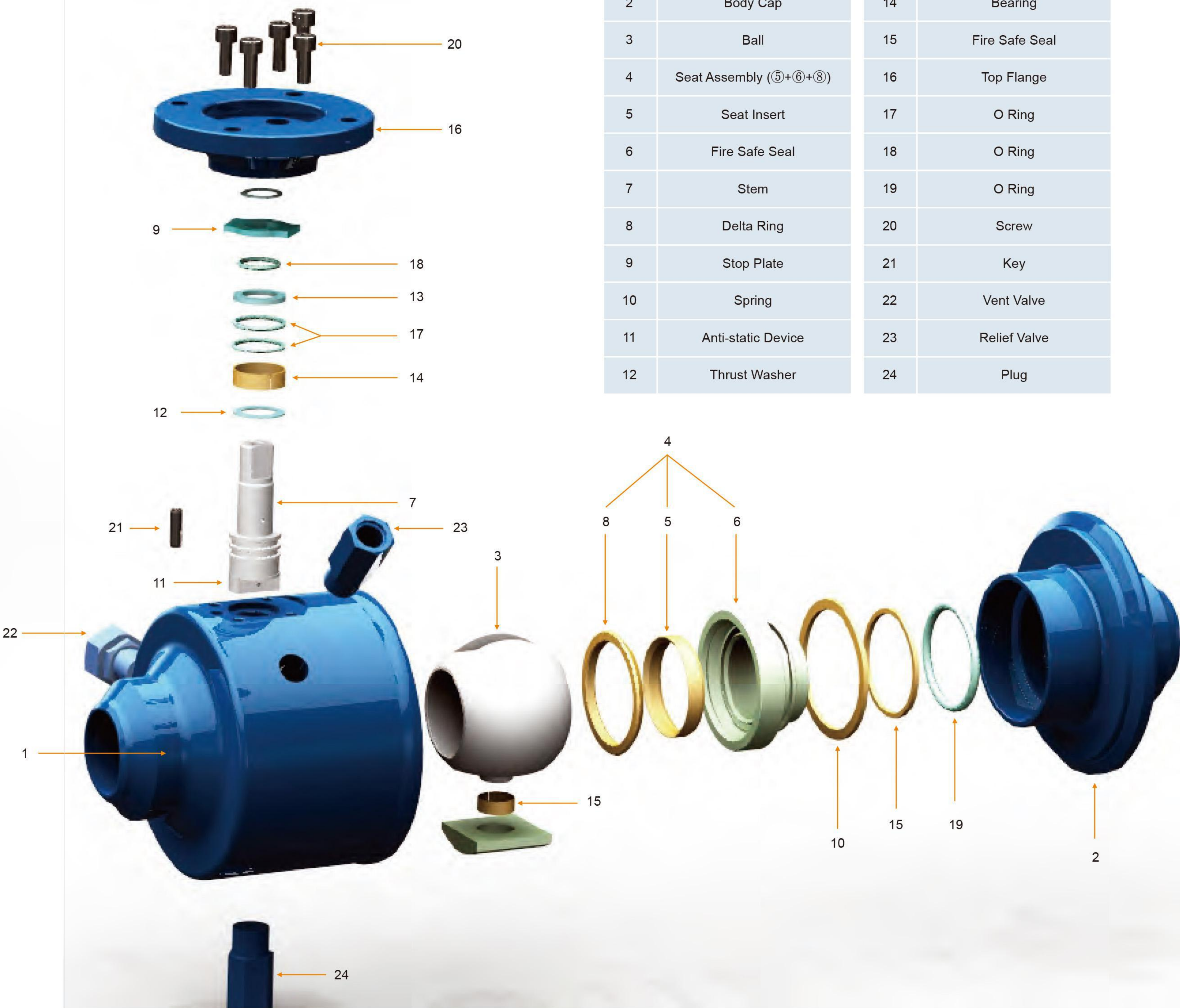




- 1 Blow-out Proof Stem : Safety feature that functions to assure stem sealing at all pressures.
- 2 Emergency Sealant Injection Fitting: Prevents leakage from the stem.
- 3 Emergency Sealant Injection Fitting: Prevents leakage from the seat.
- 4 Fully-welded Body Structure: The line media leakage can be prevented.
- 5 Floating Spring-loaded Seats: Assure sealing even at low pressures.
- 6 Metal to Metal Sealing: When soft seals are deteriorated by fire, seat float to shut off the line media.

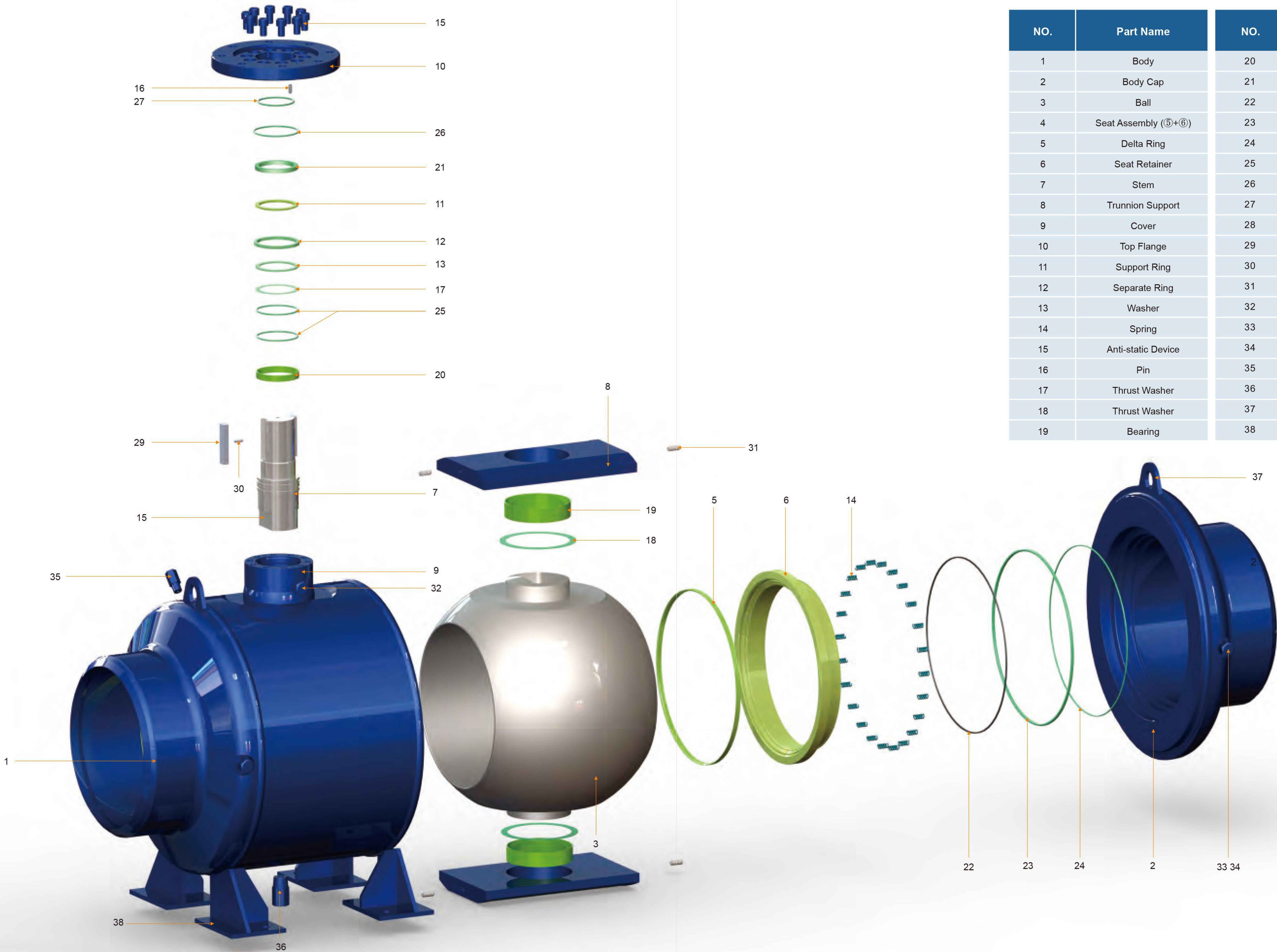


NO.	Part Name	NO.	Part Name
1	Body	13	Fire Safe Seal
2	Body Cap	14	Bearing
3	Ball	15	Fire Safe Seal
4	Seat Assembly (5+6+8)	16	Top Flange
5	Seat Insert	17	O Ring
6	Fire Safe Seal	18	O Ring
7	Stem	19	O Ring
8	Delta Ring	20	Screw
9	Stop Plate	21	Key
10	Spring	22	Vent Valve
11	Anti-static Device	23	Relief Valve
12	Thrust Washer	24	Plug

Material Specification

Material Specification

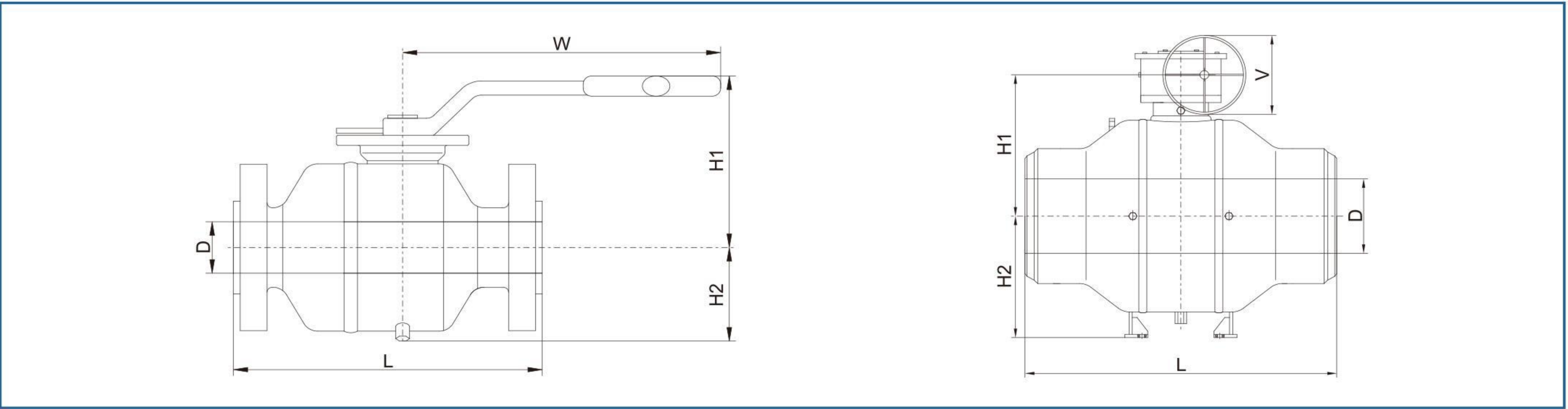
NO.	Part Name	NO.	Part Name
1	Body	20	Bearing
2	Body Cap	21	Fire Safe Seal
3	Ball	22	Fire Safe Seal
4	Seat Assembly (⑤+⑥)	23	O Ring
5	Delta Ring	24	O Ring
6	Seat Retainer	25	O Ring
7	Stem	26	O Ring
8	Trunnion Support	27	O Ring
9	Cover	28	Screw
10	Top Flange	29	Key
11	Support Ring	30	Pin
12	Separate Ring	31	Pin
13	Washer	32	Injection
14	Spring	33	Injection
15	Anti-static Device	34	Check Valve
16	Pin	35	Relief Valve
17	Thrust Washer	36	Vent Valve
18	Thrust Washer	37	Lifting Lugs
19	Bearing	38	Support Legs



Material Specification

No.	Part Name	Standard	Low Temperature Environment
1	Body	ASTM A 105/QT	ASTM A350 LF2
2	Body Cap	ASTM A 105/QT	ASTM A350 LF2
3	Ball	ASTM A 105N/ENP	ASTM A350 LF2/ENP
4	Seat Assembly (⑤+⑥+⑧)	5+6+8	5+6+8
5	Delta Ring	VITON AED/HNBR AED	VITON AED/HNBR AED
6	Seat Retainer	ASTM A 195NENP	ASTM A350 LF2/ENP
7	Stem	ASTM A105N/ENP	ASTM A350 LF2/ENP
8	Trunnion Support	ASTM A216 WCB/ENP	ASTM A352 LCB/ENP
9	Cover	ASTM A105/QT	ASTM A350 LF2
10	Tap Flange	ASTM A 105N	ASTM A350 LF2
11	Support Ring	ASTM A182 F6a	ASTM A182 F6a
12	Separate Ring	ASTM A182 F6a	ASTM A182 F6a
13	Washer	ASTM A182 F6a	ASTM A182 F6a
14	Spring	INCONEL X-750	INCONEL X-750
15	Anti-static Device	ASTM A276 316	ASTM A276 316
16	Pin	AISI 1035	AISI 1035
17	Thrust Washer	RPTFE	RPTFE
18	Thrust Washer	RPTFE	RPTFE
19	Bearing	316+PTFE	316+PTFE
20	Bearing	316+PTFE	316+PTFE
21	Fire Safe Seal	316+GRAPHITE	316+GRAPHITE
22	Fire Safe Seal	316+GRAPHITE	316+GRAPHITE
23	O Ring	HNBR	HNBR
24	O Ring	HNBR	HNBR
25	O Ring	HNBR	HNBR
26	ORing	HNBR	HNBR
27	O Ring	HNBR	HNBR
28	Screw	ASTM A193 B7	ASTM A320 L7M
29	Key	45	ASTM A182 F6a
30	Pin	ASTM A276 304	ASTM A276 304
31	Pin	ASTM A276 304	ASTM A276 304
32	Injection	ASTM A182 F304	ASTM A182 F304
33	Injection	ASTM A182 F304	ASTM A182 F304
34	Check Valve	ASTM A182 F304	ASTM A182 F304
35	Relitel Valive	ASTM A182 F304	ASTM A182 F304
36	Vent Valve	ASTM A182 F304	ASTM A182 F304
37	Lifing Lugs	ASTM A283.GRC	ASTM A283.GRC
38	Support Legs	ASTM A283.GRC	ASTM A283.GRC

Dimension & Weight



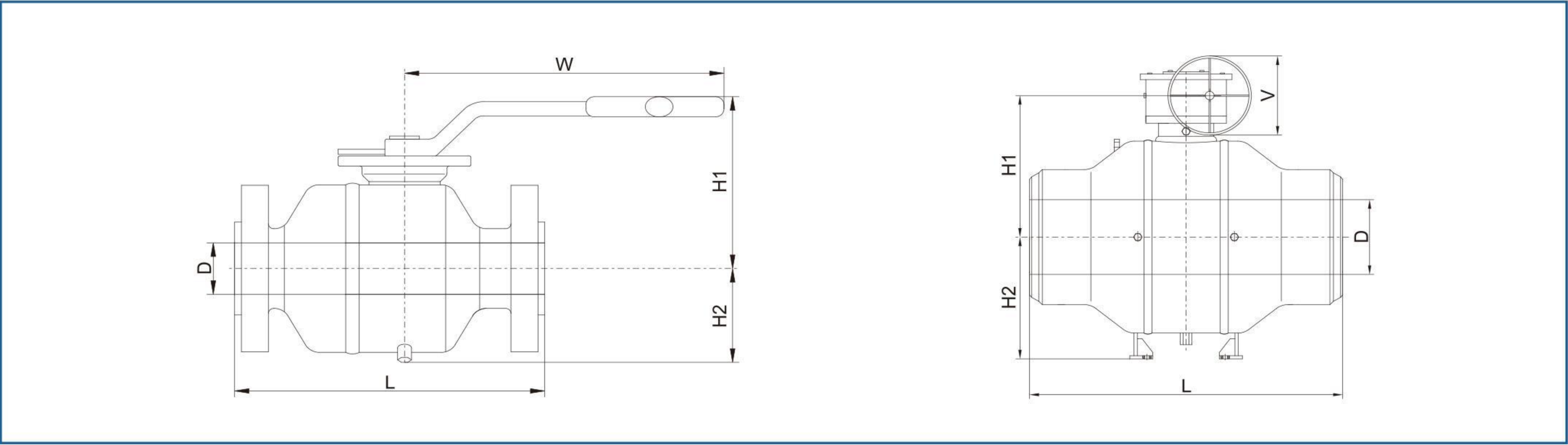
Class 150

Size		D		L				H1		H2		W		V		Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.93	49	8.5	216	8.5	216	6.04	153.3	4.10	104.25	12.99	330	-	-	50.71	23
3	80	2.91	74	11.14	283	11.14	283	7.28	184.8	4.80	122	15.75	400	-	-	79.37	36
4	100	3.94	100	12.01	305	12.01	305	8.06	204.8	5.37	136.5	15.75	400	-	-	132.28	60
6	150	5.91	150	15.87	403	17.99	457	11.44	290.5	9.47	240.5	-	-	15.75	400	418.88	190
8	200	7.91	201	19.76	502	20.51	521	12.95	329	10.87	276	-	-	15.75	400	694.46	315
10	250	9.92	252	22.36	568	22.01	559	15.45	392.5	12.44	316	-	-	23.62	600	776.03	352
12	300	11.93	303	25.51	648	25.00	635	16.95	430.5	13.94	354	-	-	23.62	600	1468.28	666
14	350	13.15	334	30.00	762	30.00	762	21.22	539	15.04	382	-	-	23.62	600	1893.77	859
16	400	15.16	385	32.99	838	32.99	838	22.68	576	16.46	418	-	-	23.62	600	2380.99	1080
18	450	17.17	436	35.98	914	35.98	914	24.19	614.5	17.97	456.8	-	-	23.62	600	3174.65	1440
20	500	19.17	487	39.02	991	39.02	991	25.73	653.5	19.51	495.5	-	-	23.62	600	3747.85	1700
22	550	21.18	538	42.99	1092	42.99	1092	29.47	748.5	20.85	529.5	-	-	23.62	600	4894.26	2220
24	600	23.19	589	45.00	1143	45.00	1143	31.65	804	22.70	576.5	-	-	27.56	700	6117.82	2775
26	650	24.92	633	49.02	1245	49.02	1245	33.05	839.5	23.74	603	-	-	27.56	700	7054.78	3200
28	700	26.93	684	52.99	1346	52.99	1346	29.86	758.5	25.33	643.5	-	-	29.92	760	8917.69	4045
30	750	28.94	735	55.00	1397	55.00	1397	31.36	796.5	26.83	681.5	-	-	29.92	760	10626.27	4820
32	800	30.67	779	60.00	1524	60.00	1524	32.68	830	28.11	714	-	-	29.92	760	12103.36	5490
34	850	32.68	830	64.02	1626	64.02	1626	30.81	782.5	29.57	751	-	-	29.92	760	14779.77	6704
36	900	34.41	874	67.99	1727	67.99	1727	36.40	924.5	30.91	785	-	-	29.92	760	16788.18	7615
40	1000	38.43	976	74.80	1900	72.44	1840	44.70	1135.5	34.17	868	-	-	29.92	760	24310.34	11027
42	1050	40.16	1020	80.71	2050	77.17	1960	46.02	1169	35.45	900.5	-	-	29.92	760	26697.95	12110
48	1200	45.91	1166	85.43	2170	85.43	2170	50.30	1277.5	39.70	1008.5	-	-	29.92	760	40476.82	18360
54	1350	51.65	1312	-	-	-	-	49.65	1261	42.56	1081	-	-	35.43	900	71870.61	32600
56	1400	53.54	1360	-	-	-	-	49.72	1263	45.08	1145	-	-	39.37	1000	80468.63	36500
60	1500	57.40	1458	-	-	-	-	51.93	1319	47.99	1219	-	-	39.37	1000	86200.64	39100

Class 300

Size		D		L				H1		H2		W		V		Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.93	49	8.5	216	8.5	216	6.04	153.3	4.10	104.25	12.99	330	-	-	50.71	24
3	80	2.91	74	11.14	283	11.14	283	7.28	184.8	4.80	122	15.75	400	-	-	116.84	53
4	100	3.94	100	12.01	305	12.01	305	8.11	206	5.59	142	-	-	11.81	300	216.05	98
6	150	5.91	150	15.87	403	17.99	457	11.44	290.5	9.47	240.5	-	-	15.75	400	465.17	211
8	200	7.91	201	19.76	502	20.51	521	13.23	336	10.87	276	-	-	19.69	500	753.98	342
10	250	9.92	252	22.36	568	22.01	559	15.45	392.5	12.44	316	-	-	23.62	600	824.53	374
12	300	11.93	303	25.51	648	25.00	635	16.95	430.5	13.94	354	-	-	23.62	600	1653.47	750
14	350	13.15	334	30.00	762	30.00	762	21.22	539	15.04	382	-	-	23.62	600	1984.16	900
16	400	15.16	385	32.99	838	32.99	838	22.68	576	16.46	418	-	-	23.62	600	2866.01	1300
18	450	17.17	436	35.98	914	35.98	914	25.49	647.5	17.97	456.5	-	-	23.62	600	3780.92	1715
20	500	19.17	487	39.02	991	39.02	991	27.70	703.5	19.51	495.5	-	-	27.56	700	4166.73	1890
22	550	21.18	538	42.99	1092	42.99	1092	30.14	765.5	21.18	538	-	-	27.56	700	5185.27	2352
24	600	23.19	589	45.00	1143	45.00	1143	27.28	693	22.70	576.5	-	-	29.92	760	6371.35	2890
26	650	24.92	633	49.02	1245	49.02	1245	28.68	728.5	24.15	613.5	-	-	29.92	760	8229.85	3733
28	700	26.93	684	52.99	1346	52.99	1346	31.99	812.5	25.77	654.5	-	-	29.92	760	10086.14	4575
30	750	28.94	735	55.00	1397	55.00	1397	33.48	850.5	27.28	693	-	-	29.92	760	12323.83	5590
32	800	30.67	779	60.00	1524	60.00	1524	34.80	884	28.60	726.5	-	-	29.92	760	13756.83	6240
34	850	32.68	830	64.02	1626	64.02	1626	36.28	921.5	30.11	764.5	-	-	29.92	760	16248.05	7370
36	900	34.41	874	67.99	1727	67.99	1727	42.38	1076.5	31.65	804	-	-	29.92	760	18595.97	8435
40	1000	38.43	976	75.98	1900	72.44	1840	45.49	1155.5	34.78	883.5	-	-	29.92	760	24691.74	11200
42	1050	40.16	1020	82.01	2083	77.17	1960	49.25	1251	36.10	917	-	-	31.50	800	28770.29	13050
48	1200	45.91	1166	85.43	2170	85.43	2170	43.25	1098.5	40.41	1026.5	-	-	35.43	900	41887.78	19000
54	1350	51.65	1312	-	-	-	-	44.65	1134	42.76	1086	-	-	35.43	900	71870.61	32600
56	1400	53.54	1360	100.12	2543	-	-	49.72	1263	46.28	1175.5	-	-	39.37	1000	80468.63	36500
60	1500	57.40	1458	-	-	-	-	56.97	1447	49.23	1250.5	-	-		1000	86200.64	39100

Dimension & Weight



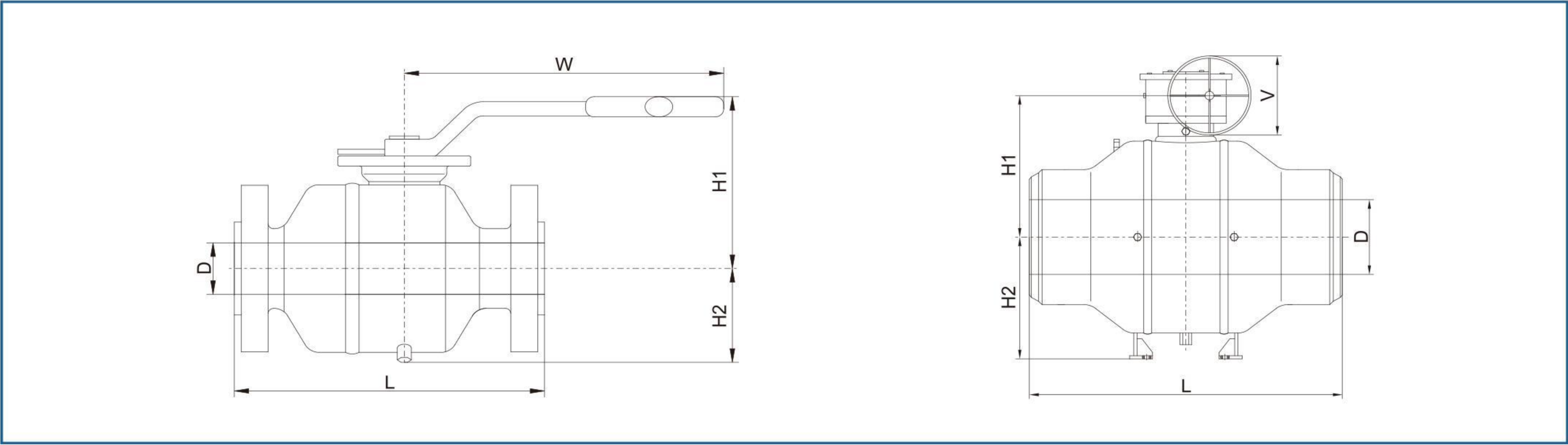
Class 400

Size		D		L						H1		H2		W		V		Weight	
				RF		BW		RTJ											
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.93	49	11.50	292	11.50	292	11.61	295	6.7	170.3	4.25	108	15.75	400	-	-	72.75	33
3	80	2.91	74	14.02	356	14.02	356	14.13	359	7.32	186	5.04	128	-	-	11.81	300	160.94	73
4	100	3.94	100	15.98	406	15.98	406	16.14	410	8.11	206	5.59	142	-	-	11.81	300	257.94	117
6	150	5.91	150	19.49	495	19.49	495	19.61	498	11.44	290.5	9.63	244.5	-	-	15.75	400	504.86	229
8	200	7.91	201	23.50	597	23.50	597	23.62	600	13.23	336	11.08	281.5	-	-	19.69	500	784.84	356
10	250	9.92	252	26.50	673	26.50	673	26.61	676	15.45	392.5	12.54	318.5	-	-	23.62	600	1053.81	478
12	300	11.93	303	30.00	762	30.00	762	30.12	765	20.20	513	14.19	360.5	-	-	23.62	600	1873.93	850
14	350	13.15	334	32.52	826	32.52	826	32.64	829	21.22	539	15.18	385.5	-	-	23.62	600	2006.20	910
16	400	15.16	385	35.51	902	35.51	902	35.63	905	23.98	609	16.61	422	-	-	23.62	600	2976.24	1350
18	450	17.17	436	38.50	978	38.50	978	38.62	981	25.49	647.5	18.15	461	-	-	23.62	600	3880.13	1760
20	500	19.17	487	41.50	1054	41.50	1054	41.73	1060	28.58	726	19.84	504	-	-	27.56	700	4916.30	2230
22	550	21.18	538	45.00	1143	45.00	1143	45.39	1153	26.59	675.5	21.56	547.5	-	-	29.92	760	6481.58	2940
24	600	23.19	589	48.50	1232	48.50	1232	48.86	1241	28.13	714.5	23.07	586	-	-	29.92	760	8730.30	3960
26	650	24.92	633	51.50	1308	51.50	1308	52.01	1321	30.49	774.5	24.55	623.5	-	-	29.92	760	9964.88	4520
28	700	26.93	684	55.00	1397	55.00	1397	55.51	1410	36.93	938	26.30	668	-	-	29.92	760	12015.18	5450
30	750	28.94	735	60.00	1524	60.00	1524	60.51	1537	38.25	971.5	27.81	706.5	-	-	29.92	760	13845.01	6280
32	800	30.67	779	65.00	1651	65.00	1651	65.63	1667	39.57	1005	29.15	740.5	-	-	29.92	760	16203.96	7350
34	850	32.68	830	70.00	1778	70.00	1778	70.63	1794	41.06	1043	30.65	778.5	-	-	29.92	760	18144.02	8230
36	900	34.41	874	74.02	1880	74.02	1880	74.61	1895	43.17	1096.5	32.03	813.5	-	-	29.92	760	22266.66	10100
40	1000	38.43	976	85.00	2159	85.00	2159	-	-	35.14	892.5	35.16	893	-	-	35.43	900	29938.74	13580
42	1050	40.16	1020	85.63	2175	85.63	2175	-	-	38.92	988.5	36.52	927.5	-	-	31.50	800	33973.19	15410
48	1200	45.91	1166	95.87	2435	95.87	2435	-	-	43.25	1098.5	40.96	1040.5	-	-	31.50	800	48281.18	21900
54	1350	51.65	1312	-	-	-	-	-	-	45.85	1164.5	44.69	1135	-	-	39.37	1000	71870.61	32600
56	1400	53.54	1360	106.69	2710	106.69	2710	-	-	49.04	1245.5	46.95	1192.5	-	-	39.37	1000	99485.68	45126
60	1500	57.40	1458	-	-	-	-	-	-	56.95	1446.5	49.94	1268.5	-	-	39.37	1000	105821.76	48000

Class 600

Size		D		L						H1		H2		W		V		Weight	
				RF		BW		RTJ											
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.93	49	11.50	292	11.50	292	11.61	295	6.70	170.3	4.25	108	15.75	400	-	-	72.75	33
3	80	2.91	74	14.02	356	14.02	356	14.13	359	7.32	186	5.04	128	-	-	11.81	300	160.94	73
4	100	3.94	100	17.01	432	17.01	432	17.13	435	8.19	208	5.59	142	-	-	15.75	400	306.44	139
6	150	5.91	150	22.01	559	22.01	559	22.13	562	11.44	290.5	9.63	244.5	-	-	15.75	400	617.29	280
8	200	7.91	201	25.98	660	25.98	660	26.14	664	13.23	338	11.08	281.5	-	-	19.69	500	992.08	450
10	250	9.92	252	30.98	787	30.98	787	31.14	791	15.45	392.5	12.74	323.5	-	-	23.62	600	1322.77	600
12	300	11.93	303	32.99	838	32.99	838	33.11	841	20.98	533	14.41	366	-	-	23.62	600	2012.82	913
14	350	13.15	334	35.00	889	35.00	889	35.12	892	23.31	592	15.43	392	-	-	23.62	600	2050.30	930
16	400	15.16	385	39.02	991	39.02	991	39.13	994	24.76	629	18.58	472	-	-	23.62	600	3086.47	1400
18	450	17.17	436	42.99	1092	42.99	1092	43.11	1095	27.03	686.5	20.12	511	-	-	27.56	700	4078.55	1850
20	500	19.17	487	47.01	1194	47.01	1194	47.24	1200	24.21	615	21.81	554	-	-	29.92	760	5269.04	2390
22	550	21.18	538	50.98	1295	50.98	1295	51.38	1305	27.54	699.5	23.52	597.5	-	-	29.92	760	7429.57	3370
24	600	23.19	589	55.00	1397	55.00	1397	55.39	1407	29.07	738.5	25.04	636	-	-	29.92	760	9193.27	4170
26	650	24.92	633	57.01	1448	57.01	1448	57.52	1461	30.49	774.5	26.52	673.5	-	-	29.92	760	12114.39	5495
28	700	26.93	684	60.98	1549	60.98	1549	61.50	1562	37.72	958	28.27	718	-	-	29.92	760	13360.00	6060
30	750	28.94	735	65.00	1651	65.00	1651	65.51	1664	39.04	991.5	28.44	722.5	-	-	29.92	760	14748.91	6690
32	800	30.67	779	70.00	1778	70.00	1778	70.63	1794	40.35	1025	31.77	807	-	-	35.43	900	17251.15	7825
34	850	32.68	830	75.98	1930	75.98	1930	76.61	1946	41.85	1063	-	-	-	-	35.43	900	18651.09	8460
36	900	34.41	874	82.01	2083	82.01	2083	82.64	2099	46.79	1188.5	34.74	882.5	-	-	31.50	800	23479.20	10650
40	1000	38.43	976	85.00	2159	85.00	2159	-	-	35.14	892.5	38.11	968	-	-	35.43	900	32407.91	14700
42	1050	40.16	1020	85.63	2175	85.63	2175	-	-	38.92	988.5	39.51	1003.5	-	-	31.50	800	36177.81	16410
48	1200	45.91	1166	95.87	2435	95.87	2435	-	-	43.25	1098.5	44.11	1120.5	-	-	31.50	800	53351.80	24200
54	1350	51.65	1312	-	-	-	-	-	-	48.64	1235.5	47.38	1203.5	-	-	39.37	1000	71870.61	32600
56	1400	53.54	1360	106.69	2710	106.69	2710	-	-	54.11	1374.5	50.26	1276.5	-	-	39.37	1000	99485.68	45126
60	1500	57.40	1458	-	-	-	-	-	-	56.95	1446.5	53.37	1355.5	-	-	39.37	1000	105821.76	48000

Dimension & Weight



Class 900

Size		D		L						H1		H2		W		V		Weight	
				RF		BW		RTJ											
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.93	49	14.49	368	14.49	368	14.61	371	6.70	170.3	4.25	108	15.75	400	-	-	110.23	50
3	80	2.91	74	15.00	381	15.00	381	15.12	384	7.32	186	5.04	128	-	-	11.81	300	185.19	84
4	100	3.94	100	17.99	457	17.99	457	18.11	460	8.19	208	5.59	142	-	-	15.75	400	352.74	160
6	150	5.91	150	24.02	610	24.02	610	24.13	613	12.50	317.5	9.82	249.5	-	-	19.69	500	970.03	440
8	200	7.91	201	29.02	737	29.02	737	29.13	740	14.06	357	11.44	290.5	-	-	23.62	600	1146.40	520
10	250	9.92	252	32.99	838	32.99	838	33.11	841	19.15	486.5	13.23	336	-	-	23.62	600	1807.79	820
12	300	11.93	303	37.99	965	37.99	965	38.11	968	22.28	566	14.84	377	-	-	23.62	600	2480.20	1125
14	350	12.68	322	40.51	1029	40.51	1029	40.87	1038	24.59	624.5	16.08	408.5	-	-	27.56	700	3549.44	1610
16	400	14.69	373	44.49	1130	44.49	1130	44.88	1140	21.71	551.5	19.59	497.5	-	-	29.92	760	4431.29	2010
18	450	16.65	423	47.99	1219	47.99	1219	48.50	1232	23.82	605	21.40	543.5	-	-	29.92	760	6194.98	2810
20	500	18.54	471	52.01	1321	52.01	1321	52.52	1334	27.15	689.5	23.03	585	-	-	29.92	760	7627.99	3460
22	550	20.55	522	-	-	-	-	-	-	33.96	862.5	25.03	635	-	-	29.92	760	9722.37	4410
24	600	22.44	570	60.98	1549	60.98	1549	61.73	1568	35.53	902.5	26.63	676.5	-	-	29.92	760	12118.80	5497
26	650	24.29	617	65	1651	65.00	1651	65.87	1673	36.97	939	28.19	716	-	-	29.92	760	16417.81	7447
28	700	26.18	665	69.02	1753	69.02	1753	69.88	1775	38.70	983	29.80	757	-	-	29.92	760	22491.53	10202
30	750	28.03	712	74.02	1880	74.02	1880	74.88	1902	42.66	1803.5	31.48	799.5	-	-	31.50	800	25225.26	11442
32	800	29.92	760	80.00	2032	80.00	2032	80.87	2054	32.95	837	32.95	837	-	-	35.43	900	26680.31	12102
34	850	31.81	808	85.00	2159	85.00	2159	86.14	2188	33.07	840	34.61	879	-	-	35.43	900	38497.07	17462
36	900	33.66	855	90.00	2286	90.00	2286	91.14	2315	34.41	874	36.16	918.5	-	-	35.43	900	44431.91	20154

Valve Seat

the Performance Parameters		HNBR AED	VITON AED	FKM AED-TF95	VITON GLT AED
Temperature Range°F		-22~320	-4~392	-3.2~392	-50.8~392
Temperature Range°C		-30~160	-20~200	-16~200	-46~200
Classes. (Class)		150~1500	150~1500	150~1500	150~1500
Mechanical Properties	Hardness (Shore A)	93~98	93~98	93~98	93~98
	Strength of Extension (Mpa)	≥17	≥17	≥18	≥17
	Elongation at Break	≥110%	≥110%	≥75%	≥110%
	Compression Deformation 22h@200°C	≥30%	≥30%	≥25%	≥30%
Physical Properties	Color	Black	Black	Black	Black
	Density (g/cm³)	1.26~1.32	1.81~1.87	1.81~1.87	1.94~1.97
	ntiknock PerformanceNORSOK M710 Rev.2 1 ISO 23936-2:2011	0	0 1 2 3	0	0 1

Seal Ring

TYPE	NBR	HNBR	VITON	FFKM	EPDM
Temperature Range°F	-22~230	-40~302	-4~392	-4~620	-58~302
Temperature Range°C	-30~110	-40~150	-20~200	-20~327	-50~150
Densily (g/cm³)	1.31	1.34	1.85	2	0.87
Hardness (Shore A)	75	75	75	75	75

Description: Other soft sealing materials can be provided according to customer requirements.

Ball Valve Flow Coefficient (Cv Value)

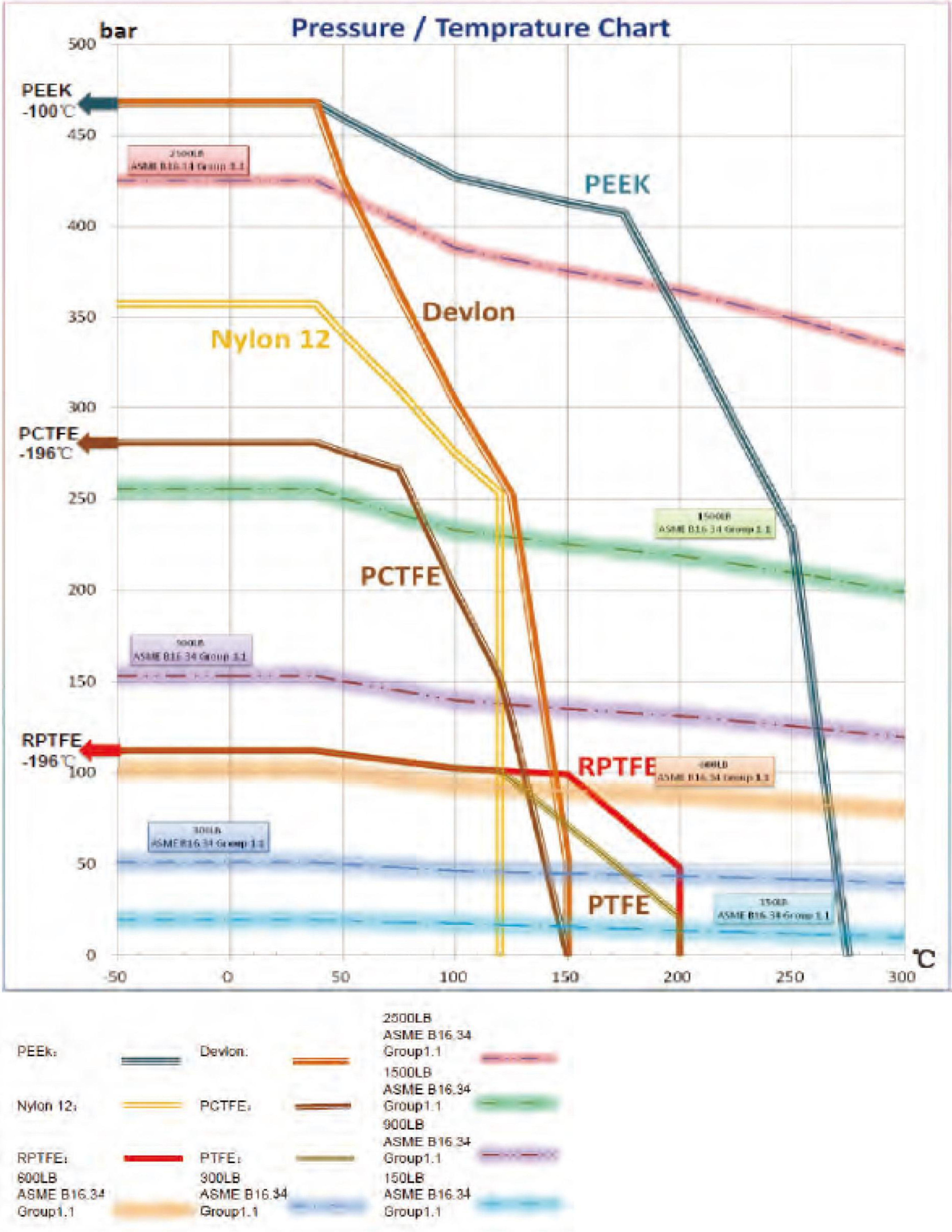
Size(inch)	Class 150	Class 300	Class 600	Class 900	Class 1500
1-1/2	227	211	187	167	167
2	423	384	330	294	294
3	1139	965	860	832	749
4	2416	2093	1759	1710	1564
6	5241	5183	4400	4212	3918
8	10471	9991	8713	8245	6921
10	17709	17154	14573	14123	11376
12	26241	25460	22389	20864	16835
14	32857	31176	28663	24483	20967
16	44474	42409	38998	33741	27901
18	57002	55420	50703	44491	35761
20	73076	70180	63936	55915	45445
22	88907	85757	78750	-	-
24	113639	109796	99314	-	-

Note:
All sizes are full port; pressure ratings are per API 6D.

Method of Calculating Flow:
The Flow Coefficient Cv value is the flow rate of water (gallons/minute) through a fully open valve with a pressure drop of 1 psi to find the flow of liquid through the valve with Cv, use the following formtulas.

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: P2/P<1)
QL:Flow rate of gas(CFH at STP)
P2:outlet pressure (psia)
G:specific gravity of gas(air: g=1.0)



Note: Other materials are available upon request.
If the operating condition is beyond the range above, please contact NEWAY's technical team.
NEWAY reserves the right to update without notice.

Torque Valve

Size(inch)	Class 150(VITON AED)		Class 300(VITON AED)		Class 400(VITON AED)		Class 600(VITON AED)	
	N.m	Ft/Lbs	N.m	Ft/Lbs	N.m	Ft/Lbs	N.m	Ft/Lbs
1~1/2	40	29.52	50	36.9	58	42.81	80	59.05
2	50	36.9	60	44.28	75	55.35	120	88.57
3	60	44.28	100	73.81	167	123.26	240	177.14
4	129	95.21	210	154.99	331	244.30	460	339.51
6	380	280.46	580	428.08	660	487.12	900	664.26
8	800	590.45	1400	1033.29	1613	1190.49	2150	1586.83
10	1100	811.87	2200	1623.74	2493	1839.99	3050	2251.09
12	1600	1180.90	2510	1852.54	3153	2327.11	4300	3173.67
14	1800	1328.51	3200	2361.80	5280	3896.97	5723	4223.93
16	3200	2361.80	4600	3995.09	6143	4533.92	8900	6568.76
18	3400	2509.41	5510	4066.72	9900	7306.82	13500	9963.84
20	4800	3542.70	7600	5609.28	11000	8118.69	16000	11809.00
22	5400	3985.54	9400	6937.79	12300	9078.17	17500	12916.10
24	7000	5166.44	12300	9078.17	14800	10923.33	19500	14392.22
26	8000	5904.50	15000	11070.94	20000	14761.25	27600	20370.53
28	9000	6642.56	18000	13285.13	22000	16237.38	30000	22141.88
30	12950	9557.91	20000	14761.25	26600	19632.46	34000	25094.13
32	15000	11070.94	23000	16975.44	32000	23618.00	39000	28784.44
34	18000	13285.13	28000	20665.75	39000	28784.44	50000	36903.13
36	21000	15499.31	33000	24356.07	44000	32474.75	60000	44283.76

Size(inch)	Class 900(VITON AED)		Class 1500(VITON AED)	
	N.m	Ft/Lbs	N.m	Ft/Lbs
1~1/2	140	103.33	240	177.14
2	200	147.61	320	236.18
3	427	315.15	500	369.03
4	750	553.55	1000	738.06
6	1200	885.68	2900	2140.38
8	3800	2804.64	5500	4059.34
10	5000	3690.31	8400	6199.73
12	9000	6642.56	12000	8856.75
14	11000	8118.69	15000	11070.94
16	16000	11809.00	22000	16237.38
18	24000	17713.50	30000	22141.88
20	27000	19927.69	37000	27308.32
22	30000	22141.88	46000	33950.88
24	35000	25832.19	53000	39117.32
26	38000	28046.38	65000	47974.07
28	46000	33950.88		
30	60000	44283.76		
32	70000	51664.38		
34	76000	56092.76		
36	80000	59045.01		

Note:

1. The calculation of torque is based on room temperature, and the seat ring materials are VITON AED and HNBR AED

2. Torque shown in this table is to be used as a guide for actuator selection. A safety factor of 1.3-1.5 is recommended for actuator sizing.

3. Torque may be changed according to different fluid and trim material.

Product Warranty

Seller will replace without charge or refund the purchase price of products provided by Seller which prove to be defective in material or workmanship, provided in each case that the product is properly installed and is used in the service for which Seller recommends it and that written claim, specifying the alleged defect, is presented to the Seller within 18 months from the date of shipment or 12 months after installation, whichever occurs first. Seller shall in no event bear any labor, equipment, engineering or other costs incurred in connection with repair or replacement. The warranty stated in this paragraph is in lieu of all other warranties, either expressed or implied. With respect to warranties, this paragraph states Buyer's exclusive remedy and seller's exclusive liability.