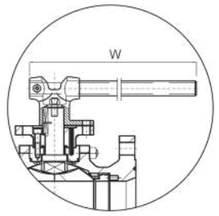
Note：Different raw materials and trims are available according to application conditions or customer requests



Full Port



Reduce Port



Handle

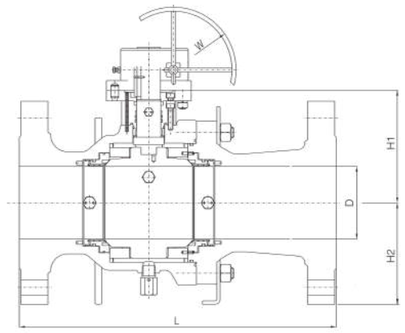
150LB Full Port

Size		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	50	2.01	51	7.01	178	7.87	200	4.33	110	10.43	265
3	80	2.99	76	7.99	203	11.81	300	4.96	126	11.22	285
4	100	4.02	102	9.02	229	12.40	315	6.50	165	11.22	285
6	150	5.98	152	15.51	394	13.19	335	6.50	165	11.81	*300
8	200	7.99	203	17.99	457	15.94	405	7.87	200	11.81	*300
10	250	10.00	254	21.02	534	16.81	427	8.66	220	11.81	*300
12	300	12.01	305	24.02	610	18.31	465	10.31	262	19.69	*500
14	350	13.27	337	27.01	686	19.92	506	11.54	293	23.62	*600
16	400	15.24	387	30.00	762	24.49	622	13.43	341	23.62	*600

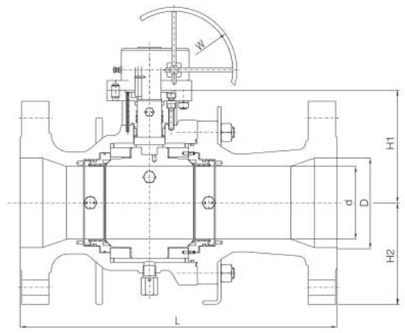
150LB Reduce Port

Size		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3*2	80*50	2.01	51	2.99	76	7.99	203	7.87	200	4.33	110	10.43	265
4*3	100*80	2.99	76	4.02	102	9.02	229	11.81	300	4.96	126	11.22	285
6*4	150*100	4.02	102	5.98	152	15.51	394	12.40	315	6.50	165	11.22	285
8*6	200*150	5.98	152	7.99	203	17.99	457	13.19	335	6.69	170	11.81	*300
10*8	250*200	7.99	203	10.00	254	21.02	534	15.94	405	7.87	200	11.81	*300
12*10	300*250	10.00	254	12.01	305	24.02	610	16.81	427	8.66	220	1181	*300
14*10	350*250	12.01	305	13.27	337	27.01	686	16.81	427	8.66	220	1181	*300
16*12	400*300	13.27	337	15.24	387	30.00	762	18.31	465	10.31	262	19.69	*500
18*14	450*350	15.24	387	17.24	438	34.02	864	19.92	506	11.54	293	23.62	*600

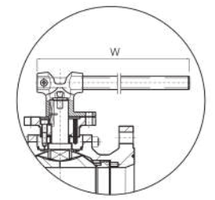
*Gear box



Full Port



Reduce Port



Handle

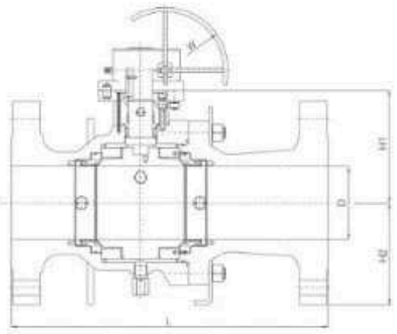
300LB Full Port

Size		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	50	2.01	51	8.50	216	8.11	206	4.45	113	10.43	265
3	80	2.99	76	11.14	283	12.40	315	5.08	129	15.75	400
4	100	4.02	102	12.01	305	12.99	330	6.65	169	29.53	750
6	150	5.98	152	15.87	403	13.58	345	5.83	148	11.81	*300
8	200	7.99	203	19.76	502	16.34	415	7.28	185	11.81	*300
10	250	10.00	254	22.36	568	16.81	427	8.90	226	15.75	*400
12	300	12.01	305	25.51	648	18.31	465	10.59	269	19.69	*500
14	350	13.27	337	30.00	762	20.43	519	11.81	300	23.62	*600
16	400	15.24	387	32.99	838	25.12	638	13.78	350	23.62	*600

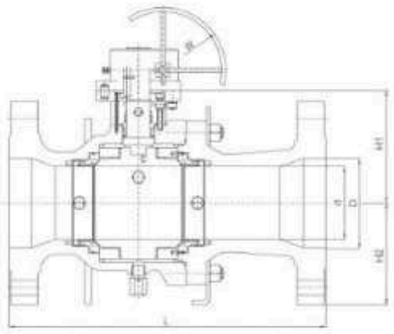
300LB Reduce Port

Size		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3*2	80*50	2.01	51	2.99	76	11.14	283	8.11	206	4.45	113	10.43	265
4*3	100*80	2.99	76	4.02	102	12.01	305	12.40	315	5.08	129	15.75	400
6*4	150*100	4.02	102	5.98	152	15.87	403	12.99	330	6.65	169	29.53	750
8*6	200*150	5.98	152	7.99	203	19.76	502	13.58	345	5.83	148	11.81	300
10*8	250*200	7.99	203	10.00	254	22.36	568	16.34	15	7.28	35	11.81	00
12*10	300*250	10.00	254	12.01	305	25.51	648	16.81	427	8.90	226	19.69	500
14*10	350*250	12.01	305	13.27	337	30.00	762	16.81	427	8.90	226	19.69	500
16*12	400*300	13.27	337	15.24	387	32.99	838	18.31	465	10.59	269	23.62	600
18*14	450*350	15.24	387	17.24	438	35.98	914	20.43	519	11.81	1300	23.62	600

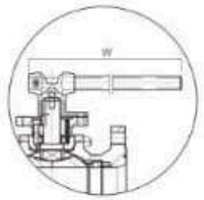
*Gear box



Full Port



Reduce Port



Handle

600LB Full Port

Size		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	50	2.01	51	11.5	292	7.87	200	4.33	110	10.43	265
3	80	2.99	76	14.2	356	11.81	300	4.96	126	11.22	285
4	100	4.02	102	17.01	432	12.40	315	6.50	165	11.22	285
6	150	5.98	152	22.01	559	13.19	335	6.50	165	11.81	*300
8	200	7.99	203	25.98	660	15.94	405	7.87	200	11.81	300
10	250	10.00	254	30.98	787	16.81	427	8.66	220	11.81	*300
12	300	12.01	305	32.99	838	18.31	465	10.31	262	19.69	*500
14	350	13.27	337	35.00	889	19.92	506	11.54	293	23.62	*600
16	400	15.24	387	39.02	991	24.49	622	13.43	341	23.62	600

600LB Reduce Port

Size		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3*2	80*50	2.01	51	2.99	76	14.20	356	8.11	206	4.45	113	15.75	400
4*3	100*80	2.99	76	4.02	102	17.01	432	12.40	315	4.45	113	15.75	400
6*4	150*100	4.02	102	5.98	152	22.01	559	12.99	330	5.08	129	29.53	750
8*6	200*150	5.98	152	7.99	203	25.98	660	13.58	345	6.65	169	39.37	1000
10*8	250*200	7.99	203	10.00	254	30.98	787	16.34	415	5.83	148	11.81	*300
12*10	300*250	10.00	254	12.01	305	32.99	838	16.81	427	7.28	185	11.81	*300
14*10	350*250	12.01	305	13.27	337	35.00	889	16.81	427	7.28	185	11.81	*300
16*12	400*300	13.27	337	15.24	387	39.02	991	18.31	465	8.90	226	19.69	*500
18*14	450*350	15.24	387	17.24	438	42.99	1092	20.43	519	10.59	269	23.62	*600

*Gear box

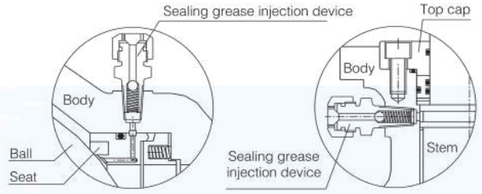
3-Piece Trunnion Mounted Ball Valve Products

Standards

Design and Manufacture: API 6D, BS5351, ASME B16.34
API 608, MSS-SP-72
Face To Face Dimension: ASME B16.10
End flange dimension: ASME B16.5(for NPS≤24); ASME B16.47 series B, ASME B16.47 series A, MSS SP-44(for NPS＞24).
BW Connection Dimension: ASME B16.25
Test And Inspection: API 598
Fire-safe Design: API 607
Anti-static Design&Anti Blow-out Stem

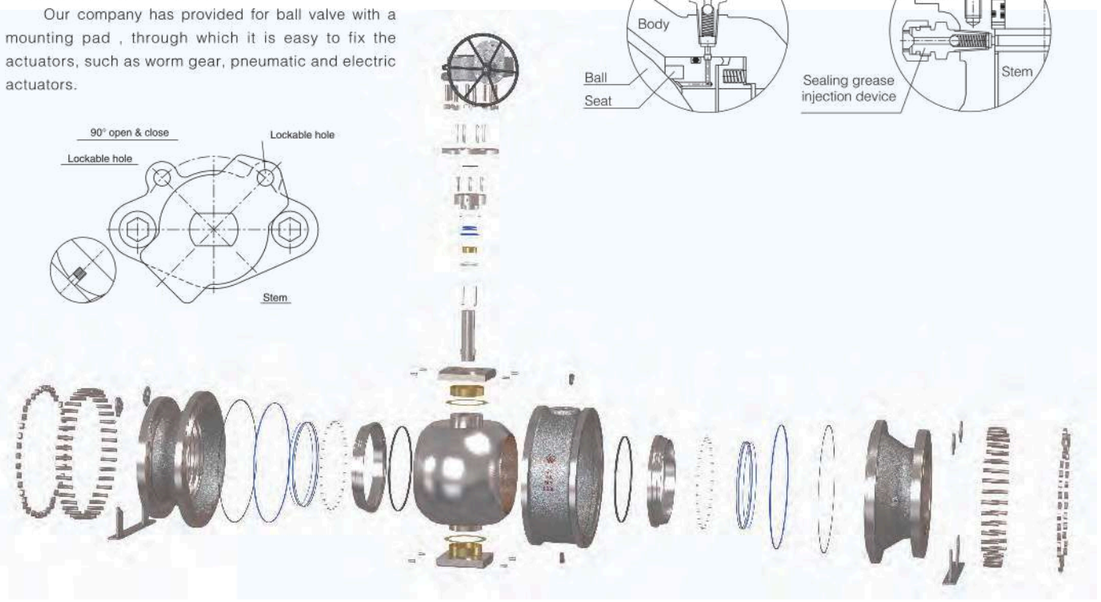
Urgent grease injection device

According to customer's requirement, the trunnion ball valves made by our company are provided with devices for urgent grease injection, which are on both the stem and seat for the trunnion ball valves of DN>150mm (NPS6), and in the body cavity for the valve of DN<125mm. When the O ring of stem or the body seat ring is damaged due to accident, the medium leakage between body and stem can be prevented by injecting the sealing grease through the device.



Mounting pad provided

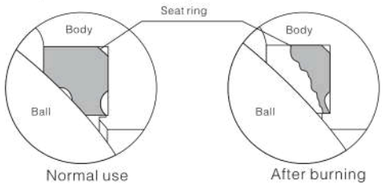
Our company has provided for ball valve with a mounting pad , through which it is easy to fix the actuators, such as worm gear, pneumatic and electric actuators.



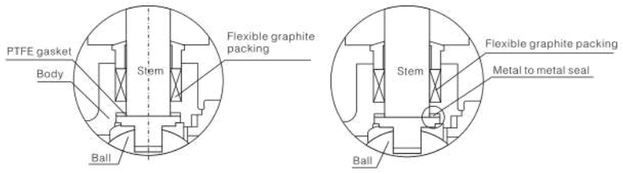
Fireproof Structure Design

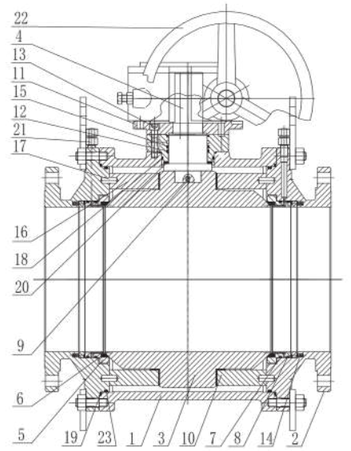
In case of fire during use of valve, the seat ring made of PTFE or other non-metal materials will be decomposed or damaged under high temperature and cause higher leakage. The fireproof seal ring is set between ball and seat so that after the valve seat is burnt, the medium will push the ball rapidly towards the downstream metal seal ring to form the auxiliary metal to metal sealing structure, which can effectively control valve leakage. The fireproof structure design conforms to requirements in API 607, API 6FA, BS 6755 and other standards.

Fireproof Structure Design Of Seat



Fireproof Structure Design Of Stem





TECHNICAL SPECIFICATIONS:

2"-18"

Up to 350℃

Class 150LB-600LB

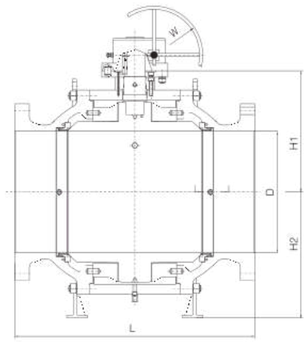
Optional Operating Actuator

Handwheel
Gear Box
Pneumatic
Electric

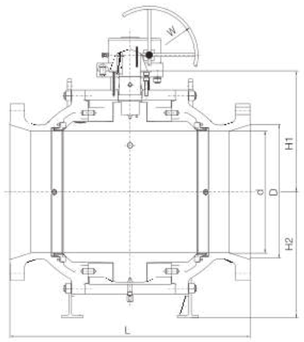
Material List

No	Part	Carbon Steel		Stainless Steel	
		A216 WCB	A352 LCB	A351 CF8M	A351 CF8
1	Body	ASTM A216 WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A351 CF8
2	Body End	ASTM A216 WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A351 CF8
3	Ball	ASTMA105N+ENP	ASTM A350 LF2+ENP	ASTMA182 F316	ASTM A182 F304
4	Stem	ASTMA105N+ENP	ASTM A350 LF2+ENP	ASTMA182 F316	ASTM A182 F304
5	Seat Ring	ASTMA105N+ENP	ASTM A350 LF2+ENP	ASTMA182 F316	ASTM A182 F304
6	Seat insert	PTFE	PTFE	PTFE	PTFE
7	O-Ring	VITON	VITON	VITON	VITON
8	Fire Safe Seal	Graphite	Graphite	Graphite	Graphite
9	Grounding Spring	SS304	SS304	SS316	SS304
10	Lower Trunnion	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A182 F304
11	Gland Cap	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A182 F304
12	Gasket	SS+Graphite	SS+Graphite	SS+Graphite	SS+Graphite
13	Buttom Screw	ASTMA193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B8
14	Spring	Inconel X-750	Inconel X-750	Inconel X-750	InconelX-750
15	Fire Safe Gasket	Graphite	Graphite	Graphite	Graphite
16	Screw	ASTMA193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B8
17	Position Plate	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A182 F304
18	O ring	Viton A	Viton A	Viton A	Viton A
19	Gasket	SS 304+Graphit	SS 304+Graphit	SS 304+Graphit	SS 304+Graphit
20	O ring	Viton A	Viton A	Viton A	Viton A
21	Bolt	ASTM A193 GR. B7	ASTM A193 GR. B7	ASTM A193 GR. B7	ASTM A193 GR. B7
22	Operator	Handle or Gear box	Handle or Gear box	Handle or Gear box	Handle or Gear box
23	O ring	Viton A	Viton A	Viton A	Viton A

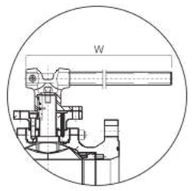
Note：Different raw materials and trims are available according to application conditions or customer requests



Full Port



Reduce Port



Handle

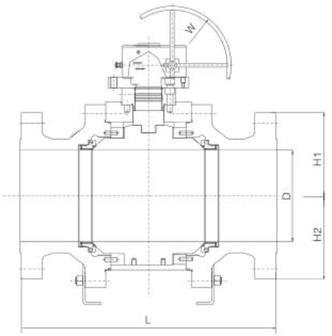
150LB Full Port

Size		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
16	400	15.24	387	30.00	762	24.49	622	13.43	341	23.62	*600
18	450	17.24	438	34.02	864	26.22	666	16.22	412	23.62	*600
20	500	19.25	489	35.98	914	28.74	730	17.13	435	23.62	*600
22	550	21.26	540	39.02	991	32.80	833	18.90	480	23.62	*600
24	600	23.27	591	42.01	1067	35.24	895	20.39	518	31.50	*800
26	650	25.00	635	45.00	1143	35.43	900	21.06	535	31.50	*800
28	700	27.01	686	49.02	1245	36.81	935	21.34	542	31.50	*800
30	750	29.02	737	50.98	1295	39.76	1010	23.82	605	31.50	*800
32	800	30.75	781	54.02	1372	41.73	1060	25.59	650	31.50	*800
34	850	32.76	832	57.99	1473	42.40	1077	25.59	650	31.50	*800
36	900	34.49	876	60.00	1524	43.90	1115	27.56	700	31.50	*800
40	1000	38.50	978	67.99	1727	55.12	1400	34.06	865	31.50	*800
42	1050	40.24	1022	78.23	1987	62.91	1598	35.43	900	31.50	*800
48	1200	45.98	1168	83.46	2120	67.80	1722	41.02	1042	31.50	*800

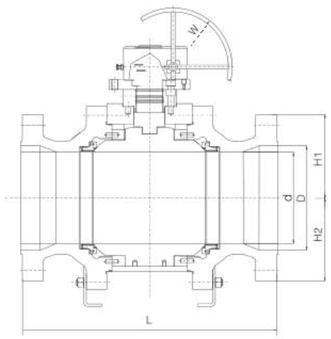
150LB Reduce Port

Size		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
18*14	450*350	13.27	337	17.24	438	34.02	864	19.92	506	11.54	293	23.62	*600
20*16	500*400	15.24	387	19.25	489	35.98	914	24.49	622	13.43	341	23.62	*600
22*18	550*450	17.24	438	21.26	540	39.02	991	26.22	666	15.43	392	23.62	*600
24*20	600*500	19.25	489	23.27	591	42.01	1067	28.74	730	17.13	435	23.62	*600
26*22	650*550	21.26	540	25.00	635	45.00	1143	32.80	833	18.90	480	23.62	*800
28*24	700*600	23.27	591	27.01	686	49.02	1245	35.24	895	20.39	518	31.50	*800
30*24	750*600	23.27	591	29.02	737	50.98	1295	35.24	895	20.39	518	31.50	*800
32*26	800*650	25.00	635	30.75	781	54.02	1372	35.43	900	21.06	535	31.50	*800
34*28	850*700	27.01	686	32.76	832	57.99	1473	36.81	935	21.34	542	31.50	*800
36*30	900*750	29.02	737	34.49	876	60.00	1524	39.76	1010	23.82	605	31.50	*800
40*34	1000*850	32.76	832	38.50	978	67.99	1727	42.40	1077	25.59	650	31.50	*800
42*36	1050*900	34.49	876	40.24	1022	78.23	1987	43.90	1115	27.56	700	31.50	*800
48*40	1200*1000	38.50	978	45.98	1168	83.46	2120	55.12	1400	34.06	865	31.50	*800

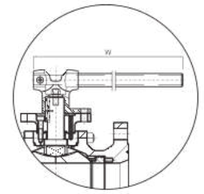
*Gear box



Full Port



Reduce Port



Handle

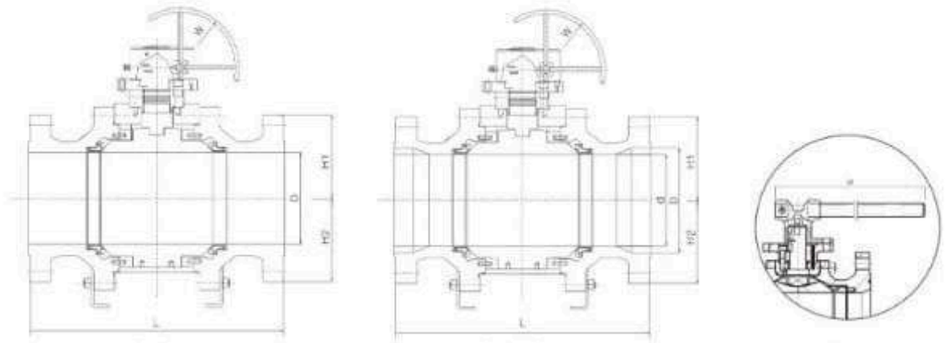
300LB Full Port

Size		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
16	400	15.24	387	32.99	838	25.12	638	13.78	350	23.62	*600
18	450	17.24	438	35.98	914	26.89	683	15.83	402	23.62	*600
20	500	19.25	489	39.02	991	29.45	748	17.56	446	23.62	*600
22	550	21.26	540	42.99	1092	33.62	854	19.37	492	23.62	*600
24	600	23.27	591	45.00	1143	36.10	91	20.91	531	31.5	*800
28	700	27.01	686	52.99	1346	37.72	958	21.89	556	31.5	*800
30	750	29.02	737	55.00	1397	40.75	1035	24.41	620	31.5	*800
32	800	30.75	781	60.00	1524	42.80	1087	26.22	666	31.5	*800
34	850	32.76	832	64.02	1626	43.46	1104	26.22	666	31.5	*800
36	900	34.49	876	67.99	1727	45.00	1143	28.27	718	31.5	*800
40	1000	38.50	978	75.98	1930	56.50	1435	34.92	887	31.5	*800
42	1050	40.24	1022	80.00	2032	64.49	1638	36.34	923	31.5	*800
48	1200	45.98	1168	85.43	2170	69.49	1765	42.05	1068	31.5	*800

300LB Reduce Port

Size		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
16*14	400*350	13.27	337	15.24	387	32.99	838	20.43	519	11.81	300	23.62	*600
18*16	450*400	15.24	387	17.24	438	35.98	914	25.12	638	13.78	350	23.62	*600
20*18	500*450	17.24	438	19.25	489	39.02	991	26.89	683	15.83	402	23.62	*600
22*18	550*450	17.24	438	21.26	540	42.99	1092	26	683	15.83	402	23.62	*600
24*20	600*500	19.25	489	23.27	591	45.00	1143	89	748	17.56	446	23.62	*600
28*24	700*600	23.27	589	27.01	686	52.99	1346	33.62	854	19.37	492	23.62	*600
30*24	750*600	23.27	589	29.02	737	55.00	1397	36.10	917	20.91	531	31.5	*800
34*28	850*700	27.01	686	32.76	832	64.02	1626	37.72	958	21.89	556	31.5	*800
36*30	900*750	29.02	737	34.49	876	67.99	1727	40.75	1035	24.41	620	31.5	*800
40*34	1000*850	32.76	832	38.50	978	75.98	1930	43.46	1104	26.22	666	31.5	*800
42*36	1050*900	34.49	876	40.24	1022	80.00	2032	45.00	1143	28.27	718	31.5	*800
48*40	1200*1000	38.50	978	45.98	1168	85.43	2170	56.50	1435	34.92	887	31.5	*800

*Gear box



Full Port　　Reduce Port　　Handle

600LB Full Port

Size		B		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
16	400	15	387	39.02	991	25.12	638	13.78	350	23.62	*600
18	450	17.24	438	42.99	1092	26.89	683	15.83	402	23.62	*600
20	500	19.25	489	47.01	1194	29.45	748	17.56	446	23.62	*600
22	550	21.26	540	50.98	1295	33.62	854	19.37	492	31.5	*800
24	600	23.27	591	55.00	1397	36.10	917	20.91	531	31.5	*800
28	700	27.01	635	60.98	1549	37.72	958	21.89	556	31.5	*800
30	750	29.02	737	65.00	1651	40.75	1035	24.41	620	31.5	*800
32	800	30.75	781	70.00	1778	42.80	1035	26.22	666	31.5	*800
34	850	32.76	832	75.98	1930	43.46	1104	26.22	666	31.5	*800
36	900	34.49	876	82.01	2083	45.00	1143	28.27	718	31.5	*800
40	1000	38.50	978	85.00	2159	56.50	1435	34.92	887	31.5	*800
42	1050	40.24	1022	85.63	2175	64.49	1638	36.34	923	31.5	*800
48	1200	45.98	1168	95.87	2435	69.49	1765	42.05	1068	31.5	*800

600LB Reduce Port

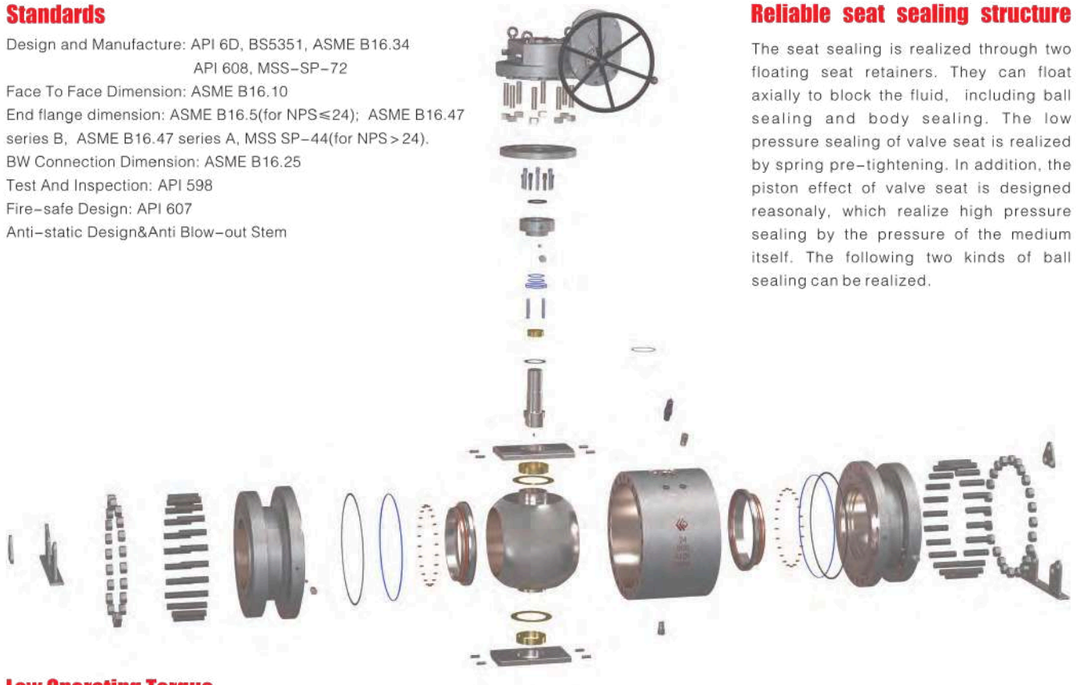
Size		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
16*14	400*350	13.27	337	15.24	387	39.02	991	20.43	519	11.81	300	23.62	*600
18*16	450*400	15.24	387	17.24	438	42.99	1092	25.12.	638	13.78	350	23.62	*600
20*18	500*450	17.24	438	19.25	489	47.01	1194	26.89	683	15.83	402	23.62	*600
22*18	550*450	17.24	438	21.26	540	50.98	1295	26.89	683	15.83	402	23.62	*600
24*20	600*500	19.25	489	23.27	591	55.00	1397	29.45	748	17.56	446	23.62	*600
28*24	700*600	23.27	591	27.01	686	60.98	1549	33.62	854	19.37	492	31.50	*800
30*24	750*600	23.27	591	29.02	737	65.00	1651	36.10	917	20.91	531	31.50	*800
34*28	850*700	27.01	686	32.76	832	75.98	1930	37.72	958	21.89	556	31.50	*800
36*30	900*750	29.02	737	34.49	876	82.01	2083	40.75	1035	24.41	620	31.50	*800
40*34	1000*850	32.76	832	38.50	978	85.00	2159	43.46	1104	26.22	666	31.50	*800
42*36	1050*900	34.49	876	40.24	1022	85.63	2175	45.00	1143	28.27	718	31.50	*800
48*40	1200*1000	38.50	978	45.98	1168	95.87	2435	56.50	1435	34.92	887	31.50	*800

*Gear box

Forged Steel Trunnion Mounted Ball Valve Products

Standards

Design and Manufacture: API 6D, BS5351, ASME B16.34
API 608, MSS-SP-72
Face To Face Dimension: ASME B16.10
End flange dimension: ASME B16.5(for NPS≤24); ASME B16.47 series B, ASME B16.47 series A, MSS SP-44(for NPS＞24).
BW Connection Dimension: ASME B16.25
Test And Inspection: API 598
Fire-safe Design: API 607
Anti-static Design&Anti Blow-out Stem



Reliable seat sealing structure

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

Low Operating Torque

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

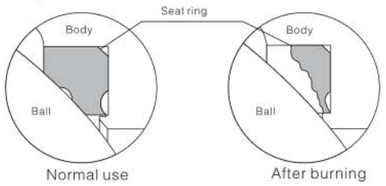
Emergency Sealing Device

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

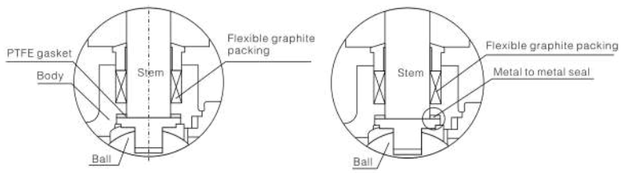
Fireproof Structure Design

In case of fire during use of valve, the seat ring made of PTFE or other non-metal materials will be decomposed or damaged under high temperature and cause higher leakage. The fireproof seal ring is set between ball and seat so that after the valve seat is burnt, the medium will push the ball rapidly towards the downstream metal seal ring to form the auxiliary metal to metal sealing structure, which can effectively control valve leakage. The fireproof structure design conforms to requirements in API 607, API 6FA, BS 6755 and other standards.

Fireproof Structure Design Of Seat



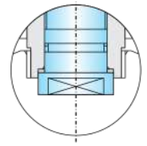
Fireproof Structure Design Of Stem



Forged Steel Trunnion Mounted Ball Valve

Blow-out Proof Stem

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



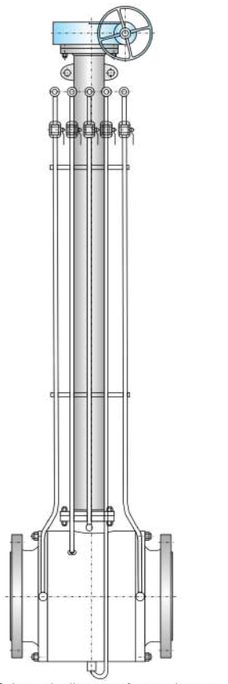
Blow-out proof stem

Corrosion Resistance And Sulfide Stress Resistance

Certain corrosion allowance is left for the body wall thickness. The carbon steel stem, fixed shaft, ball, seat and seat ring are subjected to chemical nickel plating according to ASTM B733 and B656. In addition, various corrosion resistant materials are available for users toselect. According to customer requirements, the valve materials can be selected according to NACE MR 0175/ISO 15156 or NACE MR 0103, and strict quality control and quality inspection should be carried out during the manfacturing so as to fully meet the requirements in the standards and meet the service conditions in sulfurization environment.

Extension Stem

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

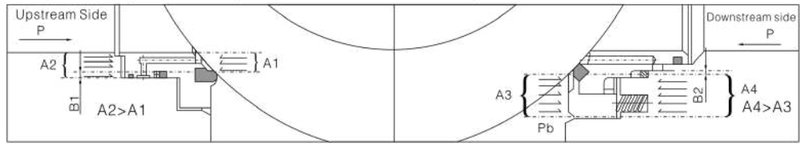


Schematic diagram of extension stem

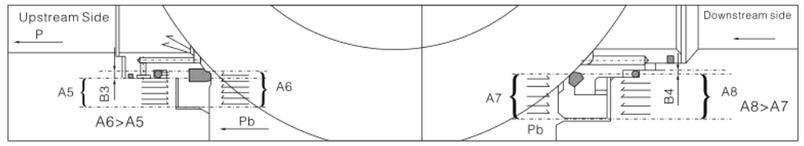
Secure Structure Of Automatic Pressure Relief Towards Upper Stream

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

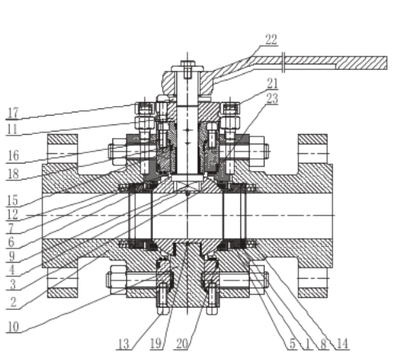
Principle drawing of ball valve upstream and downstream sealing



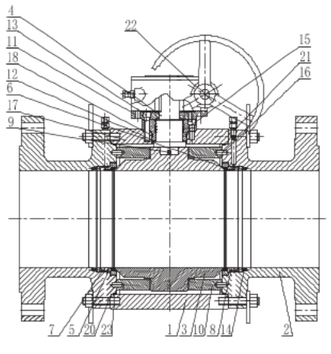
Principle drawing of ball valve cavity pressure relief to the upper stream and of downstream sealing



Forged Steel Trunnion Mounted Ball Valve



2"~4"



≥6"

TECHNICAL SPECIFICATIONS:

- 2"–18"
- Up to 350℃
- Class 150LB–600LB

Optional Operating Actuator

Handwheel　　Gear Box

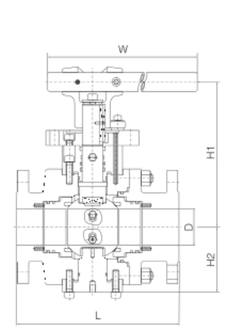
Pneumatic　　Electric

Material List

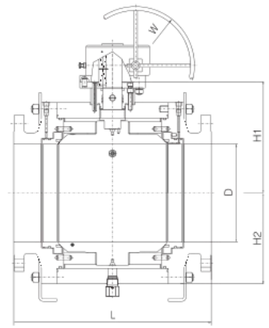
No	Part	Carbon Steel		Stainless Steel	
		ASTM A105	ASTM LF2	A182 F316	A182 F304
1	Body	ASTM A105N	ASTM A 350 LF2	ASTMA182 F316	ASTM A182 F304
2	Body End	ASTM A105N	ASTM A350 LF2	ASTMA182 F316	ASTM A182 F304
3	Ball	ASTM A105N+ENP	ASTM A350-LF2+ENP	ASTM A182-F316	ASTM A182 F304
4	Stem	ASTM A105N+ENP	ASTM A350-LF2+ENP	ASTM A182-F316	ASTM A182 F304
5	Seat Ring	ASTM A105N+ENP	ASTM A350-LF2+ENP	ASTM A182-F316	ASTM A182 F304
6	Seat Insert	PTFE	PTFE	PTFE	PTFE
7	O-ring	VITON	VITON	VITON	VITON
8	Fire Safe Seal	Graphite	Graphite	Graphite	Graphite
9	Grounding Spring	SS304	SS304	SS316	SS316
10	Lower Trunnion	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A182 F304
11	Gland Cap	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A182 F304
12	Gasket	SS+Graphite	SS+Graphite	SS+Graphite	SS+Graphite
13	Buttom Screw	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B8
14	Spring	Inconel X-750	Inconel X-750	Inconel X-750	Inconel X-750
15	Fire Safe Gasket	Graphite	Graphite	Graphite	Graphite
16	Screw	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B8
17	Position Plate	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A182 F304
18	O ring	Viton A	Viton A	Viton A	Viton A
19	Plug	A105	SS304	SS316	SS304
20	Gasket	SS 304+Graphit	SS 304+Graphit	SS 304+Graphit	SS 304+Graphit
21	Bolt	ASTM A193 GR. B7	ASTM A193 GR. B7	ASTM A193 GR. B7	ASTM A193 GR. B7
22	Operator	Handle or Gear box	Handle or Gear box	Handle or Gear box	Handle or Gear box
23	O ring	Viton A	Viton A	Viton A	Viton A

Note：Different raw materials and trims are available according to application conditions or customer requests

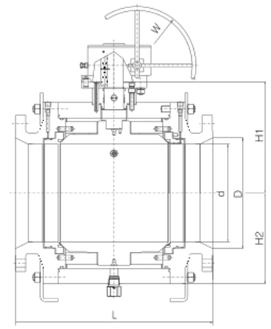
Forged Steel Trunnion Mounted Ball Valve



2"~4"Full Port



≥6" Full Port



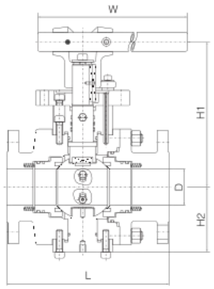
150LB Full Port

Nominal diameter		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	50	2.01	51	7.01	178	7.87	200	4.33	110	10.43	265
3	80	2.99	76	7.99	203	11.81	300	4.96	126	11.22	285
4	100	4.02	102	9.02	229	12.40	315	6.50	165	11.22	285
6	150	5.98	152	15.51	394	13.19	335	6.50	165	11.81	*300
8	200	7.99	203	17.99	457	15.94	405	7.87	200	11.81	*300
10	250	10.00	254	21.02	534	16.81	427	8.66	220	11.81	*300
12	300	12.01	305	24.02	610	18.31	465	10.31	262	19.69	*500
14	350	13.27	337	27.01	686	19.92	506	11.54	293	23.62	*600
16	400	15.24	387	30.00	762	24.49	622	13.43	341	23.62	*600
18	450	17.24	438	34.02	864	26.22	666	16.22	412	23.62	*600
20	500	19.25	489	35.98	914	28.74	730	17.13	435	23.62	*600
22	550	21.26	540	39.02	991	32.80	833	18.90	480	23.62	*600
24	600	23.27	591	42.01	1067	35.24	895	20.39	518	31.50	*800
26	650	25.00	635	45.00	1143	35.43	900	21.06	535	31.50	*800
28	700	27.01	686	49.02	1245	36.81	935	21.34	542	31.50	*800
30	750	29.02	737	50.98	1295	39.76	1010	23.82	605	31.50	*800
32	800	30.75	781	54.02	1372	41.73	1060	25.59	650	31.50	*800
34	850	32.76	832	57.99	1473	42.40	1077	25.59	650	31.50	*800
36	900	34.49	876	60.00	1524	43.90	1115	27.56	700	31.50	*800
40	1050	38.50	978	67.99	1727	55.12	1400	34.06	865	31.50	*800
42	1050	40.24	1022	78.23	1987	62.91	1598	35.43	900	31.50	*800
48	1200	45.98	1168	83.46	2120	67.80	1722	41.02	1042	31.50	*800

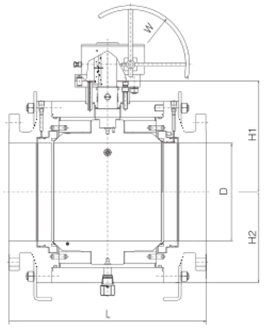
150LB Reduce Port

Nominal diameter		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3*2	80*50	2.01	51	2.99	76	7.99	203	7.87	200	4.33	110	10.43	*265
4*3	100*80	2.99	76	4.02	102	9.02	229	11.81	300	4.96	126	11.22	*285
6*4	150*100	4.02	102	5.98	152	15.51	394	12.40	315	6.50	165	11.22	*285
8*6	200*150	5.98	152	7.99	203	17.99	457	13.19	335	6.50	165	11.81	*300
10*8	250*200	7.99	203	10.00	254	21.02	534	15.94	405	7.87	200	11.81	*300
12*10	300*250	10.00	254	12.01	305	24.02	610	16.81	427	8.66	220	11.81	*300
14*12	350*300	12.01	305	13.27	337	27.01	686	18.31	465	10.31	262	19.69	*500
16*14	400*350	13.27	337	15.24	387	30.00	762	19.92	506	11.54	293	23.62	*600
18*16	450*400	15.24	387	17.24	438	34.02	864	24.49	622	13.43	341	23.62	*600
20*18	500*450	17.24	438	19.25	489	35.98	914	26.22	666	16.22	412	23.62	*600
24*20	600*500	19.25	489	23.27	591	42.01	1067	28.74	730	17.13	435	23.62	*600
28*24	700*600	23.27	591	27.00	686	49.02	1245	35.24	895	20.39	518	31.50	*800
30*24	750*600	23.27	591	29.02	737	50.98	1295	35.43	900	21.06	535	31.50	*800
32*26	800*650	25.00	635	30.75	781	54.02	1372	36.81	935	21.34	542	31.50	*800
34*28	850*700	7.01	686	32.76	832	57.99	1473	39.76	1010	23.82	605	31.50	*800
36*30	900*750	29.02	737	34.49	876	57.99	1524	41.73	1060	25.59	650	31.50	*800
40*34	1000*850	32.76	832	38.50	878	67.99	1727	42.40	1077	25.59	650	31.50	*800
42*36	1050*900	34.49	876	40.24	1022	78.23	1987	43.90	1115	27.56	700	31.50	*800
48*40	1200*1000	38.50	978	45.98	1168	83.46	2120	55.12	1400	34.06	865	31.50	*800

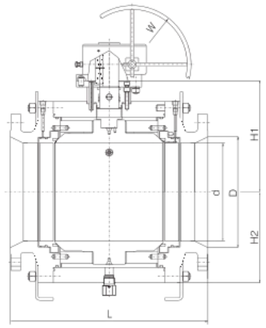
*Gear box drive



2"~4"Full Port



≥6" Full Port



Reduce Port

300LB Full Port

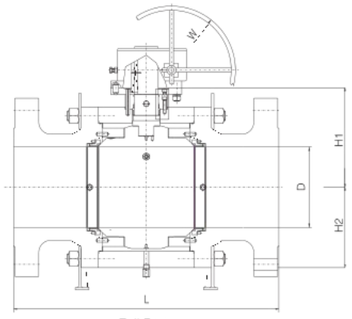
Nominal diameter		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	50	2.01	51	8.5	216	8.11	206	4.45	113	10.43	265
3	80	2.99	76	11.14	283	12.4	315	5.08	129	15.75	400
4	100	4.02	102	12.01	305	12.99	330	6.65	169	29.53	750
6	150	5.98	152	15.87	403	13.58	345	5.83	148	11.81	*300
8	200	7.99	203	19.76	502	16.34	415	7.28	185	11.81	*300
10	250	10.00	254	22.36	568	16.81	427	8.9	226	15.75	*400
12	300	12.01	305	25.51	648	18.31	465	10.59	269	19.69	*500
14	350	13.27	337	30.00	762	20.43	519	11.81	300	23.62	*600
16	400	15.24	387	32.99	838	25.12	638	13.78	350	23.62	*600
18	450	17.24	438	35.98	914	26.89	683	15.83	402	23.62	*600
20	500	19.25	489	39.02	991	29.45	748	17.56	446	23.62	*600
22	550	21.26	540	42.99	1092	33.62	854	19.37	492	23.62	*600
24	650	23.27	591	45.00	1143	36.1	917	20.91	531	31.5	*800
28	700	27.01	686	52.99	1346	37.72	958	21.89	556	31.5	*800
30	750	29.02	737	55.00	1397	40.75	1035	24.41	620	31.5	*800
32	800	30.75	781	60.00	1524	42.8	1087	26.22	666	31.5	*800
34	850	32.76	832	64.02	1626	43.46	1104	26.22	666	31.5	*800
36	900	34.49	876	67.99	1727	45	1143	28.27	718	31.5	*800
40	1050	38.50	978	75.98	1930	56.5	1435	34.92	887	31.5	*800
42	1050	40.24	1022	80.00	2032	64.49	1638	36.34	923	31.5	*800
48	1200	45.98	1168	85.43	2170	69.49	1765	42.05	1068	31.5	*800

300LB Reduce Port

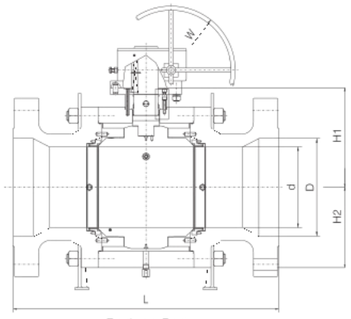
Nominal diameter		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3*2	80*50	2.01	51	2.99	76	11.14	283	8.11	206	4.45	113	10.43	265
4*3	100*80	2.99	76	4.02	102	12.01	305	12.40	315	5.08	129	15.75	400
6*4	150*100	4.02	102	5.98	152	15.87	403	12.99	330	6.65	169	29.53	750
8*6	200*150	5.98	152	7.99	203	19.76	502	13.58	345	5.83	148	11.81	*300
10*8	250*200	7.99	203	10.00	254	22.36	568	16.34	415	7.28	185	11.81	*300
12*10	300*250	10	254	12.01	305	25.51	648	16.81	427	8.90	226	15.75	*400
14*12	350*300	12.01	305	13.27	337	30.00	762	19.31	465	10.59	269	19.69	*500
16*14	400*350	13.27	337	15.24	387	32.99	838	20.43	519	11.81	300	23.62	*600
18*16	450*400	15.24	387	17.24	438	35.98	914	25.12	638	13.78	350	23.62	*600
20*18	500*450	17.24	438	19.25	489	39.02	991	26.89	683	15.83	402	23.62	*600
22*18	550*450	17.24	438	21.26	540	42.99	1092	26.89	683	15.83	402	23.62	*600
24*20	600*500	19.25	489	23.27	591	45.00	1143	29.45	748	17.56	446	23.62	*600
28*24	700*600	23.27	591	27.01	686	52.99	1346	33.62	854	19.37	492	23.62	*600
30*24	750*600	23.27	591	29.02	737	55.00	1397	36.10	917	20.91	531	31.50	*800
34*28	850*700	27.01	686	32.76	832	64.02	1626	37.72	958	21.89	556	31.50	*800
36*30	900*750	29.02	737	34.49	876	67.99	1727	40.75	1035	24.41	620	31.50	*800
40*34	1000*850	32.76	832	38.50	978	75.98	1930	43.46	1104	26.22	666	31.50	*800
42*36	1050*900	34.49	876	40.24	1022	80.00	2032	45.00	1143	28.27	718	31.50	*800
48*40	1200*1000	38.5	978	45.98	1168	85.43	2170	56.50	1435	34.92	887	31.50	*800

*Gear box drive

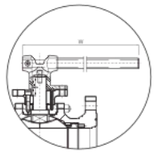
Forged Steel Trunnion Mounted Ball Valve

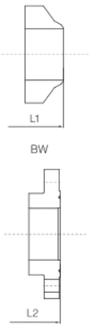


Full Port



Reduce Port


Handle



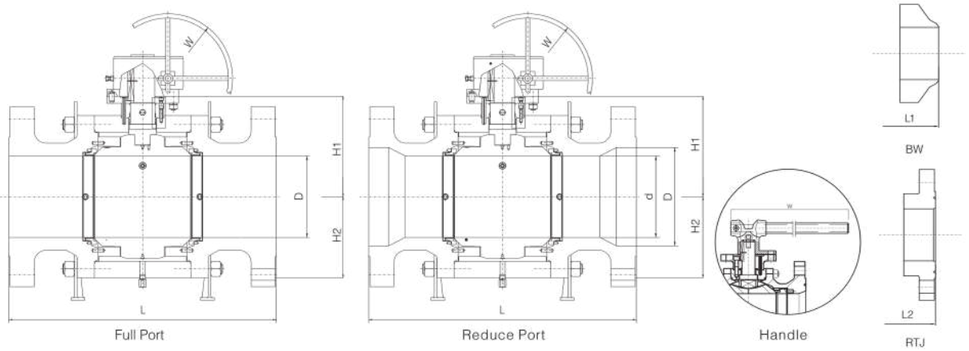
600LB Full Port

Nominal diameter		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	50	2.01	51	11.50	292	8.11	206	4.45	113	15.75	400
3	80	2.99	76	14.02	356	12.40	315	5.08	129	29.53	750
4	100	4.02	102	17.01	432	12.99	330	6.65	169	39.37	1000
6	150	5.98	152	22.01	559	13.58	345	5.83	148	11.81	*300
8	200	7.99	203	25.98	660	16.34	415	7.28	185	11.81	*300
10	250	10.00	254	30.98	787	16.81	427	8.9	226	19.69	*500
12	300	12.01	305	32.99	838	18.31	465	10.59	269	23.62	*600
14	350	13.27	337	35.00	889	20.43	519	11.81	300	23.62	*600
16	400	15.24	387	39.02	991	25.12	638	13.78	350	23.62	*600
18	450	17.24	438	42.99	1092	26.89	683	15.83	402	23.62	*600
20	500	19.25	489	47.01	1194	29.45	748	17.56	446	23.62	*600
22	550	21.26	540	50.98	1295	33.62	854	19.37	492	31.5	*800
24	600	23.27	591	55.00	1397	36.10	917	20.91	531	31.5	*800
28	700	27.01	686	60.98	1549	37.72	958	21.89	556	31.5	*800
30	750	29.02	737	65.00	1651	40.75	1035	24.41	620	31.5	*800
32	800	30.75	781	70.00	1778	42.80	1087	26.22	666	31.5	*800
34	850	32.76	832	75.98	1930	43.46	1104	26.22	666	31.5	*800
36	900	34.49	876	82.01	2083	45.00	1143	28.27	718	31.5	*800
40	1000	38.50	978	85.00	2159	56.50	1435	34.92	887	31.5	*800
42	1050	40.24	1022	85.63	2175	64.49	1638	36.34	923	31.5	*800
48	1200	45.98	1168	95.87	2435	69.49	1765	42.05	1068	31.5	*800

600LB Reduce Port

Nominal diameter		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3*2	80*50	2.01	51	2.99	76	14.20	356	8.11	206	4.45	113	15.75	400
4*3	100*80	2.99	76	4.02	102	17.01	432	12.40	315	5.08	129	29.53	750
6*4	150*100	4.02	102	5.98	152	22.01	559	12.99	330	6.65	169	39.37	1000
8*6	200*150	5.98	152	7.99	203	25.98	660	13.58	345	5.83	148	11.81	*300
10*8	250*200	7.99	203	10.00	254	30.98	787	16.34	415	7.28	185	11.81	*300
12*10	300*250	10.00	254	12.01	305	32.99	838	16.81	427	8.90	226	19.69	*500
14*10	350*250	10.00	254	13.27	337	35.00	889	18.31	465	10.59	269	23.62	*600
16*12	400*300	12.01	305	15.24	387	39.02	991	20.43	519	11.81	300	23.62	*600
18*14	450*350	13.27	337	17.24	438	42.99	1092	25.12	638	13.78	350	23.62	*600
20*16	500*400	15.24	387	19.25	489	47.01	1194	26.89	683	15.83	402	23.62	*600
24*20	600*500	19.25	489	23.27	591	55.00	1397	33.62	854	19.37	492	31.50	*800
28*24	700*600	23.27	591	27.01	686	60.98	1549	36.10	917	20.91	531	31.50	*800
30*24	750*600	23.27	591	29.02	737	65.00	1651	36.10	917	20.91	531	31.50	*800
34*28	850*700	27.01	686	32.76	832	75.98	1930	37.72	958	21.89	556	31.50	*800
36*30	900*750	29.02	737	34.49	876	82.01	2083	40.75	1035	24.41	620	31.50	*800
40*34	1000*850	32.76	832	38.50	978	85.00	2159	43.46	1104	26.22	666	31.50	*800
42*36	1050*900	34.49	876	40.24	1022	85.63	2175	45.00	1143	28.27	718	31.50	*800
48*40	1200*1000	38.50	978	45.98	1168	95.87	2435	56.50	1435	34.92	887	31.50	*800

*Gear box drive



900LB Full Port

Nominal diameter		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	50	2. 01	51.00	14.49	368.00	4.69	119.00	4.69	119.00	25.59	650
3	80	2. 99	76.00	15.00	381.00	5.24	133.00	5.24	133.00	39.37	1000
4	100	4. 02	102.00	17.99	457.00	6.93	176.00	6.93	176.00	59.06	1500
6	150	5. 98	152.00	24.02	610.00	6.02	153.00	6.02	153.00	11.81	*300
8	200	7. 99	203.00	29.02	737.00	7.60	193.00	7.60	193.00	15.75	*400
10	250	10. 00	254.00	32.99	838.00	9.25	235.00	9.25	235.00	19.69	*500
12	300	12. 01	305.00	37.99	965.00	11.02	280.00	11.02	280.00	23.62	*600
14	350	12. 76	324.00	40.51	1029.00	12.28	312.00	12.28	312.00	23.62	*600
16	400	14. 76	375.00	44.49	1130.00	14.37	365.00	14.37	365.00	23.62	*600
18	450	16. 73	425.00	47.99	1219.00	16.30	414.00	16.30	414.00	23.62	*600
20	500	18. 62	473.00	52.01	1321.00	18.07	459.00	18.07	459.00	23.62	*600
22	550	20. 63	524.00	55.98	1422.00	19.96	507.00	19.96	507.00	31.50	*800
24	650	22. 52	572.00	60.98	1549.00	21.54	547.00	21.54	547.00	31.50	*800
28	700	26. 26	667.00	69.02	1753.00	22.56	573.00	22.56	573.00	31.50	*800
30	750	28. 11	714.00	74.02	1880.00	25.12	638.00	25.12	638.00	31.50	*800
32	800	30. 00	762.00	80.00	2032.00	27.01	686.00	27.01	686.00	31.50	*800
34	850	31.89	810.00	85.00	2159.00	27.09	688.00	27.09	688.00	31.50	*800
36	900	33.74	857.00	90.00	2286.00	29.09	739.00	29.09	739.00	31.50	*800

900LB Reduce Port

Nominal diameter		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3*2	80*50	2.01	51.00	2.99	76.00	15.00	381.00	4.69	119.00	4.69	119.00	18.11	460
4*3	100*80	2.99	76.00	4.02	102.00	17.99	457.00	5.24	133.00	5.24	133.00	39.37	1000
6*4	150*100	4.02	102.00	5.98	152.00	24.02	610.00	6.93	176.00	6.93	176.00	59.06	1500
8*6	200*150	5.98	152.00	7.99	203.00	29.02	737.00	6.02	153.00	6.02	153.00	11.81	*300
10*8	250*200	7.99	203.00	10.00	254.00	32.99	838.00	7.60	193.00	7.60	193.00	15.75	*400
12*10	300*250	10.00	254.00	12.01	305.00	37.99	965.00	9.25	235.00	9.25	235.00	19.69	*500
14*12	350*300	12.01	305.00	12.76	324.00	40.51	1029.00	11.02	280.00	11.02	280.00	23.62	*600
16*14	400*350	12.76	324.00	14.76	375.00	44.49	1130.00	12.28	312.00	12.28	312.00	23.62	*600
18*16	450*400	14.76	375.00	16.73	425.00	47.99	1219.00	14.37	365.00	14.37	365.00	23.62	*600
20*18	500*450	16.73	425.00	18.62	473.00	52.01	1321.00	16.30	414.00	16.30	414.00	23.62	*600
22*18	550*450	16.73	425.00	20.63	524.00	55.98	1422.00	18.07	459.00	18.07	459.00	23.62	*600
24*20	600*500	18.62	473.00	22.52	572.00	60.98	1549.00	19.96	507.00	19.96	507.00	31.50	*800
28*24	700*600	22.52	572.00	26.26	667.00	69.02	1753.00	21.54	547.00	21.54	547.00	31.50	*800
30*24	750*600	22.52	572.00	28.11	714.00	74.02	1880.00	21.54	547.00	21.54	547.00	31.50	*800
34*28	850*700	26.26	667.00	31.89	810.00	85.00	2159.00	22.56	573.00	22.56	573.00	31.50	*800
36*30	900*750	28.11	714.00	33.74	857.00	90.00	2286.00	25.12	638.00	25.12	638.00	31.50	*800

*Gear box drive

Forged Steel Trunnion Mounted Ball Valve

1500LB Full Port

Nominal diameter		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	50	1.93	49	14.49	368	5.31	135	5.31	135	25.59	650
3	75	2.91	74	18.5	470	5.71	145	5.71	145	39.37	1000
4	100	4.02	102	21.5	546	6.54	166	6.54	166	11.81	*300
6	150	5.75	146	27.76	705	7.56	192	7.56	192	15.75	400
8	200	7.64	194	32.76	832	9.37	238	9.37	238	19.69	*500
10	250	9.41	239	39.02	991	10.79	274	10.79	274	23.62	*600
12	300	11.38	289	44.49	1130	12.52	318	12.52	318	23.62	*600
14	350	12.52	318	49.49	1257	19.02	483	19.02	483	23.62	*600
16	400	14.25	362	54.49	1384	21.02	534	21.02	534	23.62	*600
18	450	16.02	407	60.51	1537	23.86	606	23.86	606	23.62	*600
20	500	17.99	457	65.51	1664	27.01	686	27.01	686	31.5	*800
22	550	19.69	500	71.5	1816	28.78	731	28.78	731	31.5	*800
24	600	21.5	546	80.43	2043	30.51	775	30.51	775	31,5	*800

1500LB Reduce Port

Nominal diameter		d		D		L		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3*2	75*50	1.93	49	2.91	74	18.5	470	5.31	135	5.31	135	25.59	650
4*3	100*75	2.91	74	4.02	102	21.5	546	5.71	145	5.71	145	39.37	1000
6*4	150*100	4.02	102	5.75	146	27.76	705	6.54	166	6.54	166	11.81	*300
8*6	200*150	5.75	146	7.64	194	32.76	832	7.56	192	7.56	192	15.75	*400
10*8	250*200	7.64	194	9.49	241	39.02	991	9.37	238	9.37	238	19.69	*500
12*10	300*250	9.49	241	11.38	289	44.49	1130	10.79	274	10.79	274	23.62	*600
14*12	350*300	11.38	289	12.52	318	49.49	1257	12.52	318	12.52	318	23.62	*600
16*14	400*350	12.52	318	14.25	362	54.49	1384	19.02	483	19.02	483	23.62	*600
18*16	450*400	14.25	362	15.98	406	60.51	1537	21.02	534	21.02	534	23.62	*600
20*18	500*450	16.02	407	17.76	451	65.51	1664	23.86	606	23.86	606	23.62	*600
22*18	550*450	16.02	407	19.49	495	71.5	1816	23.86	606	23.86	606	23.62	*600
24*20	600*500	17.99	457	20.98	533	80.43	2043	27.01	686	27.01	686	31.5	*800

2500LB Full Port

Nominal diameter		D		L-L1(RF-BW)		L2(RTJ)		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	50	1.73	44	17.76	451	17.87	454	9.41	239	5.63	143	15.75	*400
3	80	2.52	64	22.76	578	22.99	584	10.43	265	7.52	191	19.69	*500
4	100	3.5	89	26.5	673	26.89	683	11.1	282	7.83	199	19.69	*500
6	150	5.24	133	35.98	914	36.5	927	20.59	523	11.77	299	23.62	*600
8	200	7.13	181	40.24	1022	40.87	1038	24.21	615	14.88	378	27.56	*700
10	250	8.86	225	50	1270	50.87	1292	23.03	585	17.13	435	29.92	*760
12	300	10.51	267	55.98	1422	56.85	1444	27.72	704	21.26	540	29.92	*760

2500LB Reduce Port

Nominal diameter		d		D		L-L1(RF-BW)		L2(RTJ)		H1		H2		W	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3*2	80*50	1.73	44	2.52	64	22.76	578	22.99	584	9.41	239	5.63	143	15.75	*400
4*3	100*80	2.52	64	3.5	89	26.5	673	26.89	683	10.43	265	7.52	191	19.69	*500
6*4	150*100	3.5	89	5.24	133	35.98	914	36.5	927	11.1	282	7.83	199	19.69	*500
8*6	200*150	5.24	133	7.13	181	40.24	1022	40.87	1038	20.59	523	11.77	299	23.62	*600
10*8	250*200	7.13	181	8.86	225	50	1270	50.87	1292	24.21	615	14.88	378	27.56	*700
12*10	300*250	8.86	225	10.51	267	55.98	1422	56.85	1444	23.03	585	17.13	435	29.92	*760

*Gear box drive

Operating Torque

Size	150LB (2.0MPa)			300LB (5.0MPa)			600LB (10.0MPa)		
in	N.M	Flange No.	Stem Diamete	N.M	Flange No.	Stem Diamete	N.M	Flange No.	Stem Diamete
11/2"	50	F10	22		F10	22	90	F10	22
2"	80	F10	27	130	F10	27	150	F10	27
3"	110	F12	36	160	F12	36	250	F12	36
4"	160	F12	36	240	F12	36	480	F14	40
5"	300	F14	48	450	F14	48	800	F14	48
8"	800	F14	48	1200	F14	48	2000	F16	58
10"	1000	F16	58	1700	F16	58	3000	F25	75
12"	1800	F16	58	2700	F16	58	3800	F25	75
14"	2500	F25	75	3700	F25	75	5800	F30	98
16"	3500	F25	75	4500	F25	75	9500	F30	98
18"	4500	F30	98	5350	F30	98	14000	F30	105
20"	5500	F30	98	8500	F30	98	18000	F30	115
22"	7150	F30	98	10500	F30	98	20000	F30	115
24"	9500	F30	98	15500	F30	115	25000	F35	130
26"	10800	F30	115	18500	F30	115	30000	F35	130
28"	12800	F30	120	27300	F30	120	35000	F35	130
30"	16500	F30	120	30500	F30	120	41500	F40	160
32"	20500	F30	120	36000	F30	120	48000	F40	160
34"	24000	F30	120	42000	F30	120	53000	F40	160
36"	36000	F30	120	51000	F40	160	58000	F40	160
40"							67000	F48	180

Size	900LB (16.0MPa)			1500LB (25.0MPa)			2500LB (42.0MPa)		
in	N.M	Flange No.	Stem Diamete	N.M	Flange No.	Stem Diamete	N.M	Flange No.	Stem Diamete
2"	200	F10	27	220	F10	27	400	F12	36
3"	450	F12	36	550	F12	36	1000	F14	40
4"	850	F14	40	1000	F14	40	1900	F16	48
5"	1500	F16	48	2500	F16	48	4800	F16	58
8"	3500	F16	58	5000	F16	58	5500	F25	75
10"	5200	F25	75	8000	F25	75	9200	F25	85
12"	7000	F25	75	12000	F25	85	20000	F30	98
14"	11000	F30	98	18000	F30	105			
16"	15500	F30	105	22000	F30	115			
18"	22500	F30	115	31500	F35	130			
20"	27000	F30	115	40000	F35	130			
22"	31000	F35	130	48000	F40	150			
24"	38000	F35	130	65000	F40	155			

Note: 1. Above Torque value are calculated based on room temperature, if other size torque required, please contact with WELKIN Valves.
2. When sizing the actuator, please consider safety fact 1.2–1.5.
3. For more details, the valve torque will be changed under different working temperature, and the torque will be changed for different seat materials. please contact with WELKIN Valves.

Engineering Data

Flow Coefficient (CV Value)

SIZE(inch)	150LB	300LB	600LB	900LB	1500LB	2500LB
1/2	25	25	25	25	25	25
3/4	53	53	53	53	53	53
1–1/2	92	92	92	92	92	92
1	213	213	213	213	213	213
2	500	430	370	320	320	260
3	1360	1100	1020	920	820	567
4	2500	2000	1850	1760	1600	1117
6	5300	5250	4400	4300	4150	2532
8	10750	10100	8450	8475	8010	4728
10	17500	16820	14250	14160	13220	7338
12	26750	25950	22550	21200	18800	10363
44	31850	30900	28500	26700	24180	12582
16	44000	42600	38150	36600	33150	16363
18	58000	55870	51150	4900	45703	20641
20	75500	72500	68500	64600	60750	25906
22	91770	86850	80150			
24	113400	109340	98860			

*Other elastomer materials are available upon request.

Notes

1. All the sizes are in full port.
2. Pressure Ratings are according to B 16.34.

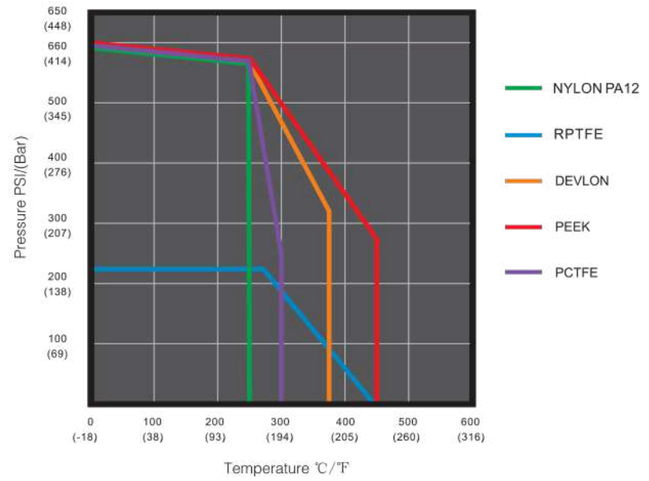
Method of Calculating Flow

The Flow Coefficient Cv of a value is the flow rate of water (gallons/minute)Through a fully opened valve, with a pressure drop of 1 psi across the valve. To find the flow of liquid through the valve from the Cv, use the following formulas:

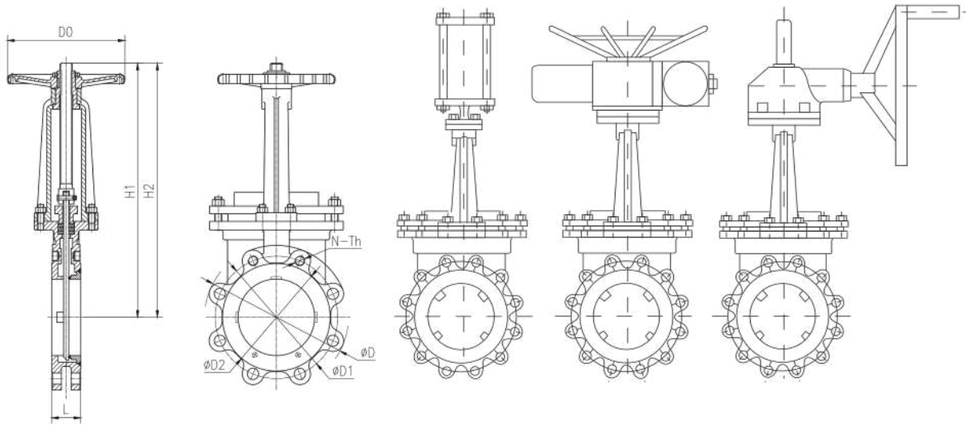
Liquid Flow:
QL=Cv(P/G)1/2
QL=Flow rate of liquid (gal./min)
P=Differential pressure across the valve
G=Specific gravity of liquid (for water, G=1)

Gas Flow:
Qg=61Cv (P2P/g)1/2
(For non-critical flow,P/P<1.0)
QL=Flow rate of gas (CFH at STP)
P2=Outled pressure(psia)
G=specific gravity of gas (for air, g=1.0)

Pressure Temperature Chart



Knife Gate Valve



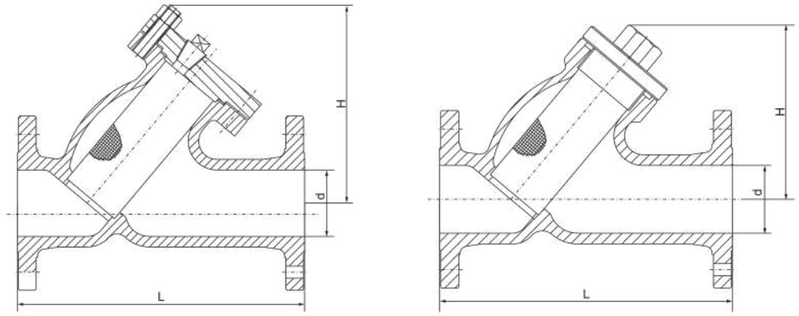
Class150 Knife Gate Valve

NPS	L	D1	D0	N-Th	H1(Full cut-off)	H2 (Full open)
	ANSI 150LB					
2	48	120.5	200	4-5/8-11UNC	340	390
3	51	152.5	220	4-5/8-11UNC	380	460
4	51	190.5	220	8-5/8-11UNC	420	520
5	57	216	250	8-3/4-10UNC	460	585
6	57	241.5	280	8-3/4-10UNC	510	660
8	70	298.5	315	8-3/4-10UNC	620	820
10	70	362	355	12-7/8-9UNC	740	990
12	76	432	400	12-7/8-9UNC	840	1140
14	76	476	450	12-1-8UNC	920	1270
16	89	540	500	16-1-8UNC	1024	1424
18	89	578	550	16-11/8-7UNC	1170	1620
20	114	635	600	20-11/2-7UNC	1250	1750

Y Type Strainer

Standards

End flange dimension ASME B16.5



Class150~class300 cast steel y strainer

Size		Class 150			Class 300		
		Dimensions (mm)			Dimensions (mm)		
NPS	DN	L	H	H1	L	H	H1
3/4	15	108	67	92	152	70	95
1/2	20	117	73	105	178	80	110
1	25	127	87	117	203	92	120
11/4	32	140	100	138	216	105	142
11/2	40	165	123	150	229	128	155
2	50	203	147	179	267	152	184
21/2	65	216	180	232	292	185	236
3	80	241	198	263	318	204	266
4	100	292	234	337	356	240	340
5	125	390	274	383	460	280	386
6	150	440	314	452	550	320	456
8	200	540	400	555	600	410	560
10	250	760	512	725	760	530	730
12	300	870	581	870	870	600	875
14	350	950	633	933	950	650	938

Product Families

Temperature	
℃	℉
650	1200
600	1100
550	1000
500	900
450	800
400	750
350	650
300	550
250	480
200	390
150	300
100	200
50	120
0	32
−50	−58
−100	−148
−160	−260
−185	−300
−196	−321
−269	−450

ASME Class	150				300		600	900	1500		2500		6000	
Pressure Bar	−1	0	16	20	40	50	100	150	200	250	350	420	700	1000
Pressure Psi	−14	0	230	290	580	750	1500	2250	3000	3750	5000	6000	10000	15000

API 600 | API 6D | API 607 | ISO9001 | CE | 15848-1 | 15848-2

Design Standard of Different Valve Types

Valve type	Gate Valve	Globe Valve	Check Valve	Butterfly Valve	Ball Valve
Design standards	API600/ API6D/ API602/API 603 (DIN3352/ EN10434/ BS1414 Optional)	API602/ASME B16.34 API 603 (DIN3356/ EN13709/ BS1873 Optional)	API6D/ API602 API 603 (DIN3356/ EN10739/ BS1868 Optional)	API609/ API6D (DIN3354/ EN593/ BS5155 Optional)	API608/ API6D (DIN3357/ EN13709/ BS5351 Optional)
End face length standard	ASME B16.10(DIN3202/ EN558)				
Flange standard	ASMEB16.5/ ASMEB16.47(DIN2543−2545/ EN1092/ BS4504/ BS1560)				
Welding end standard	ASME B16.25 (DIN3239/ EN1262/ BS2080)				
Test standards	API598(DIN3230/ EN12266/ BS5146)				