Mechanical and Fluid Control Systems McSYS®

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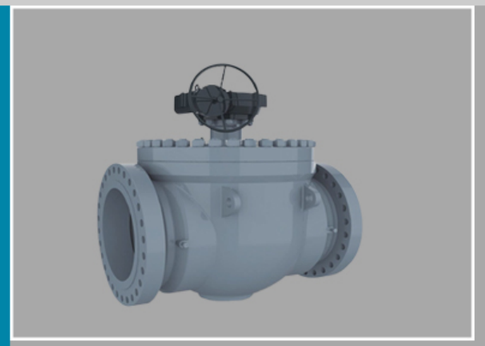
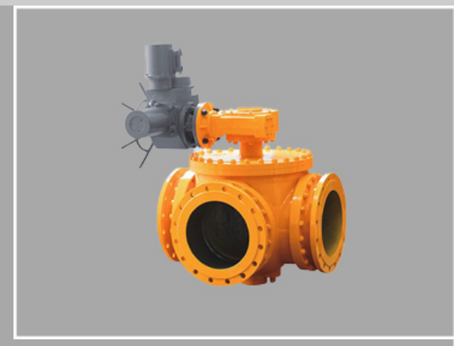
ONE SOUL IN ONE VALVE MAKE VALVE ARTWORK

McSYS®

- Top-mounted Ball Valve
- Cryogenic Ball Valve
- Three-way/Four-way Ball Vavle
- Pigging Ball Valve





McSYS®

Mechanical and Fluid Control Systems

One soul in one valve,
make valve artwork!

Top-mounted Ball Valve

ONE SOUL IN ONE VALVE MAKE VALVE ARTWORK

STRUCTURE FEATURES

Top-mounted ball valve is a new product developed by our company after digesting and absorbing foreign advanced technology and integrating our company·syears of design and manufacturing experience. The technical level has reached the domestic first-class level, and the products are comparable to international counterparts. In addition to the features of side-mounted fixed ball valves (see fixed ball valves), it also has the following features

1. Integral valve body design, top-mounted trunnion fixed suppor\ flange or butt welding structure .
2. Inconel corrugated spring makes the sealed metal valve seat move to the ball, which has the function of two-way sealing of inlet and outlet
3. The unique valve seat retractable technology is adopted, the ball rod can be replaced online, the metal valve of the valve stem seal ring and the corrugation are longer; the torque is reduced to a minimum, which is convenient for valve operation .
4. Easy maintenance, easy installation and long service life. The valve does not need to be removed from the pipeline, and the internal parts can be repaired and replaced; the service life is prolonged
5. The torque is small and the sealing is reliable. The valve seat of the spherical structure is different from the ordinary ball valve, and the sealing position can be automatically adjusted
6. The drive device platform and screw holes are preset, and meet the requirements of ISO 5211. The drive device can be assembled at any time according to the different requirements of users
7. The valve has the function of DBB double blocking and venting
8. The manual top-mounted ball valve adopts a high-strength integral ball rod structure to ensure the precise positioning of the ball .
9. The valve stem adopts an anti-blowout protection structure to improve the safety of valve operation .

BALL VALVE TECHNICAL SPEC IFICATIONS

Specifications	API series
Design specification	API 6D, API 608, BS5351
Pressure temperature rating	ASME B16.34
Structural length	ASME B16.10
Flange connection	ASME B16.5, ASME 16.47
Butt welding end connection	ASME B16.25
Inspection and testing	API 598/API 6D
Fire test	API 6FA
Steel casting quality inspection	MSS-SP-55

TORQUE TABLE (N.M)

The torque values listed in the followi ng table are for reference when selecting the drive device. The characteristics of the medium, the internal parts and the opening frequency of the valve still need to be considered for additional factors. The use o f anti-corrosion internal parts, used to clean the valve of the lubricating medium, the torque can be reduced by 20%. For splitting harsh media, such as slurry, granular media, and for oxyge" the torque mayincreaseby 50%. The operating torque of the reduced-diameter valve is selected according to the valve operating torque of the corresponding d iameter ofthe reduced-diameter valve. (The specific choice is subject to actual conditions)

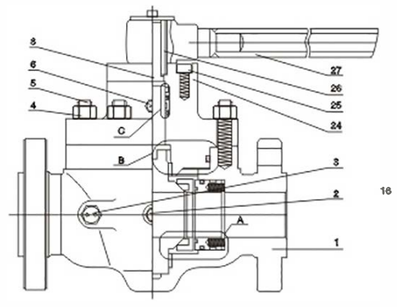
Size		Class						
DN	in	150	300	400	600	900	1500	2500
50×40	1 1/2	61	81	85	102	149	238	382
50	9	68	108	97	136	203	333	562
80×50	3×2	68	108	97	136	203	333	562
80	3	149	244	204	305	422	811	1460
100×80	4×3	149	244	204	305	422	811	1460
100	4	244	407	422	453	583	1505	1923
150×100	6×4	244	407	422	453	583	1505	5840
150	6	323	544	647	1006	1299	2940	5840
200×150	8×6	323	544	647	1006	1299	2940	12181
200	8	647	955	1157	2532	2766	6489	12181
250×200	10×8	647	955	1157	2532	2766	6489	15281
250	10	882	1822	2178	3941	5446	12181	15281
300×250	12×10	882	1822	2178	3941	5446	12181	15281
350×250	14×10	882	1822	2178	3941	5446	12181	19834
300	12	1577	2591	3064	6893	7909	15564	/
350×300	14×12	1577	2591	3064	6893	7909	15564	/
400×300	16×12	1577	2591	3064	6893	7909	15564	/
350	14	1873	3224	3853	3205	10948	23512	/
400×350	16×14	1873	3224	3853	3205	10948	23512	/
400	16	3050	5447	6529	8817	13682	27039	/
450×400	18×16	3050	5447	6529	8817	13682	27039	/
500×400	20×16	3050	5447	6529	8817	13682	27039	/
450	18	3819	6197	7461	11231	17705	37085	/
500	20	4508	7830	9348	14919	29866	40309	/
550	22	5490	9453	11302	16058	39324	/	/
600×500	24×20	4508	7830	9348	15140	29866	40309	/
600	24	6723	11457	15535	21840	40810	64671	/
650	26	9289	15139	17869	24889	51322	/	/
700	28	11647	18067	21063	28767	53515	/	/
750×600	30×24	6723	11457	15535	21840	40810	/	/
750	30	13558	19207	24966	34398	57057	/	/
800	32	15224	24095	28235	38880	61123	/	/
850	34	17846	30249	33291	41789	70277	/	/
900×750	36×30	13558	19207	24966	34398	57057	/	/
900	36	22032	33331	36277	51521	81349	/	/
1000	40	25972	36490	45269	60368	/	/	/
1050	42	27034	40425	53515	70277	/	/	/
1200	48	42606	64985	79311	112293	/	/	/

Top-mounted Ball Valve

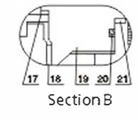
ONE SOUL IN ONE VALVE MAKE VALVE ARTWORK

PRODUCT PERFORMANCE SPECIFICATIONS

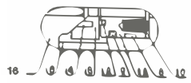
Performance specification		Class						
		150	300	400	600	900	1500	2500
Test pressure(MPa)	Strength test	2.93	7.58	10.0	150	22.5	37.5	63.0
	Sealing test	2.07	5.52	7.31	11.03	16.5	27.5	46.2
	Air pressure test	0.6MPa						
Applicable temperature		-196℃~550℃ (Note: Different working conditions temperature, different materials are used)						
Applicable medium		Water, steam, petroleum, liquefied gas natural gas etc.						
Size range		DN50-1200 (NP2"~48"). Can be manufactured according to customer requirements						
Body/inner body material		Carbon steel, stainless steel, duplex stainless steel, nickel alloy, titanium alloy, etc.						
End connection		Flange connection, butt welding connection						
Driving device		Manual, worm gear drive, electric, pneumatic						



Manual top loading



Section B



A section view

C section view

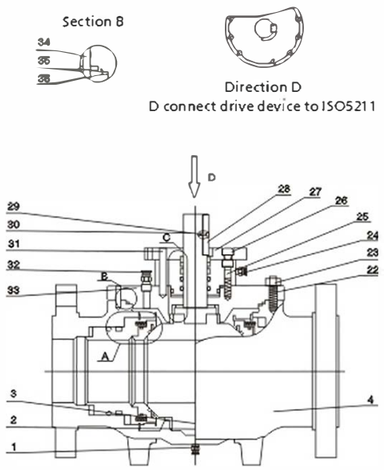
MATERIAL OF MAIN PARTS

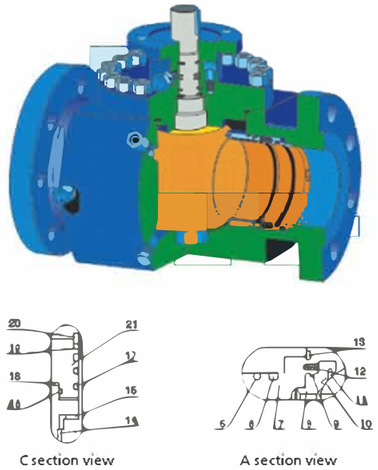
No.	Part name	Material		
		Carbon steel	Stainless steel	Low temperature steel
1	Body	A216 WCB	A351 CF8M	A352 LCC
2	Drain valve	A105+ENP	A182 F316	A350 LF2
3	Grease valve	A105+ENP	A182 F316	A350 LF2
4	Nut	A194 2H	A194 8	A194 7
5	Stud	A193 B7	A193 B8	A320 L7
6	Grease valve	A105+ENP	A182 F316	A350 LF2
7	Stem	A182 F6a	A182 F316	A182 F316
8	Fireproof mat	Flexible graphite		
9	O-ring	Fluororubber		
10	Spring	Incone 600		
11	Support ring	A105+ENP	A182 F316	A350 LF2
12	Gasket	Flexible graphite+SS		
13	Seat	A105+ENP	A182 F316	A350 LF2
14	Seal ring	PTFE, NYLON, PEEK, PCTFE		

No.	Part name	Material		
		Carbon steel	Stainless steel	Low temperature steel
15	Lower bushing	PTFE+CS	PTFE+SS	PTFE+SS
16	Ball	A105+ENP	A182 F316	A350 LF2
17	Flat bushing	PTFE+CS	PTFE+SS	PTFE+SS
18	Upper bushing	PTFE+CS	PTFE+SS	PTFE+SS
19	Bonnet	A216 WCB	A351 CF8M	A352 LCC
20	O-ring	Fluororubber		
21	Gasket	Flexible graphite+SS		
22	O-ring	Fluororubber		
23	Filler	Flexible graphite		
24	Gland	A105+ENP	A182 F316	A350 LF2
25	Screw	A193 B7	A193 B8	A320 L7
26	Key	ANSI 1045	ANSI 1045	ANSI 1045
27	Handle	Q235A		

Note: Different materials can be selected according to different working conditions and user requirements.

SCHEMATIC OIAGM OF VALVE STRUCTURE (TOP-M OUNTED BALL VALVE)





MATERIAL. OF MAIN PARTS

No.	Part name	Material		
		Carbon steel	Stainless steel	Low temperature steel
1	Drain valve	A105+ENP	A182 F316	A350 LF3
2	Lower bushing	PTFE+CS	PTFE+SS	PTFE+SS
3	Ball	A105+ENP	A182 F316	A350 LF3
4	Stem	A216 WCB	A351 CF8M	A352 LCC
5	O-ring	Fluororubber		
6	Fireproof mat	Flexible graphite		
7	Support ring	A105+ENP	A182 F316	A350 LF3
8	Seat	A105+ENP	A182 F316	A350 LF3
9	O-ring	Fluororubber		
10	O-ring	Fluororubber		
11	Sealing ring	PTFE, NYLON, PCTFE, MOLON		
12	Spring	Incone1600		
13	C type spring	17-4		
14	Upper bushing	PTFE+CS	PTFE+SS	PTFE+SS
15	Flat bushing	PTFE+CS	PTFE+SS	PTFE+SS
16	O-ring	Fluororubber		
17	O-ring	Fluororubber		
18	Gasket	Flexible graphite+SS		

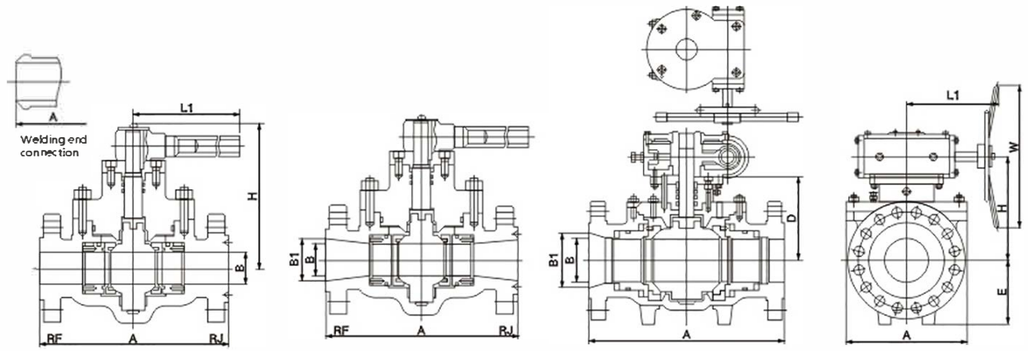
No.	Part name	Material		
		Carbon steel	Stainless steel	Low temperature steel
19	Filler	Flexible graphite		
20	Pressing sleeve	A182 F6a	A182 F316	A182 F6a
21	Upper stem seat	A105+ENP	A193 B8	A350 LF3
22	Stud	A193 B7	A1948	A320 L7
23	Nut	A194 2H	A182 F316	A194 7
24	Grease valve	A105+ENP	A182 F316	A350 LF3
25	Screw	A193 B7	A193 B8	A320 L7
26	Screw	A193 B7	A193 B8	A320 L7
27	Land	A105+ENP		
28	Key	ANSI 1045		
29	Screw	A193B7		
30	Stem	A182 F6a	A182 F316	A182 F316
31	Locating pin	A182F6a		
32	Drain valve	A105+ENP	A182 F316	A350 LF3
33	Bonnet	A216 WCB	A351 CF8M	A352 LCC
34	Positioning pin	A182 F6a		
35	Gasket	Flexible graphite+SS		
36	O-ring	Fluororubber		

Note: 1. Choose different sealing ring materials according to the temperature and pressure of the industrial and mining medium.

2. In addition to the materials listed in the table, villages can be selected according to user requirements.

3. It can provide materials that meet the NACEMR-01-75 standard (the latest version) and are suitable for acid gas mining.

Top-mounted Ball Valve

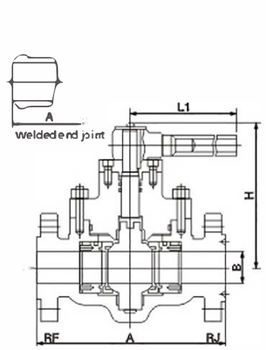


Manual top-mounted full-diameter ball valve | Manual top-mounted reducing ball valve | Top-mounted reduced diameter ball valve | Top-mounted full-diameter ball valve

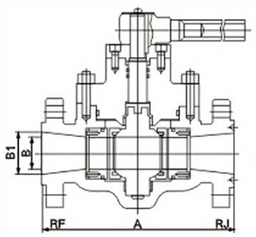
MAIN SHAPEAND CONNECTION SIZE

Class 150

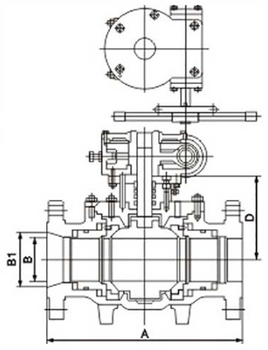
DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50×40	2×1½	292	295	292	38	49	/	85	180	212	450	/
50	2	292	295	295	49	49	/	85	180	212	450	/
80×50	3×2	356	395	356	49	74	/	85	180	212	450	/
80	3	356	395	356	74	74	/	112	230	228	600	/
100×80	4×3	432	435	432	74	100	/	112	230	228	600	/
100	4	432	435	432	100	100	/	145	283	272	600	/
150×100	6×4	559	562	559	100	150	/	145	283	272	600	/
150	6	559	562	559	150	150	281	220	325	333	297	350
200×150	8×6	660	664	660	150	201	281	220	325	333	297	350
200	8	660	664	660	201	201	320	260	405	384	360	500
250×200	10×8	787	791	787	201	252	320	260	405	384	360	500
250	10	787	791	787	252	252	360	311	490	424	360	500
300×250	12×10	838	841	838	252	303	360	311	490	424	360	500
350×250	14×10	889	892	889	252	334	360	311	490	424	360	500
300	12	838	841	838	303	303	403	366	570	467	340	700
350×300	14×12	889	892	889	303	534	403	366	570	467	340	700
400×300	16×12	991	994	991	303	385	403	366	570	467	340	700
350	14	889	892	889	334	334	453	428	660	517	340	700
400×350	16×14	991	994	991	385	334	453	428	660	517	340	700
400	16	991	994	991	385	385	459	450	700	549	545	700
450×400	18×16	1092	1095	1092	385	436	450	450	700	549	545	700
500×400	20×16	1194	1200	1194	385	487	459	450	700	549	545	700
450	18	1092	1095	1092	436	436	502	473	755	577	575	700
500×450	20×18	1194	1200	1194	436	487	502	473	755	577	575	700
500	20	1194	1200	1194	487	487	551	580	870	626	575	700
600×500	24×20	1397	1407	1397	487	589	551	580	870	626	575	700
550	22	1295	1305	1295	538	538	578	590	955	653	575	700
600	24	1397	1407	1397	589	589	606	600	1030	696	579	700
750×600	30×24	1651	1664	1651	589	735	606	600	1030	696	579	700
650	26	1448	1461	1448	633	633	675	635	1075	765	570	700
700	28	1549	1562	1549	684	684	735	700	1165	825	579	700
750	30	1651	1664	1651	735	735	795	775	1250	865	579	700
900×750	36×30	2083	2099	2083	735	874	795	775	1250	865	579	700



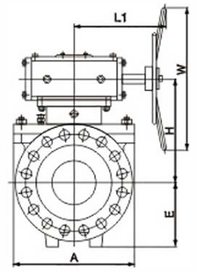
Manual top-mounted full-diameter ball valve



Manual top-mounted reducing ball valve



Top-mounted reduced diameter ball valve



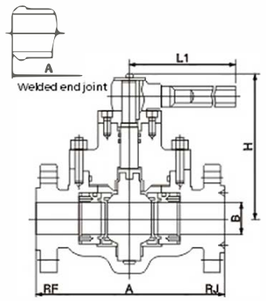
Top-mounted full-diameter ball valve

MAINSHAPE AND CONNECTION SIZE

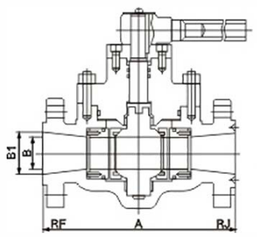
Class 300

DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50×40	2×1 1/2	292	295	292	38	49	/	85	180	212	450	/
50	2	292	295	292	49	49	/	85	180	212	450	/
80×50	3×2	356	359	356	49	74	/	85	180	212	450	/
80	3	356	359	356	74	74	/	112	230	228	600	/
100×80	4×3	432	435	432	74	100	/	112	230	228	600	/
100	4	432	435	432	100	100	/	145	283	272	1000	/
150×100	6×4	559	562	559	100	150	/	145	283	272	1000	/
150	6	559	562	559	150	150	281	220	325	345	360	500
200×150	8×6	660	664	660	150	201	281	220	325	345	360	500
200	8	660	664	660	201	201	330	260	405	385	340	700
250×200	10×8	787	791	787	201	252	330	260	405	385	340	700
250	10	787	791	787	252	252	371	311	490	426	340	700
300×250	12×10	838	841	838	252	303	371	311	490	426	340	700
350×250	14×10	889	892	889	252	334	371	311	490	426	340	700
300	12	838	841	838	303	303	418	366	570	473	340	700
350×300	14×12	889	892	889	303	534	418	366	570	473	340	700
400×300	16×12	991	994	991	303	385	418	366	570	473	340	700
350	14	889	892	889	334	334	470	428	660	530	545	700
400×350	16×14	991	994	991	385	334	470	428	660	530	545	700
400	16	991	994	991	385	385	477	450	700	537	545	700
450×400	18×16	1092	1095	1092	385	436	477	450	700	537	545	700
500×400	20×16	1194	1200	1194	385	487	477	450	700	537	545	700
450	18	1092	1095	1092	436	436	522	473	755	597	575	700
500×450	20×18	1194	1200	1194	436	487	522	473	755	597	575	700
500	20	1194	1200	1194	487	487	573	580	880	663	579	700
600×500	24×20	1397	1407	1397	487	589	573	580	880	663	579	700
550	22	1295	1305	1295	538	538	600	590	965	690	579	700
600	24	1397	1407	1397	589	589	631	600	1040	721	579	700
750×600	30×24	1651	1664	1651	589	735	631	600	1040	721	579	700
650	26	1448	1461	1448	633	633	702	635	1085	874	605	700
700	28	1549	1562	1549	684	684	764	700	1175	919	950	700
750	30	1651	1664	1651	735	735	827	775	1265	982	950	700
900×750	36×30	2083	2099	2083	735	874	827	775	1265	982	950	700

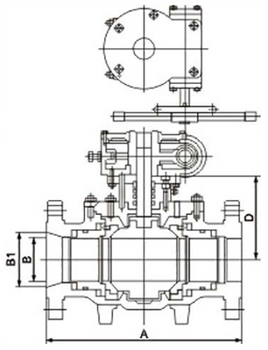
ONE SOUL IN ONE VALVE MAKE VALVE ARTWORK



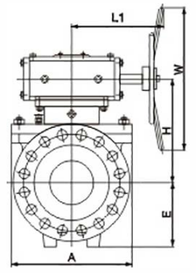
Manual top-mounted full-diameter ball valve



Manual top-mounted reducing ball valve



Top-mounted reduced diameter ball valve

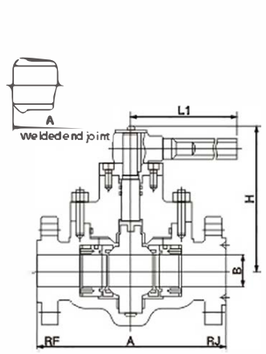


Top-mounted full-diameter ball valve

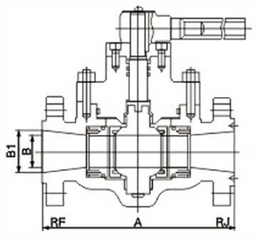
MAIN SHAPE AND CONNECTIONS SIZE

Class 600

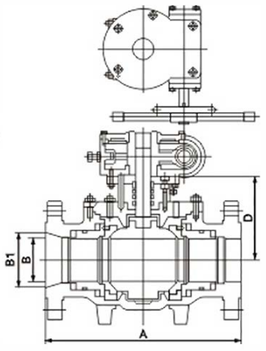
DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50×40	2×1 1/2	292	295	292	38	49	/	85	180	212	450	/
50	2	292	295	295	49	49	/	85	180	212	600	/
80×50	3×2	356	395	356	49	74	/	85	180	212	600	/
80	3	356	395	356	74	74	/	112	230	228	1000	/
100×80	4×3	432	435	432	74	100	/	112	230	228	1000	/
100	4	432	435	432	100	100	/	145	283	250	1000	/
150×100	6×4	559	562	559	100	150	/	145	283	250	1000	/
150	6	559	562	559	150	150	281	220	325	336	340	700
200×150	8×6	660	664	660	150	201	281	220	325	336	340	700
200	8	660	664	660	201	201	340	260	425	395	340	700
250×200	10×8	787	791	787	201	252	340	260	425	395	340	700
250	10	787	791	787	252	252	355	311	505	415	545	700
300×250	12×10	838	841	838	252	303	355	311	505	415	545	700
350×250	14×10	889	892	889	252	334	355	311	505	415	545	700
300	12	838	841	838	303	303	401	366	585	461	545	700
350×300	14×12	889	892	889	303	534	401	366	585	461	545	700
400×300	16×12	991	994	991	303	385	401	366	585	461	545	700
350	14	889	892	889	334	334	451	428	680	526	575	700
400×350	16×14	991	994	991	385	334	451	428	680	526	575	700
400	16	991	994	991	385	385	493	450	730	568	575	700
450×400	18×16	1092	1095	1092	385	436	493	450	730	568	575	700
500×400	20×16	1194	1200	1194	385	487	493	450	730	568	575	700
450	18	1092	1095	1092	436	436	539	473	784	629	579	700
500×450	20×18	1194	1200	1194	436	487	539	473	784	629	579	700
500	20	1194	1200	1194	487	487	592	580	900	682	579	700
600×500	24×20	1397	1407	1397	487	589	592	580	900	682	579	700
550	22	1295	1305	1295	538	538	621	590	890	711	579	700
600	24	1397	1407	1397	589	589	653	600	1070	808	950	1400
750×600	30×24	1651	1664	1651	589	735	653	600	1070	808	950	1400
650	26	1448	1461	1448	633	633	725	635	1115	880	950	1400
700	28	1549	1562	1549	684	684	790	700	1210	945	950	1400
750	30	1651	1664	1651	735	735	850	775	1300	1005	950	1400
900×750	36×30	2083	2099	2083	735	874	850	775	1300	1005	950	1400



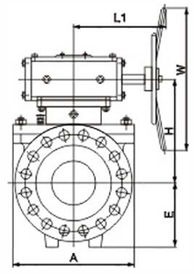
Manual top-mounted full-diameter ball valve



Manual top-mounted reducing ball valve



Top-mounted reduced diameter ball valve



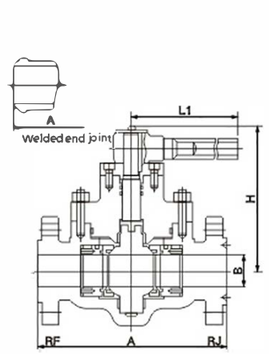
Top-mounted full-diameter ball valve

MAIN SHAPE AND CONNECTIONS SIZE

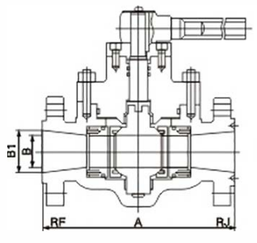
Class 900

DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50×40	2×1 1/2	368	371	368	38	49	/	85	195	215	450	/
50	2	368	371	368	49	49	/	85	195	215	600	/
80×50	3×2	381	384	381	49	74	/	85	195	215	600	/
80	3	381	384	381	74	74	/	112	240	193	1000	/
100×80	4×3	457	460	457	74	100	/	112	240	193	1000	/
100	4	457	460	457	100	100	227	145	295	291	360	500
150×100	6×4	610	613	610	100	150	227	145	295	291	360	500
150	6	610	613	610	150	150	258	225	330	313	340	700
200×150	8×6	737	740	737	150	201	258	225	330	313	340	700
200	8	737	740	737	201	201	318	260	425	378	545	700
250×200	10×8	838	841	838	201	252	318	260	425	378	545	700
250	10	838	841	838	252	252	370	320	525	430	545	700
300×250	12×10	965	968	865	252	303	370	320	525	430	545	700
350×250	14×10	1029	1038	1029	252	322	370	320	525	430	545	700
300	12	965	1140	965	303	303	418	375	600	493	575	700
350×300	14×12	1029	1038	1029	322	303	418	375	600	493	575	700
400×300	16×12	965	1140	1130	303	373	418	375	600	493	575	700
350	14	1029	1038	1029	322	322	470	440	695	545	575	700
400×350	16×14	1130	1140	1130	322	373	470	440	695	545	575	700
400	16	1130	1140	1130	373	373	515	465	750	605	579	700
450×400	18×16	1219	1232	1219	373	423	515	465	750	605	579	700
500×400	20×16	1321	1334	1321	373	471	515	465	750	605	579	700
450	18	1219	1232	1219	423	423	560	485	800	650	579	700
500×450	20×18	1321	1334	1321	423	471	560	485	800	650	579	700
500	20	1321	1334	1321	471	471	620	600	925	775	950	1400
600×500	24×20	1549	1568	1549	471	570	620	600	925	775	950	1400
600	24	1549	1568	1549	570	570	680	620	1095	835	950	1400
750×600	30×24	1880	1902	1880	570	712	680	620	1095	835	950	1400
650	26	1651	1673	1651	617	617	760	655	1145	915	950	1400
700	28	1753	1775	1753	665	665	824	720	1240	979	950	1400
750	30	1880	1902	1880	712	712	886	800	1335	1157	950	1400
900×750	36×30	2286	2315	2286	712	855	886	800	1335	1157	950	1400

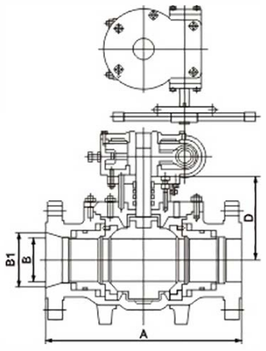
Top-mounted Ball Valve



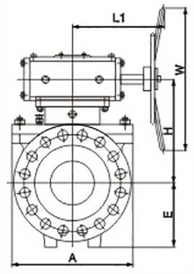
Manual top-mounted full-diameter ball valve



Manual top-mounted reducing ball valve



Top-mounted reduced diameter ball valve



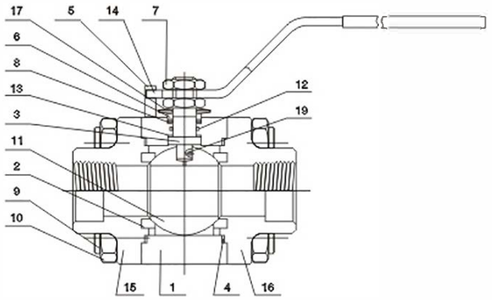
Top-mounted full-diameter ball valve

MAIN SHAPE AND CONNECTIONS SIZE

Class 1500

DN	NPS	A			B	B1	D	E	F	H	L1	W
		RF	RJ	BW								
50×40	2×1 1/2	368	371	368	38	49	/	85	205	179	450	/
50	2	368	371	368	49	49	/	85	205	179	600	/
80×50	3×2	470	473	470	49	74	/	85	205	179	600	/
80	3	470	473	470	74	74	/	120	250	201	1000	/
100×80	4×3	546	549	546	74	100	/	120	250	201	1000	/
100	4	546	549	546	100	100	240	155	310	295	340	700
150×100	6×4	705	711	705	100	144	240	155	310	295	340	700
150	6	705	711	705	144	144	273	240	370	333	545	700
200×150	8×6	832	841	832	144	192	273	240	370	333	545	700
200	8	832	841	832	192	192	335	280	455	410	575	700
250×200	10×8	991	1000	991	192	239	335	280	455	410	575	700
250	10	991	1000	991	239	239	385	340	565	460	575	700
300×250	12×10	1130	1146	1130	239	287	385	340	565	460	575	700
350×250	14×10	1257	1276	1257	329	315	385	340	565	460	575	700
300	12	1130	1146	1130	287	287	436	400	670	511	575	700
350×300	14×12	1257	1276	1257	315	315	436	400	670	511	575	700
400×300	16×12	1384	1407	1384	287	360	436	400	670	511	575	700
350	14	1257	1276	1257	315	315	485	467	730	575	579	700
400×350	16×14	1384	1407	1384	315	360	485	467	730	575	579	700
400	16	1384	1407	1384	360	360	530	495	790	620	579	700
450	18	1537	1559	1537	406	406	585	520	840	740	950	1400
500	20	1664	1686	1664	454	454	640	639	965	795	950	1400
600	24	1943	1972	1943	546	546	708	640	1145	979	1045	1400

3PCS Forged Steel Ball Valve



APPLICATION SPECIFICATION

1. Design and manufacture: BS5351 MSS SP-118;
2. Connection end size:
1) Socket socket size according to: ANsl B16.11; JB/T 1751
2) The size of the threaded end is as per: ANSI B1.20.1; JB/T 7306
3) The size of the butt welding end is as per: ANSI B16.25; JB/T 12224
4) Flange end size according to: ANSI B16.5; JB 79
3. Valve inspection and test: API 598; GB/T 13927; JB/T 9092
4. Structural features: threaded connection valve cover; three-section type
5. Material according to: ANSI/ASTM regulations.
6. Body material: A105, LF2, F5, F11, F22, 304(L), 316(L), F347, F321, F51, Monel, 20 alloy, etc.

CARBON STEEL TEMPERATURE PRES SURE GRADE

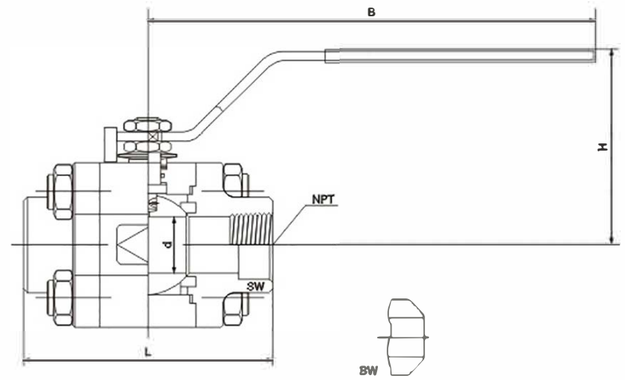
CL150-285P.S.1@100° F CL300-740 P.S.1@100° F CL600-1480 P.S.1@100° F CL800-1975 P.S.1@100° F CL1500-3705 P.S.1@100° F

MATERIAL TABLE OF MAIN PARTS

No.	Part name	A105/F6a	LF2/304	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	LF2	F304(L)	F316(L)	F51
2	Seat	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK
3	Stem	410	304	304(L)	316(L)	F51
4	Gasket	PTFE	PTFE	PTFE	PTFE	PTFE
5	Cylindrical pin	25	304	304	304	304
6	Pressing sleeve	410	304	304(L)	316(L)	F51
7	Flat nut	8	8	8	8M	8M
8	Filler	PTFE	PTFE	PTFE	PTFE	PTFE
9	Stud bolt	B7	B8	B8	B8M	B8M
10	Nut	2H	8	8	8M	8M
11	Ball	F6	F304	F304(L)	F316(L)	F51
12	O-ring	VITON	VITON	VITON	VITON	VITON
13	Upper gasket	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK	RPTFE or PEEK
14	Handle	ANSI 1025	ANSI 1025	ANSI 1025	ANSI 1025	ANSI 1025
15	Left valve cover	A105	LF2	F304	F316	F51
16	Right valve cover	A105	LF2	F304	F316	F51
17	Disc spring	65Mn	65Mn	304	304	304
18	Spring cushion	65Mn	65Mn	304	304	304
19	Electrostatic spring	304	304	304	316L	316L

3PCS Forged Steel Ball Valve

ONE SOUL IN ONE VALVE MAKE VALVE ARTWORK

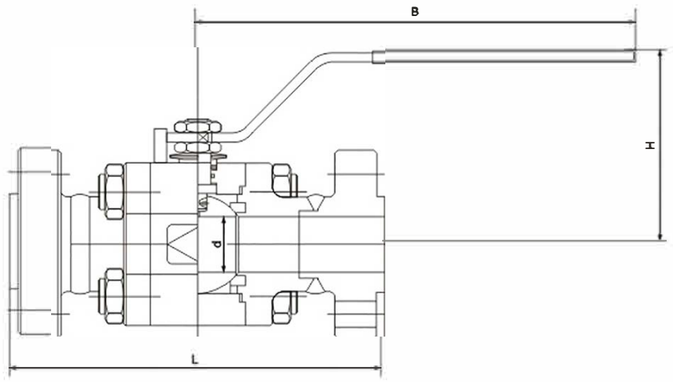


CL800-CL1500 The end connection can be designed according to one end thread and one end pipe (socket welding or butt welding) according to: BS5351

(NPS) Specification	(F.P) Full diameter		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L1		92	92	92	112	127	140	152	178
Center to handle end (mm)	B		144	144	144	147	194	194	239	239
Center height (mm)	H		75	75	75	84	98	101	116	126
Runner aperture (mm)	d	CL800	6	9	13	18	23	32	35	50
		CL1500	6	9	13	18	23	32	35	50
Weight (approximately) (kg)			2.5	2.4	2.3	3.4	5.4	6.4	11	13
			2.5	2.4	2.5	3.7	5.8	6.8	11.5	13.7

CL2500 The end connection can be designed according to one end thread and one end pipe (socket welding or butt welding) according to: BS5351

(NPS) Specification	(F.P) Full diameter	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L1			112	129	150		200	
Center to handle end (mm)	B			170	230	230		310	
Center height (mm)	H			95	110	125			
Runner aperture (mm)	d			13	19	25		38	
Weight (approximately) (kg)				2.7	4.1	6.3		12	



CL1500-CL2500

The end connection can be flanged or butt welded, and the design is according to: API 6D structure length according to the factory standard

(NPS) Specification	(F.P) Full diameter		1/2	3/4	1	1 1/4	1 1/2	2
Structure length(mm)	L	CL1500	216	229	256	279	305	368
		CL2500	264	273	308	349	384	451
Center to handle end (mm)	B	CL1500	230	230	350	280	400	400
		CL2500	280	280	95	350	400	400
Center height (mm)	H	CL1500	75	85	85	105	110	130
		CL2500	75	85	95	105	110	130
Runner aperture (mm)	d	CL1500	13	19	25	32	38	49
		CL2500	13	19	25	32	38	42
Weight (approximately) (kg)		CL1500	25	5.8	5.8	6.8	11.5	13.7
		CL2500	2.7	6.3	6.3	305	12	15

Cryogenic Ball Valve

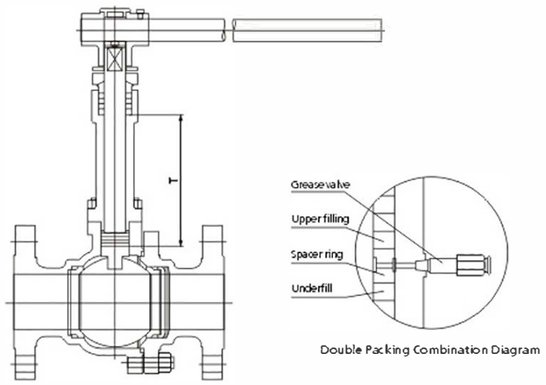
USE

Series cryogenic ball valves are mainly used in chemical plants such as ethylene and liquefied natural gas, and output liquid cryogenic media such as ethylene, liquid oxygen, and liquid hydrogen. This kind of medium is not only flammable and explosive, but also vaporizes when the temperature rises, and the volume expands hundreds of times when it vaporizes. Moreover, these media have strong penetrating power, are easy to leak, and are difficult to process and manufacture.

STRUCTURAL CHARACTERISTICS

1. The material of the pressure-bearing part can withstand the expansion and contraction caused by the change of the temperature of the medium, and the structure of the sealing part will not be permanently deformed when the temperature changes. When used in working conditions below -100℃, the valve parts should be cryogenically processed before finishing, that is, the parts should be immersed in a liquid oxygen tank for cooling. When the temperature of the parts reaches -196℃, the temperature will start for 1 to 2 hours, and then take it out The outside of the box is naturally processed to room temperature, and the cycle is repeated 2 times.
2. The valve cover adopts a long-necked structure, the purpose of which is to protect the stuffing box, keep the stuffing box far away from the low temperature, and ensure the sealing effect of the packing. At the same time, cold insulation materials can be wound to prevent loss of cold energy. The length of the long neck (H, see the left picture) can be selected according to the use temperature and the thickness of the cold insulation material. When the packing sealing effect is reduced, the pressure difference of the stuffing box can be used to improve the sealing performance.
3. When the operating temperature is lower than -100℃, the stem material is chromeplated or nitrided to increase the surface hardness of the stem and improve the reliability of the packing seal.
4. The cryogenic ball valve has a structure to prevent abnormal pressure rise. After the medium of the cryogenic valve is vaporized, its volume expands sharply, and the pressure rises abnormally. When the pressure in the valve cavity rises, the valve cavity and the inlet side are connected, or in the valve A pressure relief valve is installed at the inlet to ensure the safe use of the valve.
5. Gaskets for cryogenic ball valves have reliable sealing and restorability at room temperature, low temperature conditions and temperature changes.

PRODUCT STRUCTURE TYPE

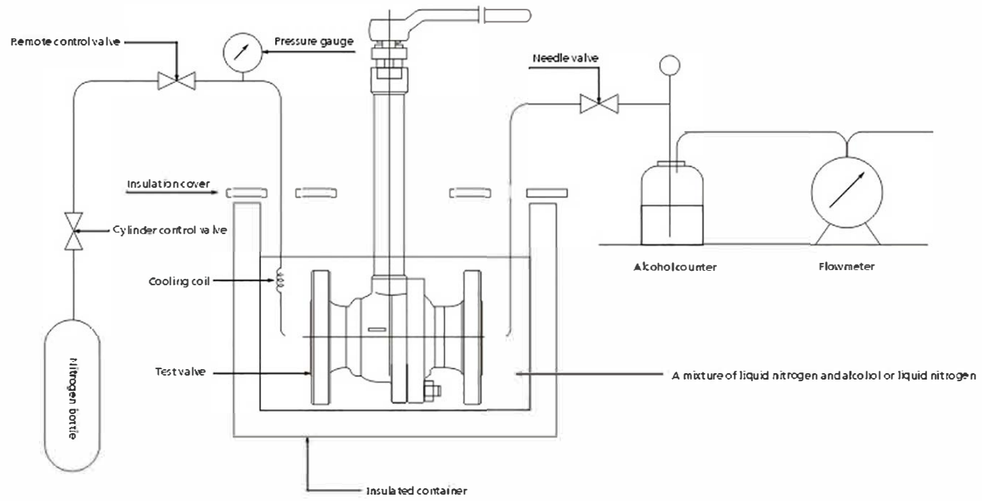


Double Packing Combination Diagram

Cryogenic Ball Valve

CRYOGENIC BAU.VALVETYPE TEST

According to the requirements of relevant standards, after the cryogenic ball valve test has passed the normal temperature pressure test, a low temperature pressure test is also required. The schematic diagram is as follows:



Low temperature type test device

MAIN EXTERNAL CONNECTION 01MENSIONS OF CRYOGENIC BALL VALVE

The main external connection dimensions of the cryogenic ball valve refer to the side-mounted floating ball valve and the fixed ball valve. The height of the valve is based on the height of the long neck, so the size table is no longer listed.

TECHNICAL SPECIFICATION FOR CRYOGENIC BALL VALVE

Specifications	API series	GB series
Basic design specification	ANSI B 16.34、JB/T7749	
Pressure temperature class	ASME B16.34	GB/T12224
Structural length	ASME B16.10 GB/T12221	
Flange connection	ASME B16.5 ASME B16.47	GB/T 9113 HG/T 20592
Inspection and testing	API 598*	JB/T 9092*

* After the cryogenic ball valve has passed the pressure test at room temperature, a low-temperature pressure test is required. The principle is shown in the cryogenic valve type diagram.

CRYOGENIC BALL VALVE BONNET WITH EXTENDED NECK LENGTH (REFERENCE)

Nominal diameter		Neck length (mm)		
DN	in	≥-60℃	≥-100℃	<-100℃
15	1/2	90	110	130
20	3/4	100	110	140
25	1	100	120	150
32	1¼	110	120	150
40	1½	110	130	160
50	2	110	130	170
65	2½	120	140	180
80	3	120	150	190
100	4	130	160	200
125	5	130	160	200
150	6	140	170	220
200	8	140	170	220
250	10	150	180	240
300	12	150	180	240
350	14	160	190	250
400	16	160	190	250

SCOPEOF SUPPLY

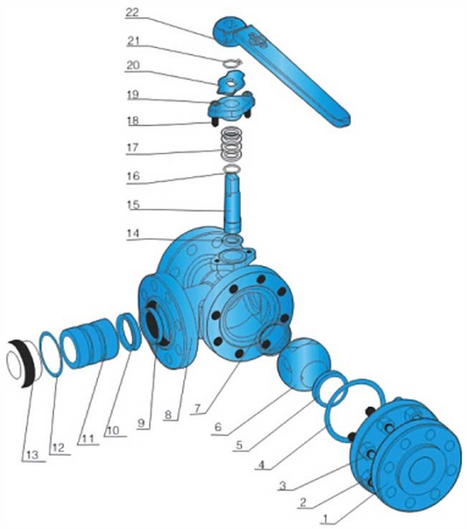
Nominal diameter		Pressure level
DN	in	150Lb、300Lb、PN1.6~10.0MPa
15	1/2	△/●
20	3/4	△/●
25	1	△/●
32	1¼	△/●
40	1½	△/●
50	2	△/★/●
65	2½	△/★/●
80	3	△/★/●
100	4	△/★/●
125	5	△/★/●
150	6	△/★/●
200	8	△/★/●
250	10	△/★/●
300	12	△/★/●
350	14	△/★/●
400	16	△/★/●

Note: ★ means electric operated valve; △ means pneumatic operated valve;
● means handle operated valve; -means that there is no such option, which means that the unrelated products can be manufactured according to user's requirements.

LOW TEMPERATURE MATERIAL OF BALL VALVE BODY MINIMUM USE TEMPERATURE

Forging		Casting	
Standards, material grades	Lowest temperature ℃	Standards, material grades	Lowest temperature ℃
ASTM A350 LF2	-45.6℃	ASTM A352 LCB LCC	-46℃
ASTM A350 LF5	-59.4℃	ASTM A352 LC1	-59℃
ASTM A350 LF9	-73.3℃	ASTM A352 LC2	-73℃
ASTM A350 LF3	-101.1℃	ASTM A352 LC3	-101℃
ASTM A182 F304	-254℃	ASTM A351 CF8	-254℃
ASTM A182 F316	-254℃	ASTM A351 CF8M	-254℃
ASTM A182 F304L	-254℃	ASTM A351 CF3	-254℃
ASTM A182 F316L	-254℃	ASTM A351 CF3M	-254℃

Three Way/Four Way Ball Valve



THREE-WAY BALL VALVE MANUFACTURING SPECIFICATION

Specifications	API series	DIN series
Basic design specification	ANSI B 16.34	
Pressure temperature rating	ASME B16.34	DIN3356
Structure length	ASME B16.10	
Flange connection	ASME B16.5 DIN2543-2551	
Inspection and testing	API 598	DIN3230

SCHEMATIC DIAGRAM OF VALVE STRUCTURE(SIDE-MOUNTED FLOATING EXPLODED DIAGRAM)

No.	Part name	No.	Part name
1	Bonnet	12	O-ring
2	Nut	13	Screw plug
3	Bolt	14	Stem
4	Gasket	15	Gasket
5	Sealring 1	16	Filler
6	Ball	17	Screw
7	Seal ring 2	18	Packing gland
8	Body	19	Limit piece
9	Seal ring 3	20	Retaining ring
10	Seal ring4	21	Handle
11	Seat	22	

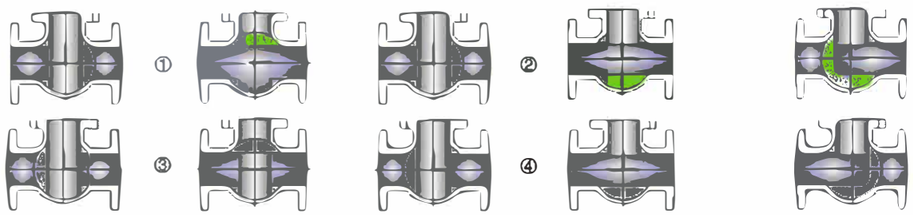
BALL VALVE FUNCTION

The three-way ball valve is suitable for switching mixing and splitting corrosive or non-corrosive liquid, gas, and powder media at a temperature of -46 ℃~+200 ℃; during the opening and closing process, the flow path is unobstructed, reducing the pressure loss, and the operation is labor-saving, Convenient maintenance;

five flow directions (see the picture on the right: one type L and four types T) meet different technological requirements, and can be controlled by hand, pneumatic and electric.

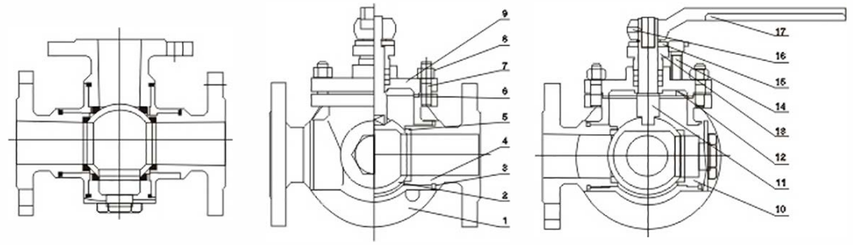
STRUCTURAL FEATURES

1. The valve seat can be designed as a four-sided floating ball and a fixed ball, with stable flow and reliable sealing;
2. The structure can be designed as side-mounted and top-mounted, with two-way sealing design; there is no serial flow when the flow direction is switched;
3. Anti-flying valve stem design;
4. Anti-static design;
5. Two-position (opening and closing position) locking design.



T port L port

ONE SOUL IN ONE VALVE MAKE VALVE ARTWORK



MAIN PARTS

No.	Part name	No.	Part name
1	Body	10	Seat ring
2	Ball	11	Stem
3	O-ring	12	Filler
4	Flange	13	Packing gland
5	Sealing ring	14	Stop screw
6	Gasket	15	Limit piece
7	Bolt	16	Setscrew
8	Nut	17	Handle
9	Bonnet		

SCOPE OF SUPPLY

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

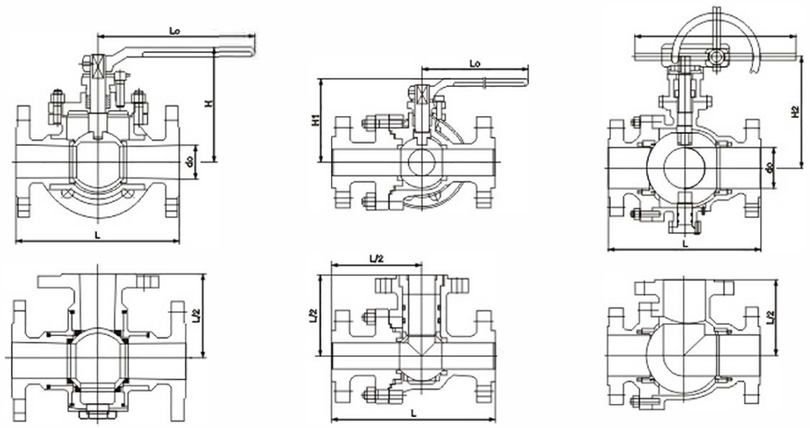
Note: ● indicates that the valve is operated by the handle; ☆ indicates that the valve is operated by the gear box; - indicates that there is no such option, and the products not mentioned in the table can be manufactured according to user requirements.

MATERIAL OF MAIN PARTS (SIDE-MOUNTED STRUCTURE)

No.	Part name	Material		
		Carbon steel	Stainless steel	Low temperature steel
1	Bonnet	A216 WCB	A351 CF8M	A352 LCB
2	Nut	A194 2H	A194 8	A194 4
3	Stud	A193 B7	A193 B8	A320 L7
4	Gasket	Flexible graphite+SS		
5	Sealing ring	PTFE/RPTFE		
6	Ball	A105+ENP	A182 F316/F304	A350 LF3/LF2+ENP
7	Sealing ring	PTFE/RPTFE		
8	Body	A216 WCB	A351 CF8M	A352 LCB
9	Sealing ring	PTFE/RPTFE		
10	Sealing ring	PTFE/RPTFE		
11	Seat	A105+ENP	A182 F316	A350 LF3

No.	Part name	Material		
		Carbon steel	Stainless steel	Low temperature steel
12	O-ring	Fluororubber		
13	Screw plug	A105+ENP	A182 F316	A350 LF3
14	Stem	A182 F6a	A182 F316	A182 F316
15	Gasket	PTFE / RPTFE		
16	Filler	PTFE / Flexible graphite		
17	Screw	A193 B7	A193 B8	A320 L7
18	Packing gland	A216 WCB	A351 CF8M	A352 LCB
19	Limit piece	A105+ENP		
20	Retaining ring	65Mn		
21	Handle	Q235A		

Three-way Ball Valve



MAINSHAPE ANOCONNECTIONSIZE

PN1.6MPa Class 150

DN	NPS	L	do	H	H1	H2	Lo	W	Weight(kg)
15	1/2	200	13	90	70	/	160	/	3
20	3/4	220	19	106	86	/	230	/	4
25	1	250	25	109	88	/	230	/	6
32	1¼	/	32	125	106	/	400	/	10
40	1½	250	38	149	132	/	400	/	14
50	2	260	49	154	137	/	400	/	20
65	2½	320	62	189	162	/	700	/	25
80	3	320	74	198	170	/	700	/	32
100	4	370	100	254	229	/	1050	/	45
125	5	510	125	273	247	/	1050	/	/
150	6	510	150	/	/	314	/	450	/
200	8	580	201	/	/	430	/	600	/
250	10	670	252	/	/	475	/	600	/

MAIN SHAPE AND CONNECTION SIZE

PN2.5/4.0MPa Class 300

DN	NPS	L	do	H	H1	H2	Lo	W	Weight(kg)	
									PN2.5	PN4.0
15	1/2	200	13	90	70	/	160	/	3	3
20	3/4	220	19	106	86	/	230	/	4	4
25	1	250	25	109	88	/	230	/	6.5	6.5
32	1¼	/	32	125	106	/	400	/	11	11
40	1½	250	38	149	132	/	400	/	15	15
50	2	260	49	154	137	/	400	/	21.5	21.5
65	2½	320	62	189	162	/	700	/	/	/
80	3	320	74	198	170	/	700	/	35	35
100	4	370	100	254	229	/	1050	/	49	49
125	5	370	125	273	247	/	1050	/	/	/
150	6	510	150	/	/	314	/	450	/	/
200	8	580	201	/	/	430	/	600	/	/
250	10	670	252	/	/	475	/	600	/	/

Four - way Ball Valve

ONE SOUL IN ONE VALVE MAKE VALVE ARTWORK

FOUR-WAY BALL VALVE FUNCTION

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

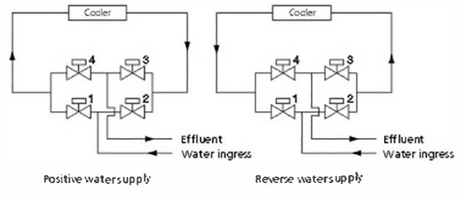


Figure 1

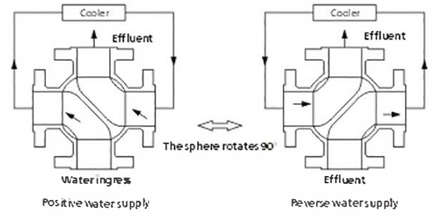


Figure 2

STRUCTURAL FEATURES

1. Designed for the specific process of the positive and negative water supply of the power system cooler, with matching functions and high reliability;
2. The top-mounted fixed ball four-sided core structure has good sealing performance, and wear resistance and long service life;
3. Electric and pneumatic operation (switch to manual operation if necessary);
4. It is easy to control the good information channel and operation interface between the control box and the valve and between the upper computer; and can realize the automatic switching of positive and negative water supply at a certain time interval according to the process requirements.

FOUR-WAY BALL VALVE MANU FACTURJNG SPECIFICATION

Specifications	API series	DIN series
Basic design specification	ANSI B 16.34	
Pressure temperature rating	ASME B16.34	DIN3356
Structure length	ASME B16.10	
Flange connection	ASME B16.5	DIN2543-2551
Inspection and testing	API 598	DIN3230

CONTROL SYSTEM

The four-way ball valve can be controlled on site or remotely controlled by the central control system of the control box. The control interface functions are as follows:

I. Switch
1. Power switch
2. On-site control/remote control switch
3. Manual cycle/automatic cycle switch

II. Button
1. Positive water supply
2. Reverse water supply
3. Stop

III. Indicator light
1. Power indicator
2. Positive water supply indication
3. Reverse water supply indication
4. Median pause indication
5. Over-torque indication of valve or Denso card group (flashing and alarm)

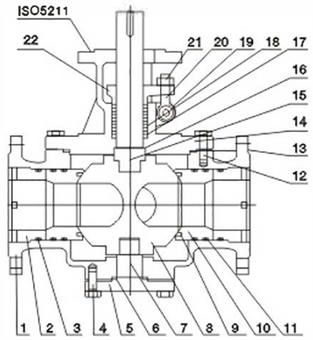
IV. The opening indicator table

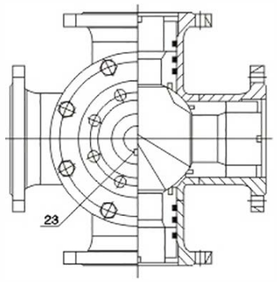
V. Communicate with the host computer

Electrical parameters

Power supply AC280V/50HZ, ambient temperature-20~+40 ℃, relative humidity ≤90% (at 25 ℃), protection grade IP 67, electrical schematic diagram is subject to the instruction manual.

Four - way Ball Valve





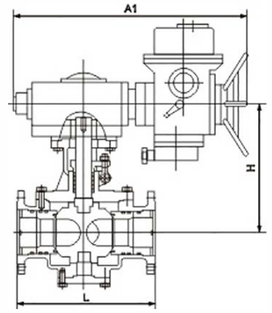
MATERIAL OF MAIN PARTS

No.	Part name	Material		
		Carbon steel	Stainless steel	Low temperature steel
1	Body	A216 WCB	A351 CF8M	A352 LCB
2	Lock nut	A105+ENP	A182 F316	A350 LF3
3	O-ring	Fluorine rubber		
4	Bolt	A193 B7	A193 B8	A320 L7
5	Bottom cover	A105+ENP	A182 F316	A350 LF3
6	Gasket	Flexible graphite		
7	Lower stem	A182 F6a	A182 F316	
8	Ball	A105+ENP	A182 F316/ F304	A350 LF3/ LF2+ENP
9	Sealing ring	PTFE/EPTFE		
10	Seat	A105+ENP	A182 F316	A350 LF3
11	O-ring	Fluorine rubber		
12	Bolt	A193 B7	A193 B8	A320 L7
13	Gasket	Flexible graphite		
14	Bonnet	A216 WCB	A351 CF8M	A352 LCB
15	Stem	A182 F6a	A182 F316	A182 F316
16	Gasket	PTFE+SS		
17	Padding	A182 F6a	/	A182 F6a
18	Filler	Flexible graphite		
19	Pin shaft	A182 F6a		
20	Union bolt	A193 B7	A193 B8	A320 L7
21	Nut	A194 2H	A194 8	A194 4
22	Packing gland	A216 WCB	A351 CF8M	A352 LCB
23	Key	ANSI 1215		

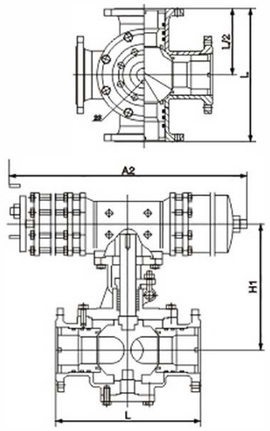
SCOPE OF SUPPL.Y

Nominal diameter		Pressure level	
DN	in	150Lb	PN1.0/1.6/2.5MPa
50	2	△/★/☆	△/★/☆
65	2½	△/★/☆	△/★/☆
80	3	△/★/☆	△/★/☆
100	4	△/★/☆	△/★/☆
125	5	△/★/☆	△/★/☆
150	6	△/★/☆	△/★/☆
200	8	△/★/☆	△/★/☆
250	10	△/★/☆	△/★/☆
300	12	△/★/☆	△/★/☆
350	14	△/★/☆	△/★/☆
400	16	△/★/☆	△/★/☆
450	18	△/★/☆	△/★/☆
500	20	△/★/☆	△/★/☆

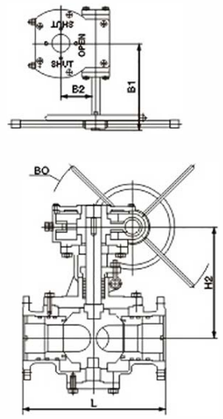
Note: ● indicates that the handle operates the valve;
☆ Indicates that the gear box operates the valve;
- Indicates that there is no such option, and those not mentioned in the table can be manufactured according to user requirements.



Electric four-way ball valve



Pneumatic four-way ball valve



Worm gear drive four-way ball valve

MAIN SHAPE AND CONNECTION SIZE

PN1.0/1.6MPa Class 150

DN	NPS	L	do	H	A1	H1	A2	H2	Bo	B1	B2	Weight(kg) G.O
50	2	265	49	220	433	217	405	200	250	106	52	28
65	2½	320	62	295	433	248	405	260	250	106	52	48
80	3	320	74	367	433	335	574	320	250	106	52	87
100	4	370	100	440	520	412	574	400	300	143	80	137
125	5	510	125	535	520	495	756	500	300	143	80	240
150	6	510	150	660	520	613	756	600	400	200	108	270
200	8	580	201	870	520	824	756	800	400	200	108	585
250	10	670	252	1080	896	1025	1060	1000	600	200	108	765
300	12	760	303	1200	896	1176	1060	1160	600	200	108	1121
350	14	850	334	1250	896	1239	1360	1225	800	330	140	1450
400	16	980	385	1420	910	1388	1360	1350	800	330	140	1780
450	18	1080	436	1610	910	1596	1360	1575	800	330	140	2435
500	20	1220	487	1830	910	1725	2910	1750	1000	370	20	3108

MAIN SHAPE AND CONNECTION SIZE DN NPS

PN2.5/4.0MPa Class 300

DN	NPS	L	do	H	A1	H1	A2	H2	Bo	B1	B2	Weight(kg) G.O
50	2	265	49	390	433	217	405	200	250	106	52	28.5
65	2½	320	62	420	433	248	405	260	250	106	52	49
80	3	350	74	490	520	335	574	320	250	106	52	87
100	4	420	100	570	520	412	574	400	300	143	80	139
125	5	510	125	680	520	495	756	500	300	143	80	240
150	6	580	150	830	896	613	756	600	400	200	108	270
200	8	640	201	1020	896	824	756	800	400	200	108	585
250	10	740	252	1140	896	1025	1060	1000	600	200	108	765
300	12	820	303	1220	896	1176	1060	1200	600	200	108	1125
350	14	910	334	1390	910	1239	1360	1225	800	330	140	1455
400	16	1000	385	1580	910	1388	1360	1350	800	330	140	1785
450	18	1150	436	1790	910	1596	1360	1575	800	330	140	2467
500	20	1300	487	1960	936	1725	2910	1750	1000	370	220	3150

Flange size see attached table

One soul in one valve,
make valve artwork!

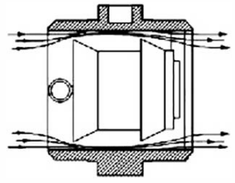
Pigging Valve

Pigging Valve

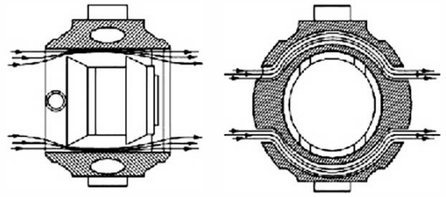
OVERVIEW

The pigging valve is a new type of valve mainly used for cleaning pipelines in long-distance pipelines such as water, oil, natural gas, etc., for the launch and reception of the pig. With the corresponding pig, it can easily complete the work of pipeline cleaning, emptying and isolation, orderly transporting the medium, and testing the pipeline system. It can completely replace the traditionally used and complex pig transmitting and receiving devices with the pig transceiver as the core. The structural feature of the pigging valve is a new type of valve that is innovatively designed based on the structural principle of the fixed ball valve after modification and addition of functions. It completely inherits the performance characteristics of the two-position cut-off ball valve, and can realize the opening and closing of the valve through the 90° rotation of the ball core. It is convenient to design as a double block so that the valve can discharge the medium in the body cavity when it is fully open or fully closed. This function is necessary for pigging valves A branch pipe is openedon the side of the valve body, and the branch pipe center intersects the pipeline center and the pipeline center perpendicularly. A quick-open blind plate and a vent valve are installed on the branch pipe, so that the pig can be easily fed into the pig valve or taken out of the pig valve. The diameter of the ball through hole is larger. and the one end of the through hole can prevent the pig from passing through. A barrier that allows the medium to circulate.

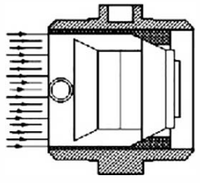
100% pressure test and ensure that there is no visible leakage in any sealing parts; fire-resistant safety design, when the elastic valve seat is burned, a metal-to-metal seal is formed between the ball and the valve seat; the valve body, bonnet and valve stem are all Set high-temperature-resistant graphite gaskets to ensure high-temperature sealing reliability. The fire resistance test meets the requirements of API 6FA and API 607; the antitatic design and the static conductive spring ensure good conduction between the ball and the valve body, and the valve stem and the valve body. Lead out static electricity generated by friction.



Type C



Type B



Type S

Standard pigging valve Model: Type C

Product description: Type C is a standard pigging valve for pipe cleaning. Its spherical hole area is about 25% larger than the pipe flow area to ensure the continuous flow of the conveying medium during the pigging operation. Type C pigging valve can be used as a shut-off valve.

Performance characteristics:

1. The valve stem is notaffected by the thrust of the ball, the valve stem can be twisted freely, and the valve operation is flexible;
2. The quick opening blind plate is easy to operate;
3. Zero leakage;
4. Interlocking design ensures the safety of operators;
5. Fire-resistant safety design, fire-resistant test meets the requirements of API 6FA and API 607 standards;
6. Antistatic design;
7. Cleaning design.

Bypass pigging Model: Type B

Product description: Type B is a pigging valve with bypass. Two elliptical passages are opened on the sphere perpendicular to the direction of the ball hole, and the flow area is about 25% of the pipe. This structure ensures that the pig valve will not be cut off even when the pig is transmitted or received. B-type pigging valve cannot be used as a shut-off valve.

Isolated pigging valve model: S type

Product description: S-type pigging valve is mainly used for isolating and sequentially conveying medium. Its ball hole area is about 3% larger than the pipe flow area; and there is an additional seal in the ball hole of the receiving pig valve to ensure that the isolation pig reaches the receiving pig valve to form a seal and obtain an ideal isolation effect. The S-type pig valve can be used as a shut-off valve.

Pigging Valve

1. The valve stem is not affected by the thrust of the ball, the valve stem can be twisted freely, and the valve operation is flexible;
2. The quick opening blind plate is easy to operate;
3. Zero leakage;
4. Interlocking design ensures the safety of operators;
5. Fire-resistant safety design, fire-resistant test meets the requirements of API 6FA and API 607 standards;
6. Antistatic design;
7. Cleaning design.

Design and manufacture according to: API 6D GB/T12 237-2009

Test and inspection according to: API 598 JB/T9092-2009

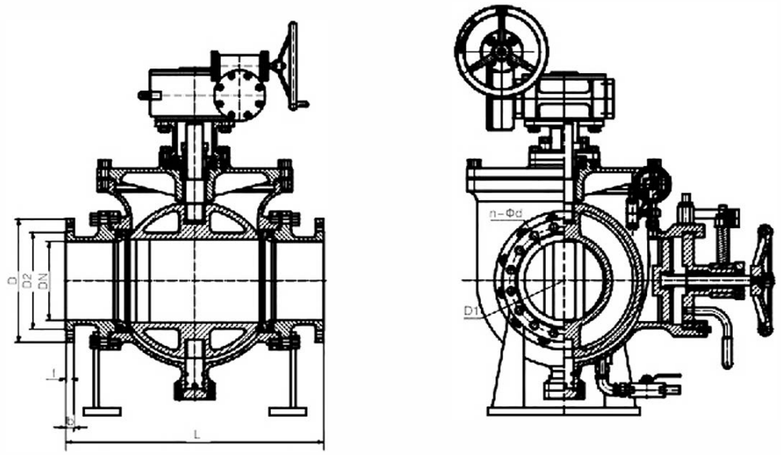
Flange size according to: ANSI B16.5 GB/T 9113-2009

JB/T79-200 7 HG205 92-2009

Structure length according to: CTV-2000

The valve adopts carbon steel and low temperature steel as the main material for oil and gas transportation conditions, and is divided into ordinary and sulfur resistant series. The anti-sulfur valve material complies with the regulations of NACE MR01-75. The suitable temperature for carbon steel series is -29~ 150℃, and the suitable temperature for low temperature steel series is -46~ 121℃.

Part name	Carbon steel		Low temperature steel	
	Ordinary	Sulfur resistance	Ordinary	Sulfur resistance
Body, bonnet	A216 WCB	A216 WCB	A352 LCC	A352 LCC
Ball	A216 WCB+HCr	A182 F316 A216 WCB+ENP	A182 LF2+HCr A352 LCC+HCr	A182 F316 A105/A352 LCC+ENP
Stem	A182 F6a ANSI 1040+HCr	A182 F316 ANSI 1040+ENP	A182 F6a ANSI 1040+HCr	A182 F316 ANSI 1040+ENP
Seat	PTFE NYLON VITON			
Seat support	A182 F6a	A182 F316	A182 F6a	A182 F6a
Spring	17-7PH			
Bolt	A197 B7	A193 B7M	A320 L7	A352 L7M
Nut	A1942H	A1942HM	A194 4	A194 7M

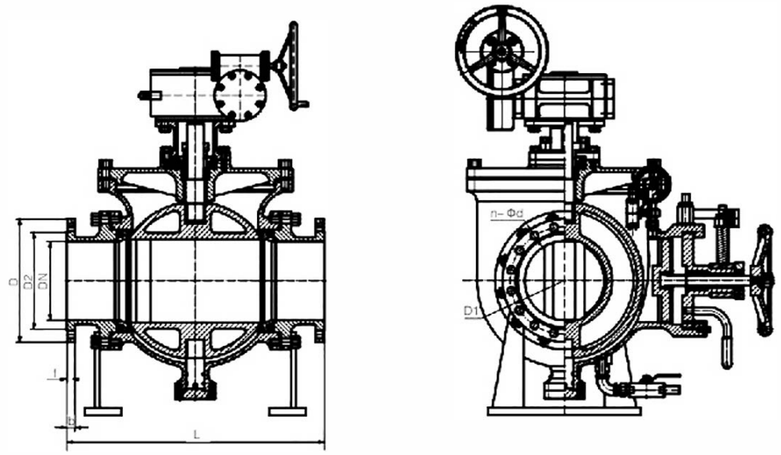


MAINSHAPEANOCONNECTIONSIZE

VDSQ347 F H Y -16CIPR

Nominal diameter	Connection size (1.6MPa)							
DN	L	H	D	D1	D2	b	f	n-Φd
50	432	228	165	125	102	18	3	4-18
65	432	248	185	145	122	18	3	8-18
80	545	270	200	160	138	20	3	8-18
100	634	294	220	180	158	20	3	8-18
125	680	322	250	210	188	22	3	8-18
150	710	470	285	240	212	22	3	8-22
200	830	520	340	295	268	24	3	12-22
250	850	610	405	355	320	26	3	12-26
300	1100	650	460	410	378	28	4	12-26
350	1250	740	520	470	438	30	4	16-26
400	1400	795	580	525	490	32	4	16-30
450	1500	860	640	585	550	40	4	20-30
500	1700	945	715	650	610	44	4	20-33
600	1800	1040	840	770	725	54	5	20-36
700	1850	1150	910	840	795	58	5	24-36
800	1950	1280	1025	950	900	62	5	24-39
900	2252	1430	1125	1050	1000	64	5	28-39
1000	2500	1580	1255	1170	1115	68	5	28-42

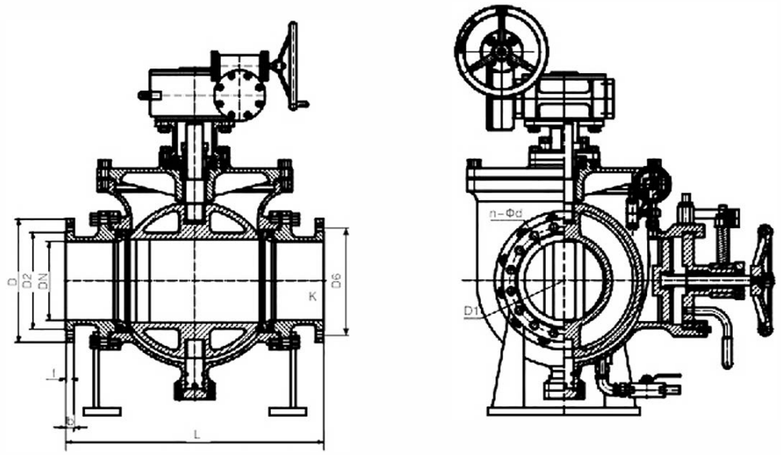
Pigging Valve



MAIN SHAPE AND CONNECTION SIZE

VDSQ347 F H Y -25CIPR

Nominal diameter	Connection size (2.5MPa)							
DN	L	H	D	D1	D2	b	f	n-Φd
50	432	240	165	125	102	20	3	4-18
65	432	260	185	145	122	22	3	8-18
80	545	280	200	160	138	24	3	8-18
100	634	345	235	190	162	24	3	8-22
125	680	390	270	220	188	26	3	8-26
150	710	470	300	250	218	28	3	8-26
200	830	540	360	310	278	30	3	12-26
250	850	630	425	370	335	32	3	12-30
300	1100	650	485	430	395	34	4	16-30
350	1250	740	555	490	450	38	4	16-33
400	1400	795	620	550	505	40	4	16-36
450	1500	860	670	600	555	46	4	20-36
500	1700	945	730	660	615	48	4	20-36
600	1800	1040	845	770	720	58	5	20-39
700	1850	1150	960	875	820	60	5	24-42
800	1950	1305	1085	990	930	66	5	24-48
900	2252	1505	1185	1090	1030	70	5	28-48
1000	2500	1615	1320	1210	1140	74	5	28-56

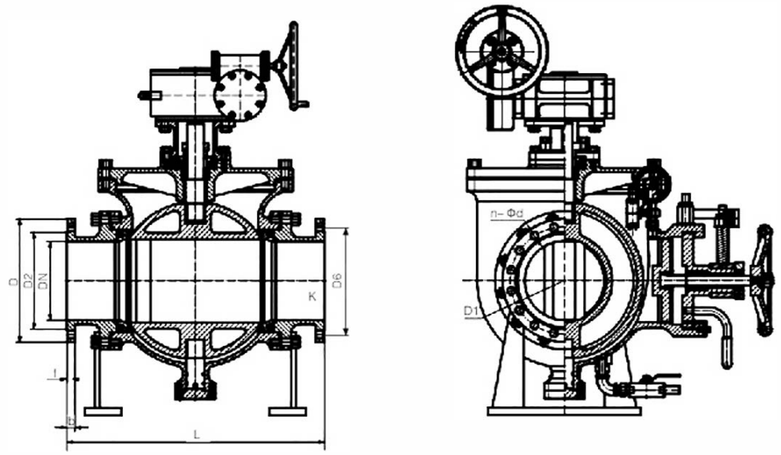


MAIN SHAPE AND CONNECTION SIZE

VDSQ347 F H Y -40CIPR

Nominal diameter	Connection size (4.0MPa)									
DN	L	H	D	D1	D2	b	f	D6	K	n-Φd
50	432	240	165	125	102	20	3	88	4	4-18
65	432	260	185	145	122	22	3	110	4	8-18
80	545	280	200	160	138	24	3	121	4	8-18
100	634	345	235	190	162	24	3	150	4.5	8-22
125	680	390	270	220	188	26	3	176	4.5	8-26
150	710	470	300	250	218	28	3	204	4.5	8-26
200	830	540	375	320	285	34	3	260	4.5	12-30
250	850	630	450	385	345	38	3	313	4.5	12-33
300	1100	650	515	450	410	42	4	364	4.5	16-33
350	1250	740	580	510	465	46	4	422	5	16-36
400	1400	795	660	585	535	50	4	474	5	16-39
450	1500	860	685	610	560	57	4	524	5	20-39
500	1700	945	755	670	615	57	4	576	5	20-42
600	1800	1040	890	795	735	72	5	676	5	20-48

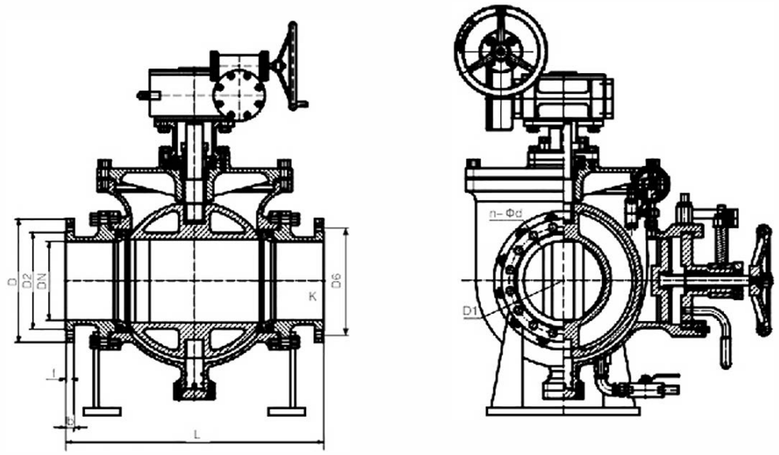
Pigging Valve



MAIN SHAPE AND CONNECTIONSIZE

VDSQ347 F H Y -64CIPR

Nominal diameter	Connection size (6.4MPa)									
DN	L	H	D	D1	D2	b	f	D6	K	n-Φd
50	432	240	180	135	102	26	3	88	4	4-22
65	432	260	205	160	122	26	3	110	4	8-22
80	545	280	215	170	138	28	3	121	4	8-22
100	634	345	250	200	162	30	3	150	4.5	8-26
125	680	390	295	240	188	34	3	176	4.5	8-30
150	710	470	345	280	218	36	3	204	4.5	8-33
200	830	540	415	345	285	42	3	260	4.5	12-36
250	850	630	470	400	345	46	3	313	4.5	12-36
300	1100	650	530	460	410	52	4	364	4.5	16-36
350	1250	740	600	525	465	56	4	422	5	16-39
400	1400	795	670	585	535	60	4	474	5	16-42

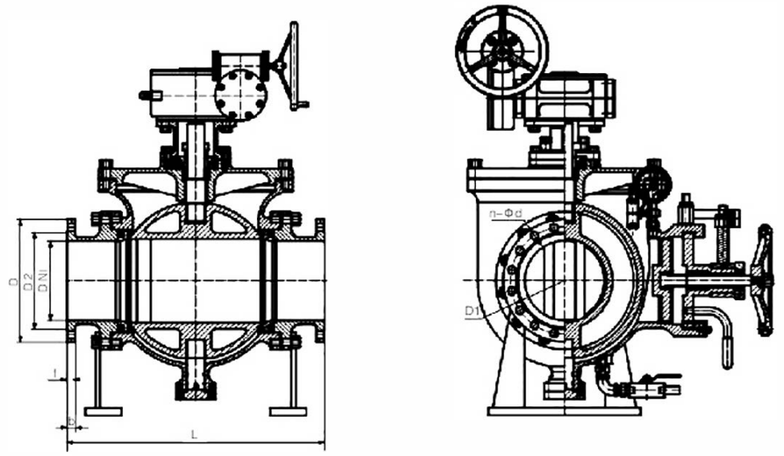


MAIN SHAPE AND CONNECTION SIZE

VDSQ347 F H Y -100CIPR

Nominal diameter	Connection size (10.0MPa)									
DN	L	H	D	D1	D2	b	f	D6	K	n-Φd
50	432	260	195	145	102	30	3	88	4	4-26
65	432	267	220	170	122	34	3	110	4	8-26
80	545	300	230	180	138	36	3	121	4	8-26
100	634	345	265	210	162	40	3	150	4.5	8-30
125	680	390	315	250	188	40	3	176	4.5	8-33
150	710	485	355	290	218	44	3	204	4.5	12-33
200	830	580	430	360	285	52	3	260	4.5	12-36
250	850	665	505	430	345	60	3	313	4.5	12-39
300	1100	760	585	500	410	68	4	364	4.5	12-42
350	1250	820	655	560	465	74	4	422	5	16-48

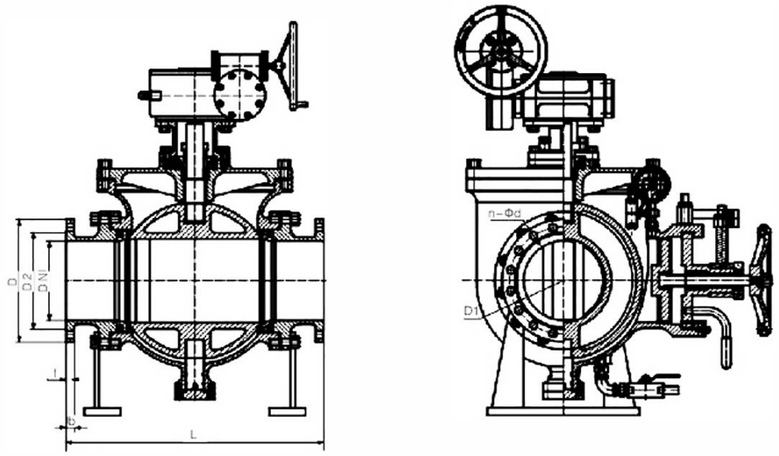
Pigging Valve



MAIN SHAPE AND CONNION SIZE

VDSQ347 F H Y -150Lb(CIPR)

Nominal diameter	Connection size (150Lb)							
NPS	L	H	D	K	d	b	f	n-Φd
2"	432	240	150	120.7	92.1	16.3	2	4-Φ19
3"	545	280	190	152.4	127	19.5	2	4-Φ19
4"	634	345	230	190.5	157.2	24.3	2	8-Φ19
5"	680	390	255	215.9	185.7	24.3	2	8-Φ22
6"	710	470	280	241.3	215.9	25.9	2	8-Φ22
8"	830	540	345	298.5	269.9	29	2	8-Φ22
10"	850	630	405	362	323.8	30.6	2	12-Φ26
12"	1100	650	485	431.8	381	32.2	2	12-Φ26
14"	1250	740	535	476.3	412.8	35.4	2	12-Φ29
16"	1400	795	595	539.8	469.9	37	2	16-Φ29
18"	1500	860	635	577.9	533.4	40.1	2	16-Φ32
20"	1700	945	700	635	584.2	43.3	2	20-Φ32
24"	1800	1040	815	749.3	692.2	48.1	2	20-Φ35
28"	1850	1150	925	863.6	800	71.8	2	28-Φ35
32"	1950	1305	1060	977.9	914	83	2	28-Φ41
36"	2252	1505	1170	1085.8	1022	90.9	2	32-Φ41
40"	2500	1615	1290	1200.2	1124	90.9	2	36-Φ41

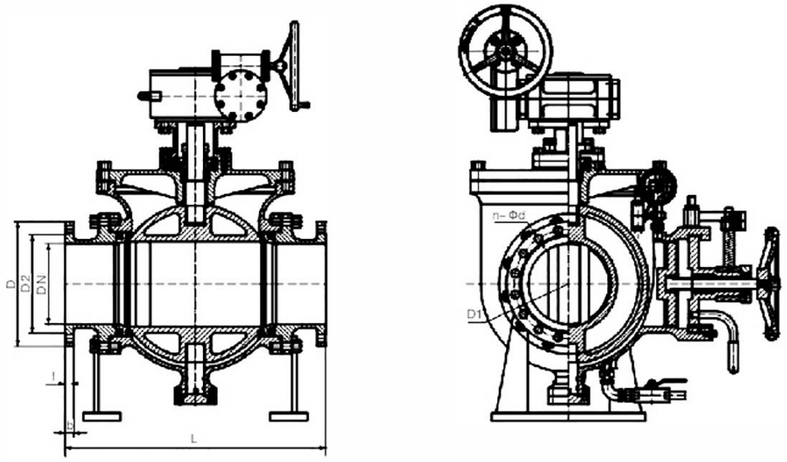


MAIN SHAPE AND CONNECTION SIZE

VDSQ347 F H Y -300Lb(CIPR)

Nominal diameter	Connection size (300Lb)							
NPS	L	H	D	K	d	b	f	n-Φd
2"	432	240	165	127	92.1	22.7	2	8-Φ19
3"	545	280	210	168.3	127	29	2	8-Φ22
4"	634	345	255	200	157.2	32.2	2	8-Φ22
5"	680	390	280	235	185.7	35.4	2	8-Φ22
6"	710	470	320	269.9	215.9	37	2	12-Φ22
8"	830	540	380	330.2	269.9	41.7	2	12-Φ26
10"	850	630	445	387.4	323.8	48.1	2	16-Φ29
12"	1100	650	520	450.8	381	51.3	2	16-Φ32
14"	1250	740	585	514.4	412.8	54.4	2	20-Φ32
16"	1400	795	650	571.5	469.9	57.6	2	20-Φ35
18"	1500	860	710	628.6	533.4	60.8	2	24-Φ35
20"	1700	945	775	685.8	584.2	64	2	24-Φ35
24"	1800	1040	915	812.8	692.2	70.3	2	24-Φ42
28"	1850	1150	1035	939.8	800	86.2	2	28-Φ45
32"	1950	1305	1150	1054.1	914	98.9	2	28-Φ51
36"	2252	1505	1270	1168.4	1022	105.2	2	32-Φ54
40"	2500	1615	1240	1155.7	1086	114.8	2	32-Φ45

Pigging Valve



MAINSHAPE AND CONNECTION SIZE

VDSQ347 F H Y -600Lb(CIPR)

Nominal diameter	Connection size (600Lb)							
NPS	L	H	D	K	d	b	f	n-Φd
2"	432	240	165	127	92.1	25.4	7	8-Φ19
3"	545	280	210	168.3	127	31.8	7	8-Φ22
4"	634	345	275	215.9	157.2	38.1	7	8-Φ26
5"	680	390	330	266.7	185.7	44.5	7	8-Φ29
6"	710	470	355	292.1	215.9	47.7	7	12-Φ29
8"	830	540	420	349.2	269.9	55.6	7	12-Φ32
10"	850	630	510	431.8	323.8	63.5	7	16-Φ35
12"	1100	650	560	489	381	66.7	7	20-Φ35
14"	1250	740	605	527	412.8	69.9	7	20-Φ39
16"	1400	795	685	603.2	469.9	76.2	7	20-Φ42
18"	1500	860	745	654	533.4	82.6	7	20-Φ45
20"	1700	945	815	723.9	584.2	88.9	7	24-Φ45
24"	1800	1040	940	838.2	692.2	101.6	7	24-Φ51
28"	1850	1150	1075	965.2	800	111.2	7	28-Φ54
32"	1950	1305	1195	1079.5	914	117.5	7	28-Φ60
36"	2252	1505	1315	1193.8	1022	123.9	7	28-Φ67
40"	2500	1615	1320	1212.8	1111	156.8	7	32-Φ60