

PLUG VALVE

ABOUT US

FBV Inc. is an ISO 9001 certified company specializing in manufacturing industrial valves including ball valves, gate valves, globe valves, check valves, plug valves and butterfly valves in carbon steel, stainless steel, duplex stainless and alloy materials. Our products conform to the latest industry standards in accordance to ANSI, ASME and API.

FBV today has over 600,000 square feet of manufacturing facilities. Through its conviction to provide only the finest quality products and services to match the need of our customers, FBV has now established itself as a serious player in the valve business.

FBV INC has sold worldwide in North America, Europe, South America, South Asia, Africa and the Middle East. We consider product quality and customer satisfaction as our highest priority. We look forward to new customer relationships by providing value, quality, customer service, honesty, integrity and the commitment to maintain product consistency with each and every order.

MISSION STATEMENT

We at FBV, Inc. commit to taking ACTION:

- Adopt the latest technology to take the product quality to the next level;
- Consistently provide on-time services to our customers;
- Train and develop talented people with strong work ethics to deliver effective performance;
- Improve and enhance engineering designs to ensure product performance;
- Optimize management systems and increase productivity;
- Never forget our customer and employee needs.



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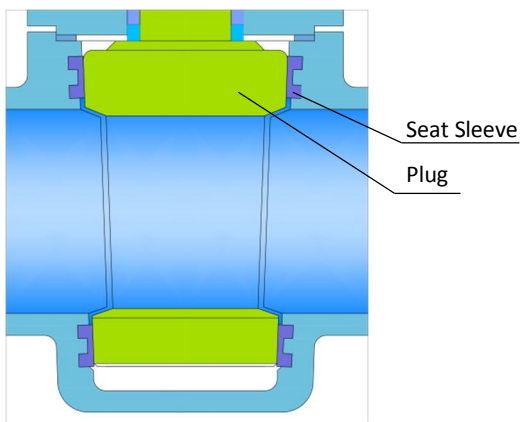
INTRODUCTION

A plug valve is a valve with a conical plug, the part of the valve which controls the flow through it. The plug has a hole, or port, through the middle so that when the port is in line with both ends of the valve, flow will occur. When the valve is closed, the hole is perpendicular to the ends of the valve, and flow is blocked.

FBV produces Sleeved Type and Pressure Balanced Type plug valves.

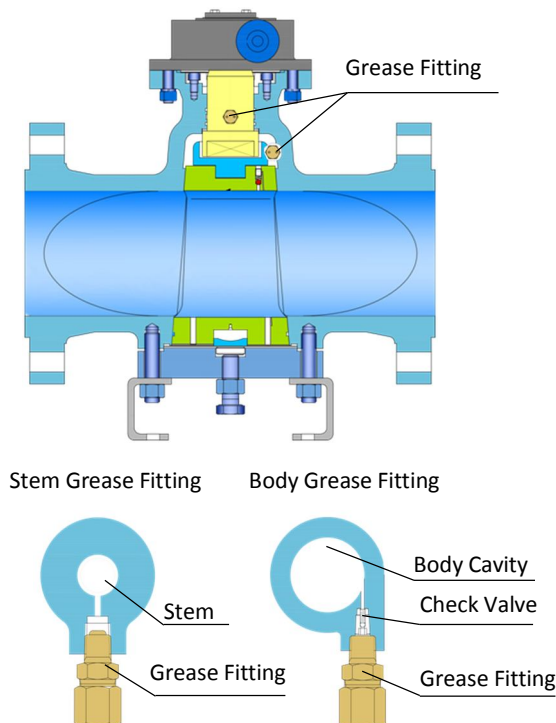
SLEEVED TYPE

This type of plug valve has tapered plug that is installed to the body from top; it is generally soft seated type for which service temperature is limited by the kind of sleeve it uses. The maximum service temperature is about 150 °C, and the pressure is not high either.



PRESSURED BALANCED TYPE

This type of plug valve has tapered plug that is installed from bottom to the valve body and is generally metal seated, which makes it good for high pressure high temperature services. The valves are provided with sealant injecting fittings on stem and plug.



BLOWOUT PROOF STEM

The valve stem is made with a shoulder at the bottom end. It's securely retained by the stuffing box, to avoid that the stem, under certain operating conditions, accidentally blows out. Other designs are available on request.

ANTI-STATIC

Because the plug and stem in a plug valve are suspended on non-metallic parts, i.e. the seat seal and stem seal, there is a possibility a static charge may build up on the stem-plug, is introduced in the design to maintain the metal-to-metal contact between the rotating plug/stem and the valve body which will ground any charges to the valve body.

PLUG VALVE

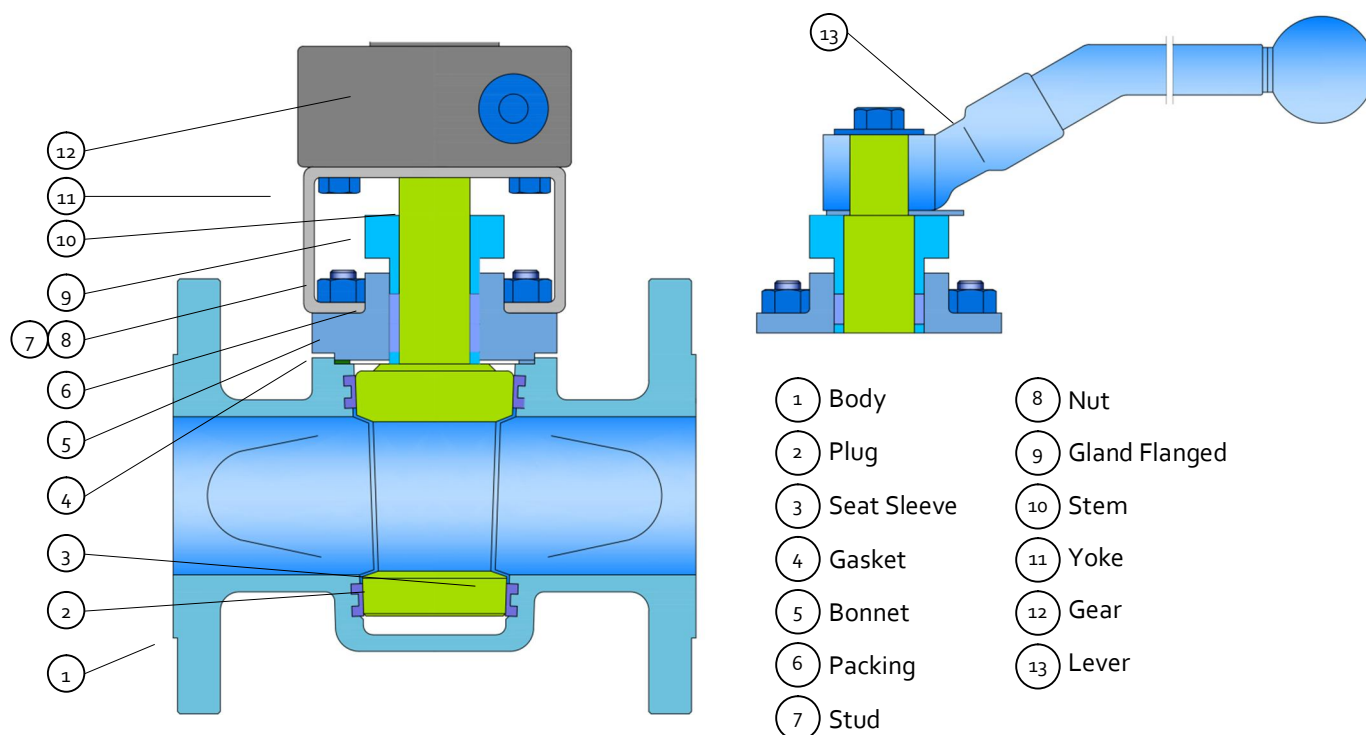
SCOPE OF PRODUCTS

Legends: A – Available in Casting and Forging
 B – Available in Casting Only
 C – Available Forging Only
 D – Not Usually Required
 E – Casting Not Recommended

Size in/mm	Class 150 PN 20	Class 300 PN 50	Class 600 PN 100	Class 900 PN 150	Class 1500 PN 250	Class 2500 PN 420
1/2 15	A	A	A	A	A	A,E
3/4 20	A	A	A	A	A	A,E
1 25	A	A	A	A	A	A,E
1 1/2 40	A	A	A	A	A	A,E
2 50	A	A	A	A	A	A,E
2 1/2 65	B	B	B	B	B	B,E
3 80	B	B	B	B	B	B,E
4 100	B,D	B,D	B,D	B,D	B,D	B,D,E
6 150	B	B	B	B	B	B,E
8 200	B	B	B	B	B	B,E
10 250	B	B	B	B	B	B,E
12 300	B	B	B	B	B	B,E
14 350	B	B	B	B	B	
16 400	B	B	B	B	B	
18 450	B	B	B	B	B	
20 500	B	B	B	B	B	
22 550	B,D	B,D	B,D	B,D	B,D	
24 600	B	B	B	B	B	
26 650	B,D	B,D	B,D	B,D	B,D	
28 700	B,D	B,D	B,D	B,D	B,D	
30 750	B	B	B	B	B	
32 800	B	B	B	B	B	
34 850	B,D	B,D	B,D	B,D	B,D	
36 900	B	B	B	B	B	

PLUG VALVE

OVERVIEW (SLEEVE TYPE)



STANDARDS

Design & manufacture	API 599, API 6D, ISO 14313,
Face-to-face	API 6D, ASME B16.10
End Dimension	ASME B16.5 (RF, RTJ), ASME B16.47 (RF, RTJ) MSS SP-44 (NPS 22 Only) ASME B1.20.1 (NPT) ASME B16.11 (SW) ASME B16.25 (BW)
Test & inspection	API 6D, API 598
Fire safe	API 6FA, API 607
Other	NACE MR 01-75, MR 0103

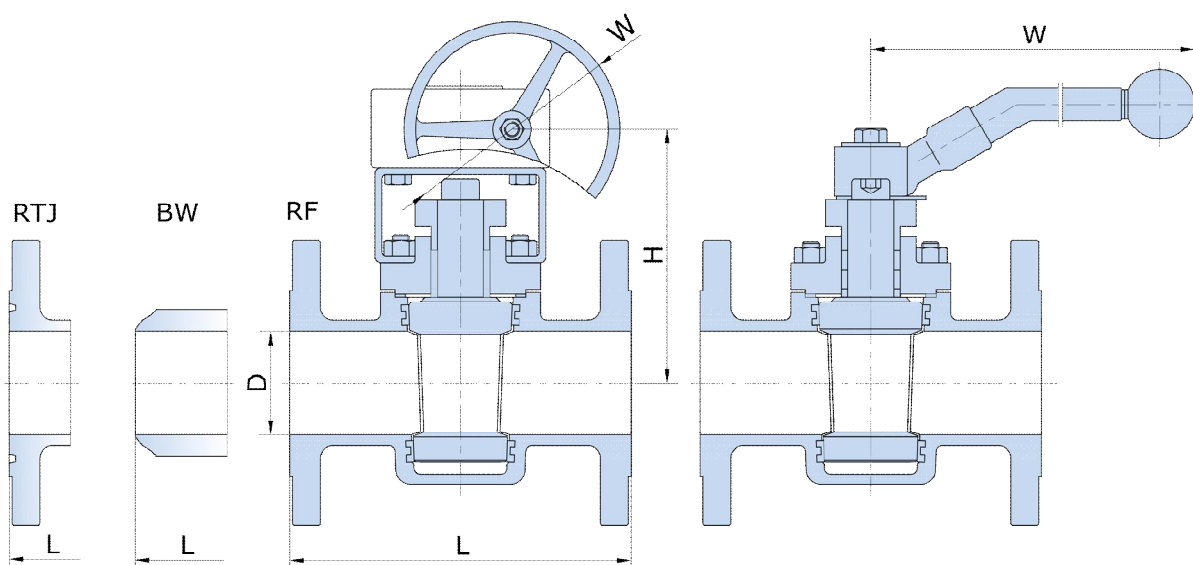
TYPICAL MATERIALS

Body/Bonnet	(Forging, for NPS ≤ 2) A105, A182 F304, F304L, F316, F316L, F51, F53, A350 LF2, LF3, LF5 (Casting) A216 WCB, A351 CF3, CF8, CF3M, CF8M, A995 4A, 5A, A352 LCB, LCC, LC2, Monel, Inconel, Hastelloy
Plug	CA15, CS+ENP, A182 F304, F304L, F316, F316L, F51, F53, CS+TCC, CS+Ni60
Seat	PTFE, RPTFE, PPL
Stem	A182 F6a, F316, F51, A105+ENP, AISI 4140+ENP, 17-4PH
Packing	Graphite, PTFE, RPTFE
O-ring	Viton, NBR, HNBR, AFLAS

PLUG VALVE

DIMENSIONS AND WEIGHTS (Sleeve Type)

ASME CLASS 150 (PN 20)



ASME CLASS 150 (PN 20)

Size in/mm	D	L			H	W	Weight
		RF	RTJ	BW			RF/RTJ (lb/kg)
1/2	0.5	4.25		5.98	4.33	6.89	19
15	12.7	108	-	152	110	175	8.5
3/4	0.75	4.61		7	4.53	6.89	21
20	19.1	117		178	115	175	9.5
1	1	5	5.51	8	4.53	6.89	22
25	25.4	127	140	203	115	175	10
1 1/4	1.25	5.51	6.02	8.5	5.31	8.66	26
32	31.8	140	153	216	135	220	12
1 1/2	1.5	6.5	7	9	5.51	11.02	31
40	38.1	165	178	229	140	280	14
2	2	7	7.5	10.51	5.91	12	49
50	50.8	178	191	267	150	305	22
2 1/2	2.5	7.5	8	12	6.5	13.78	49
65	63.5	191	203	305	165	350	22
3	3	8	8.5	13	7.09	15.94	57
80	76.2	203	216	330	180	405	26
4	4	9	9.5	14	14.96	11.81	88
100	101.6	229	241	356	380	300	40
5	5	10	10.6	15	18.11	11.81	132
125	127	254	269	381	460	300	60
6	6	10.5	11	18	20.47	12.6	154
150	152.4	267	279	457	520	320	70
8	8	11.5	12	20.5	22.83	12.6	287
200	203.2	292	305	521	580	320	130
10	10	13	13.5	22	24.41	13.78	483
250	254	330	343	559	620	350	219
12	12	14	14.5	25	26.77	14.96	840
300	304.8	356	368	635	680	380	381
14	14	16	16.5	27	29.92	17.71	1257
350	336.6	406	419	686	760	450	570

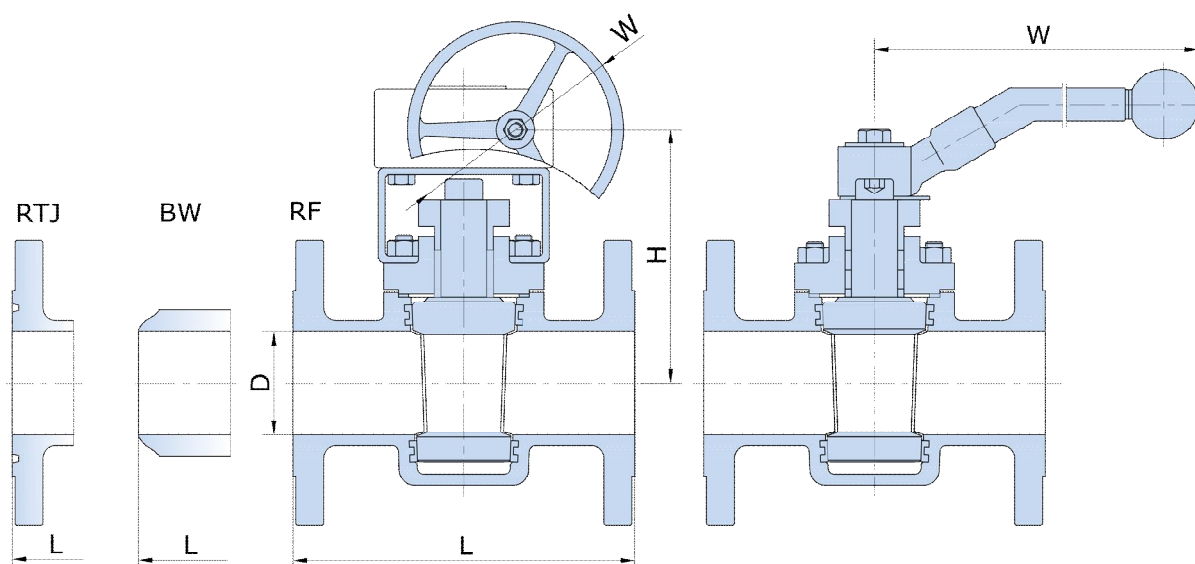
The dimension and weights are for reference only and subject to change without notice.

1. "W" is the O.D. of the handwheel for NPS 4 and above, and length of lever/wrench for NPS ≤ 4
2. For more dimensional information, please contact our sales representative.

PLUG VALVE

DIMENSIONS AND WEIGHTS (Sleeve Type)

ASME CLASS 300 (PN 50)



ASME CLASS 300 (PN 50)

Size in/mm	D	L			H	W	Weight
		RF	RTJ	BW			RF/RTJ (lb/kg)
1/2	0.5	5.51	5.94	6	4.33	6.89	21
15	12.7	140	151	152	110	175	9.5
3/4	0.75	6	6.5	7	4.53	6.89	23
20	19.1	152	165	178	115	175	10.5
1	1	6.5	7	8	4.53	6.89	26
25	25.4	165	178	203	115	175	12
1 1/4	1.25	7	7.52	8.5	5.31	8.66	31
32	31.8	178	191	216	135	220	14
1 1/2	1.5	7.48	8	9	5.51	11.02	35
40	38.1	190	203	229	140	280	16
2	2	8.5	9.13	10.51	5.91	12	44
50	50.8	216	232	267	150	305	20
2 1/2	2.5	9.5	10.12	12	6.5	13.78	53
65	63.5	241	257	305	165	350	24
3	3	11.1	11.73	13	7.09	15.94	64
80	76.2	282	298	330	180	405	29
4	4	12	12.64	14	14.96	11.81	117
100	101.6	305	321	356	380	300	53
5	5	15	15.63	15	18.11	11.81	165
125	127	381	397	381	460	300	75
6	6	15.87	16.5	18	20.47	12.6	187
150	152.4	403	419	457	520	320	85
8	8	16.5	17.12	20.51	22.83	12.6	408
200	203.2	419	438	521	580	320	185
10	10	18	18.6	22	24.41	13.78	507
250	254	457	473	559	620	350	230
12	12	19.76	20.39	25	26.77	14.96	860
300	304.8	502	518	635	680	380	390
14	14	30	30.63	30	29.92	17.71	1213
350	336.6	762	778	762	760	450	550

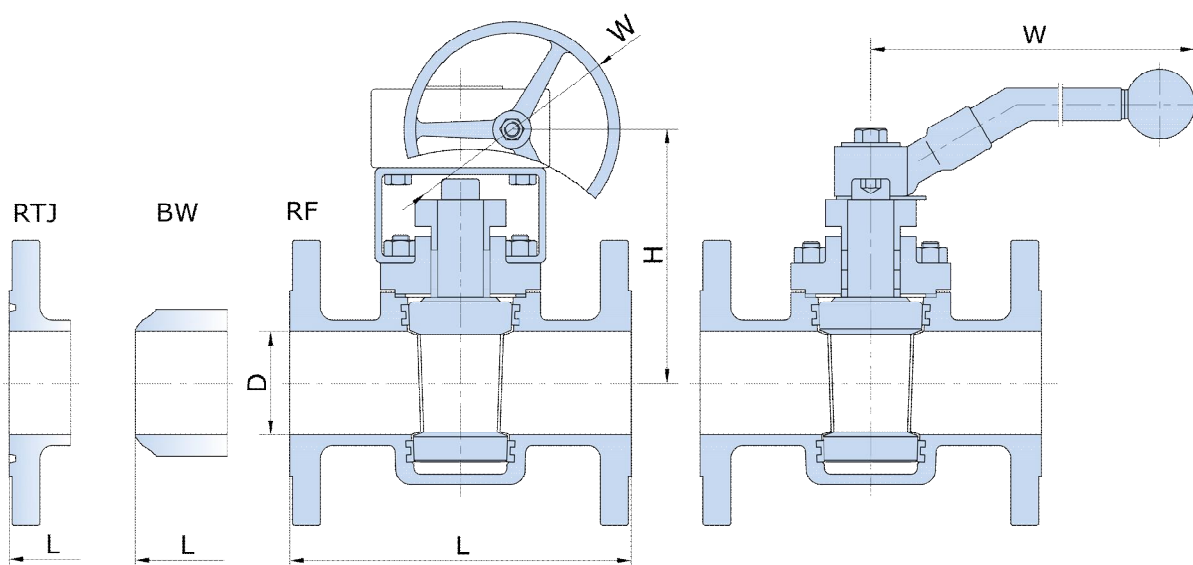
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PLUG VALVE

DIMENSIONS AND WEIGHTS (Sleeve Type)

ASME CLASS 600 (PN 100)



ASME CLASS 600 (PN 100)

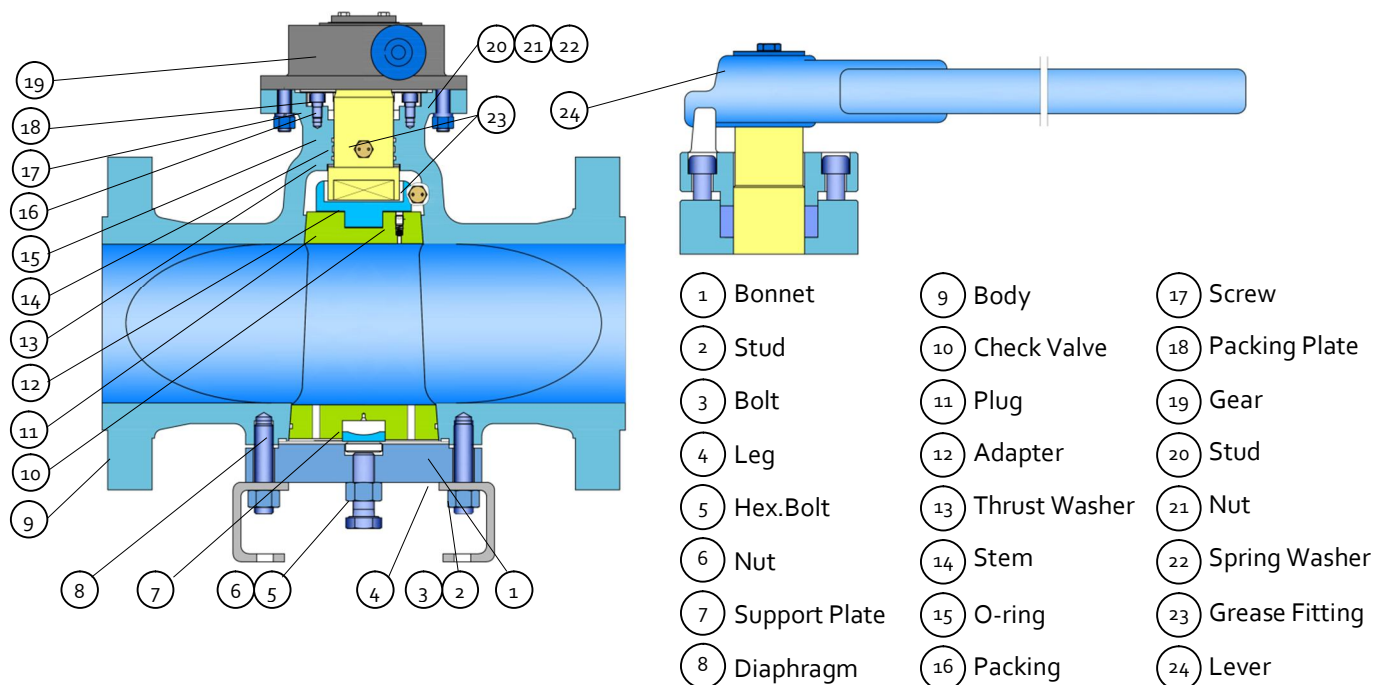
Size in/mm	D	L			H	W	Weight
		RF	RTJ	BW			RF/RTJ (lb/kg)
1/2	0.5	6.5	6.42	6.5	4.33	6.89	24
15	12.7	165	163	165	110	175	11
3/4	0.75	7.48	7.48	7.48	4.53	6.89	29
20	19.1	190	190	190	115	175	13
1	1	8.5	8.5	8.5	4.53	6.89	37
25	25.4	216	216	216	115	175	17
1 1/4	1.25	9	9	9	5.31	8.66	44
32	31.8	229	229	229	135	220	20
1 1/2	1.5	9.49	9.49	9.49	5.51	11.02	51
40	38.1	241	241	241	140	280	23
2	2	11.5	11.61	11.5	5.91	12	60
50	50.8	292	295	292	150	305	27
2 1/2	2.5	13	13.11	13	6.5	13.78	68
65	63.5	330	333	330	165	350	31
3	3	14	14.13	14	7.09	15.94	79
80	76.2	356	359	356	180	405	36
4	4	17	17.13	17	14.96	11.81	159
100	101.6	432	435	432	380	300	72
5	5	20	20.12	20	18.11	11.81	216
125	127	508	511	508	460	300	98
6	6	22	22.13	22	20.47	12.6	311
150	152.4	559	562	559	520	320	141
8	8	26	26.1	26	22.83	12.6	540
200	203.2	660	663	660	580	320	245
10	10	31	31.1	31	24.41	13.78	728
250	254	787	790	787	620	350	330
12	12	33	33.11	33	26.77	14.96	1135
300	304.8	838	841	838	680	380	515
14	14	35	35.12	35	29.92	17.71	1565
350	336.6	889	892	889	760	450	710

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2. For more dimensional information, please contact our sales representative.

PLUG VALVE

OVERVIEW (Pressure Balance Type)



STANDARDS

Design & manufacture	API 599, API 6D, ISO 14313,
Face-to-face	API 6D, ASME B16.10
End Dimension	ASME B16.5 (RF, RTJ), ASME B16.47 (RF, RTJ) MSS SP-44 (NPS 22 Only) ASME B1.20.1 (NPT) ASME B16.11 (SW) ASME B16.25 (BW)
Test & inspection	API 6D, API 598
Fire safe	API 6FA, API 607
Other	NACE MR 01-75, MR 0103

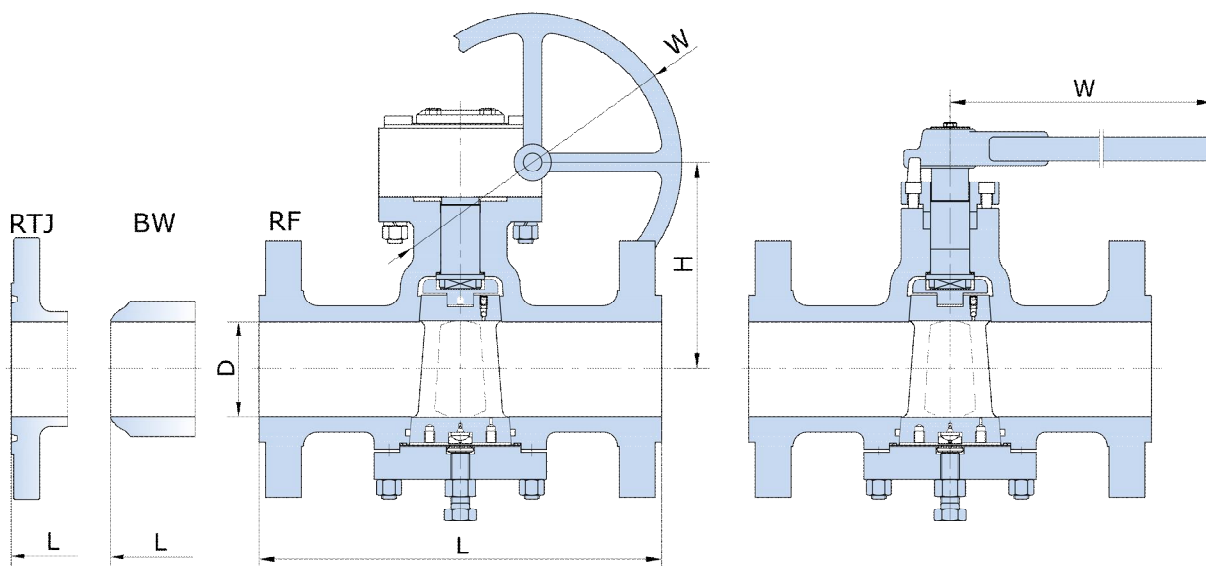
TYPICAL MATERIALS

Body/Bonnet	(Forging, for NPS ≤ 2) A105, A182 F304, F304L, F316, F316L, F51, F53, A350 LF2, LF3, LF5 (Casting) A216 WCB, A351 CF3, CF8, CF3M, CF8M, A995 4A, 5A, A352 LCB, LCC, LC2, Monel, Inconel, Hastelloy
Plug	CA15+Nitriding, CS+ENP, A182 F304, F304L, F316, F316L, F51, F53, CS+TCC, CS+Ni60
Stem	A182 F6a, F316, F51, A105+ENP, AISI 4140+ENP, 17-4PH
Packing	Graphite, PTFE, RPTFE
O-ring	Viton, NBR, HNBR, AFLAS

PLUG VALVE

DIMENSIONS AND WEIGHTS(Pressure Balance Type)

ASME CLASS 150 (PN 20)



ASME CLASS 150 (PN 20)

Size in/mm	D	L			H	W	Weight
		RF	RTJ	BW			RF/RTJ (lb/kg)
1/2	0.5	5.51	-	5.98	7.09	15.75	31
15	12.7	140	-	152	180	400	14
3/4	0.75	5.51	-	7	7.09	15.75	35
20	19.1	140	-	178	180	400	16
1	1	5.51	5.51	8	7.28	19.69	40
25	25.4	140	140	203	185	500	18
1 1/4	1.25	5.51	6.02	8.5	7.87	19.69	44
32	31.8	140	153	216	200	500	20
1 1/2	1.5	6.5	7	9	8.27	23.62	53
40	38.1	165	178	229	210	600	24
2	2	7	7.5	10.51	8.46	32.28	64
50	50.8	178	191	267	215	820	29
2 1/2	2.5	7.5	8	12	9.84	39.37	77
65	63.5	191	203	305	250	1000	35
3	3	8	8.5	13	10.63	39.37	104
80	76.2	203	216	330	270	1000	47
4	4	9	9.5	14	11.81	11.81	201
100	101.6	229	241	356	300	300	91
5	5	10	10.6	15	14.39	11.81	284
125	127	254	269	381	340	300	129
6	6	10.5	11	18	14.37	12.6	463
150	152.4	267	279	457	365	320	210
8	8	11.5	12	20.5	15.75	12.6	705
200	203.2	292	305	521	400	320	320
10	10	13	13.5	22	17.71	13.78	1455
250	254	330	343	559	450	350	660
12	12	14	14.5	25	20.08	14.96	2028
300	304.8	356	368	635	510	380	920
14	14	16	16.5	27	23.23	14.96	2756
350	336.6	406	419	686	590	380	1250

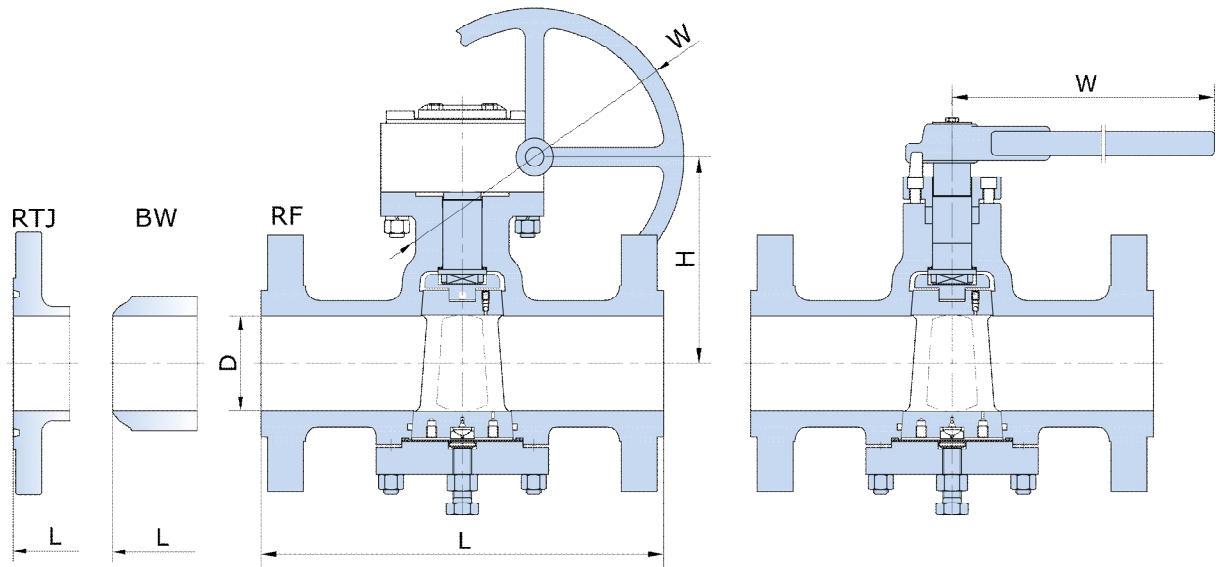
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2. For more dimensional information, please contact our sales representative.

PLUG VALVE

DIMENSIONS AND WEIGHTS(Pressure Balance Type)

ASME CLASS 300 (PN 50)



ASME CLASS 300 (PN 50)

Size in/mm	D	L			H	W	Weight
		RF	RTJ	BW			RF/RTJ (lb/kg)
1/2	0.5	5.51	5.94	6	7.09	15.75	26
15	12.7	140	151	152	180	400	12
3/4	0.75	6	6.5	7	7.09	15.75	31
20	19.1	152	165	178	180	400	14
1	1	6.5	7	8	7.28	19.69	35
25	25.4	165	178	203	185	500	16
1 1/4	1.25	7	7.52	8.5	7.87	19.69	42
32	31.8	178	191	216	200	500	19
1 1/2	1.5	7.48	8	9	8.27	23.62	46
40	38.1	190	203	229	210	600	21
2	2	8.5	9.13	10.51	8.46	32.28	53
50	50.8	216	232	267	215	820	24
2 1/2	2.5	9.5	10.12	12	9.84	39.37	68
65	63.5	241	257	305	250	1000	31
3	3	11.1	11.73	13	10.63	39.37	79
80	76.2	282	298	330	270	1000	36
4	4	12	12.64	14	11.81	11.81	134
100	101.6	305	321	356	300	300	61
5	5	15	15.63	15	14.39	11.81	190
125	127	381	397	381	340	300	86
6	6	15.87	16.5	18	14.37	12.6	287
150	152.4	403	419	457	365	320	130
8	8	16.5	17.12	20.51	15.75	12.6	419
200	203.2	419	438	521	400	320	190
10	10	18	18.6	22	17.71	13.78	562
250	254	457	473	559	450	350	255
12	12	19.76	20.39	25	20.08	14.96	838
300	304.8	502	518	635	510	380	380
14	14	30	30.63	30	23.23	14.96	1235
350	336.6	762	778	762	590	380	560

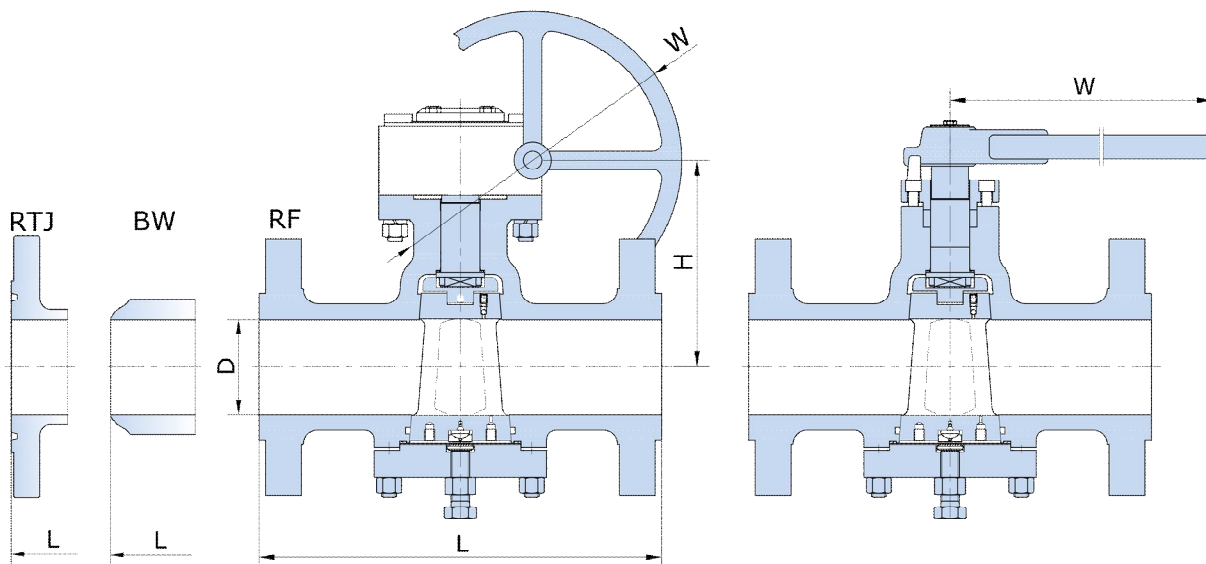
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PLUG VALVE

DIMENSIONS AND WEIGHTS (Pressure Balance Type)

ASME CLASS 600 (PN 100)



ASME CLASS 600 (PN 100)

Size in/mm	D	L			H	W	Weight
		RF	RTJ	BW			RF/RTJ (lb/kg)
1/2	0.5	6.5	6.42	6.5	7.09	15.75	31
15	12.7	165	163	165	180	400	14
3/4	0.75	7.48	7.48	7.48	7.09	15.75	35
20	19.1	190	190	190	180	400	16
1	1	8.5	8.5	8.5	7.28	19.69	40
25	25.4	216	216	216	185	500	18
1 1/4	1.25	9	9	9	7.87	19.69	44
32	31.8	229	229	229	200	500	20
1 1/2	1.5	9.49	9.49	9.49	8.27	23.62	53
40	38.1	241	241	241	210	600	24
2	2	11.5	11.61	11.5	8.46	32.28	64
50	50.8	292	295	292	215	820	29
2 1/2	2.5	13	13.11	13	9.84	39.37	77
65	63.5	330	333	330	250	1000	35
3	3	14	14.13	14	10.63	39.37	104
80	76.2	356	359	356	270	1000	47
4	4	17	17.13	17	11.81	11.81	201
100	101.6	432	435	432	300	300	91
5	5	20	20.12	20	14.39	11.81	284
125	127	508	511	508	340	300	129
6	6	22	22.13	22	14.37	12.6	463
150	152.4	559	562	559	365	320	210
8	8	26	26.1	26	15.75	12.6	705
200	203.2	660	663	660	400	320	320
10	10	31	31.1	31	17.71	13.78	1455
250	254	787	790	787	450	350	660
12	12	33	33.11	33	20.08	14.96	2028
300	304.8	838	841	838	510	380	920
14	14	35	35.12	35	23.23	14.96	2756
350	336.6	889	892	889	590	380	1250

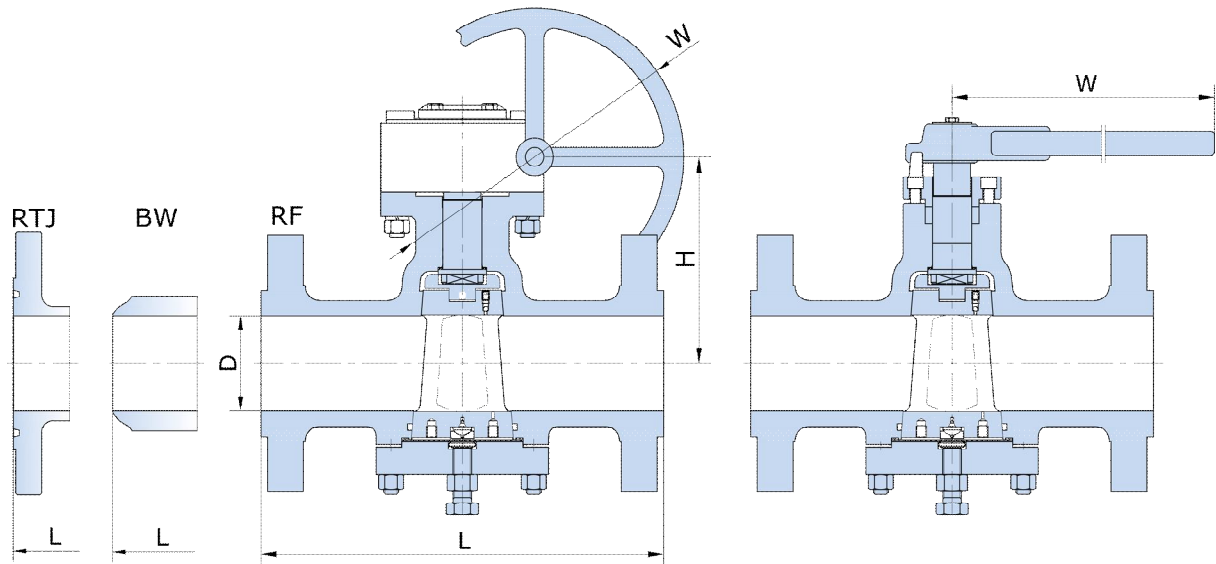
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PLUG VALVE

DIMENSIONS AND WEIGHTS(Pressure Balance Type)

ASME CLASS 900 (PN 150)



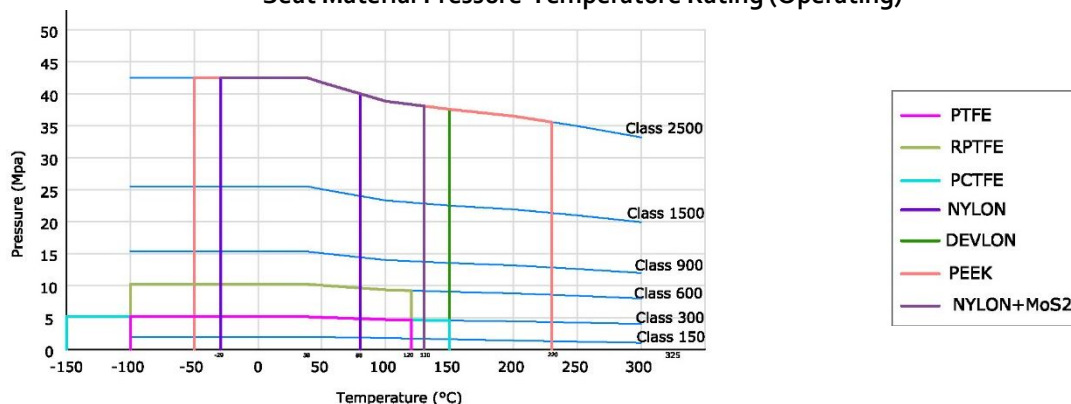
ASME CLASS 900 (PN 150)

Size in/mm	D	L			H	W	Weight
		RF	RTJ	BW			RF/RTJ (lb/kg)
1/2	0.5	8.5	8.5	9.02	7.09	15.75	37
15	12.7	216	216	229	180	400	17
3/4	0.69	9.02	9	9.02	7.09	15.75	42
20	17.5	229	229	229	180	400	19
1	0.87	10	10	10	7.28	19.69	46
25	22.1	254	25.4	254	185	500	21
1 1/4	1.19	10.98	11	10.98	7.87	19.69	53
32	28.4	279	279	279	200	500	24
1 1/2	1.37	12	12	12	8.27	23.62	66
40	34.8	305	305	305	210	600	30
2	1.87	14.49	14.61	14.49	8.46	32.28	82
50	47.5	368	371	368	215	820	37
2 1/2	2.25	16.5	16.61	16.5	9.84	39.37	97
65	57.2	419	422	419	250	1000	44
3	2.87	15	15.12	15	10.63	39.37	143
80	72.9	381	384	381	270	1000	65
4	3.87	18	18.11	18	11.81	11.81	243
100	98.3	457	460	457	300	300	110
5	4.75	22	22.12	22	14.39	11.81	353
125	120.7	559	562	559	340	300	160
6	5.75	24	24.13	24	14.37	12.6	562
150	146.1	610	613	610	365	320	255
8	7.5	29	29.13	29	15.75	12.6	838
200	190.5	737	740	737	400	320	380
10	9.37	33	33.11	33	17.71	13.78	1786
250	238	838	841	838	450	350	810
12	11.12	38	38.11	38	20.08	14.96	2315
300	282.4	965	968	965	510	380	1050
14	12.25	40.51	40.91	40.51	23.23	14.96	3219
350	311.2	1029	1039	1029	590	380	1460

The dimension and weights are for reference only and subject to change without notice.

1. "W" is the O.D. of the handwheel for NPS 4 and above, and length of lever/wrench for NPS ≤ 4.
2. For more dimensional information, please contact our sales representative.

Seat Material Pressure-Temperature Rating (Operating)



SEAT MATERIALS

Material Name	Description	Operating Temperature	Operating Pressure	Service Application
PTFE	Virgin PTFE is the most widely used sealing material with excellent characteristics suitable for most services. It has excellent chemical resistance throughout valve industries and low coefficient of friction.	-112°F – 248°F -80°C – 120°C	Class 150 PN 20	General chemicals, low pressure services.
RPTFE	RPTFE (Reinforced PTFE) is typically produced by adding 15% fiber glass to virgin PTFE. It has better pressure-temperature properties than virgin PTFE, better resistance to wear and deformation under load. NOT to be used in hydrofluoric acid	-112°F – 248°F -80°C – 120°C	Class 150 – 600 PN 20 – 100	For low and medium pressure services.
PCTFE	PCTFE is a homopolymer of chlorotrifluoroethylene, featuring high compressive strength and low deformation under load.	-320°F – 248°F -196°C – 120°C	Class 150 – 300 PN 20 – 50	For low temperature low pressure services.
Nylon 6	Nylon is a common seat material for Class 600 valves. It is highly resistance to many chemicals and abrasions, and can be used in air, oil and other gas media. It is NOT suitable for strong oxidization agents.	-22°F – 176°F -30°C – 80°C	Class 150 – 1500 PN 20 – 250	For high pressure, low temperature services.
Devlon®	Devlon® is a high molecular weight polyamide that is specifically tailored for high temperature/pressure applications in the offshore oil and gas sector. It is low moisture absorption.	-50°F – 302°F -46°C – 150°C	Class 150 – 1500 PN 20 – 250	For high pressure high temperature offshore services.
Nylon+MoS2	Molon (Nylon+MoS2) is a modified Nylon, the characteristics are similar to Devlon with it is cheaper than Devlon.	-20°F – 266°F -29°C – 130°C	Class 150 – 1500 PN 20 – 250	For high pressure, low temperature services.
PEEK	PEEK is a high performance engineered thermoplastic. It is excellent in water/chemical resistance and it is unaffected by continuous exposure to hot water/steam	-148°F – 500°F -100°C – 260°C	Class 150 – 2500 PN 20 – 420	For high pressure high temperature services.
PPL	PPL (Polyparaphenylene) is an excellent seat material with low coefficient of friction, highly resistant to pressure and temperature.	-50°F – 482°F -46°C – 250°C	Class 150 – 300 PN 20 – 50	For high temperature low pressure services.
Delrin®	Delrin® (Acetal Resin) possesses high tensile strength, creep resistance and toughness. It exhibits low moisture absorption. It is chemically resistant to hydrocarbons, solvents and neutral chemicals. DO NOT use it on oxygen service or steam.	-50°F – 194°F -46°C – 90°C	Class 150 – 600 PN 20 – 100	For extreme pressure services.
TFM	TFM (modified PTFE) is a chemically modified PTFE that offers enhanced properties while retaining all the proven advantages of a conventional PTFE.	-112°F – 248°F -80°C – 120°C	Class 150 PN 20	For services requiring high purity.
Metal	Metal (typically stellite) seats are used in severe conditions where flashing, hydraulic shock, abrasive media or trapped metal may exist in the line.	Varies	Varies	For severe services.

O-RING MATERIALS

Material Name	Description	Operating Temperature	Operating Pressure
NBR	Buna-N (NBR) is an all purpose polymer with good resistance to water, solvents, oil and hydraulic fluids.	-50°F – 176°F -46°C – 80°C	Class 150 – 600 PN 20 – 100
HNBR	HNBR (Hydrogenated NBR) has similar media stability to NBR but with significantly better heat and oxidation stability.	-67°F – 337°F -55°C – 170°C	Class 150 – 600 PN 20 – 100
Viton	Viton (fluorocarbon) is a fluorocarbon elastomer that is compatible with a broad range of chemicals. It performs well in mineral acids, salt solutions, chlorinated hydrocarbons and petroleum oils	-49°F – 320°F -22°C – 204°C	Class 150 – 600 PN 20 – 100
EPDM	EPDM has good abrasion and tear resistance with excellent chemical resistance to a variety of acids and alkalines. It is susceptible to attack by oil, strong acids and strong alkalines and should not be used in compressed air lines.	-50°F – 302°F -46°C – 150°C	Class 150 – 600 PN 20 – 100
FVMQ	Fluorosilicone is a silicone polymer chain with fluorinated side-chains for improved oil and fuel resistance. The mechanical and physical properties are very similar to those of silicone.	-50°F – 320°F -46°C – 177°C	Class 150 – 600 PN 20 – 100
AFLAS®	AFLAS® is highly resistant to a wide range of chemicals	-49°F – 428°F -29°C – 220°C	Class 150 – 600 PN 20 – 100

PLUG VALVE

VALVE FIGURE NUMBER

HOW TO ORDER

Nominal Size	Valve Type	Pressure Rating	End Conn.	Construction	Body Material	Trim Material	Seat	O-ring	Operation Mode
A	B	C	D	E	F	G	H	I	J
e.g. 1 6	P L	6	R	1	C 4	1 0	M	1	G

is a NPS 16 Class 600, Plug Valve, RF flanged, Pressure Balanced Type, A216 WCB body, SS316 Trim, Metal Seat, Viton O-ring, Gear Operated.

A Nominal Size

00 Special	02 2 (DN 50)	07 8 RB	19 20 RB	31 32 RB
F1 3/8 (DN 10)	R2 2 RB	08 8 (DN 200)	20 20 (DN 500)	32 32 (DN 800)
F2 1/2 (DN 15)	F6 2 1/2 (DN 65)	09 10 RB	21 22 RB	33 34 RB
0R 1/2 RB	3R 2 1/2 RB	10 10 (DN 250)	22 22 (DN 550)	34 34 (DN 850)
F3 3/4 (DN 20)	03 3 (DN 80)	11 12 RB	23 24 RB	35 36 RB
R0 3/4 RB	R3 3 RB	12 12 (DN 300)	24 24 (DN 600)	36 36 (DN 900)
01 1 (DN 25)	04 4 (DN 100)	13 14 RB	25 26 RB	37 38 RB
R1 1 RB	R4 4 RB	14 14 (DN 350)	26 26 (DN 650)	38 38 (DN 950)
F4 1 1/4 (DN 32)	05 5 (DN 125)	15 16 RB	27 28 RB	39 40 RB
1R 1 1/4 RB	R5 5 RB	16 16 (DN 400)	28 28 (DN 700)	40 40 (DN 1000)
F5 1 1/2 (DN 40)	06 6 (DN 150)	17 18 RB	29 30 RB	41 42 RB
2R 1 1/2 RB	R6 6 RB	18 18 (DN 450)	30 30 (DN 750)	... More as such

B Valve Type

PL Plug Valve

C Pressure Rating

0 Special	7 Class 2500
1 Class 150	9 Class 900
3 Class 300	8 Class 800
5 Class 1500	2 Class 125
6 Class 600	4 Class 400

D End Connection

X Special	B Butt-Weld (BW)
R RF Flanged	S Socket-Weld (SW)
J RTJ Flanged	
F FF Flanged	
T Threaded	

E Construction

0 Special
1 Pressure Balanced
2 Sleeved Type

F Body Material

X0 Special	M9 A182 F22 CL 3	L5 A350 LF3	S6 A351 CF8M
C1 A105	Mo A217 WC9	L6 A352 LC3	S7 A182 F316L
C2 A216 WCA	E1 A182 F5	L7 A350 LF5	S8 A351 CF3M
C4 A216 WCB	E2 A217 C5	L8 A352 LCB	S9 A182 F347
C6 A216 WCC	E4 A217 C6	L9 A350 LF6	So A351 C F8C
M1 A182 F1	E5 A182 F9	LA A350 LF9	D1 A182 F51
M2 A217 WC1	E6 A217 C12	LB A352 LC9	D2 A995 4A
M3 A182 F2	E7 A182 F91	LD A352 LCC	D3 A182 F53
M4 A217 WC4	E8 A217 C12A	S1 A182 F304	D4 A995 5A
M5 A182 F12 CL 2	L1 A350 LF1	S2 A351 CF8	D5 A182 F55
M6 A217 WC5	L2 A352 LCA	S3 A182 F304L	D6 A995 6A
M7 A182 F11 CL 2	L3 A350 LF2	S4 A351 CF3	
M8 A217 WC6	L4 A352 LC2	S5 A182 F316	

G Trim Material

00 Special
01 13Cr/13Cr
02 304/304
03 304L/304L
04 316/316
05 316L/316L
06 STL/304
07 STL/316

G Seat

X Special
T PTFE
M Metal

I O-Ring

0 None
1 Viton
2 Teflon
3 HNBR
4 NBR
5 Special
6 EPDM
7 FVMQ
8 FFKM
9 AFLAS

J Operation

B Bare Stem
L Lever
G Gearbox
P Pneumatic
E Electric
C Gear w/ Chain
N Pneumatic-Hydraulic
S Solid Lever
D Lever with locking device
R Solid lever with locking device



HOW THE FIGURE NUMBER SYSTEM WORKS

Introduction. Figure number system uses a code consisting 14 digits of letters and numbers to represent the specification of a valve of certain specification. Among 14 digits, they are separated into 10 groups identified by letters from A to J. Each group represents a parameter of a valve, together they contain almost all the essential parameters of the valve.

Uses. Using the figure number system to generate a code is easy. Under each group, the code is shown on the left while on the right is the meaning of the code. Start by selecting a code from group A, through group J. If the specification of the valve is not listed, select the code for "Special ". The total length of the figure number shall be exactly 14 digits.

Cautions. It is advised that you have as detailed the specification as possible to generate a figure number, which means eliminating "Specials". If you don't have enough specification or information about the valve you are ordering, or you're not sure how to use the system to generate a figure number, contact one of our sales representatives for help.

Note: FBV reserves the right to make any modifications without notice.



Offshore



Pipeline



Onshore



Refinery



IMPORTANT NOTICE

- All dimensions in inches not listed in standards are converted from millimeters. Weights in lbs (pounds) are converted from kilograms.
- Data listed in the catalog, including dimensions, weights, specifications and other valve related data are intended to provide general information and guidance only.
- FBV Inc. assumes no responsibility for errors or inadequacy relevant to any information provided in this catalog. Any information provided in this catalog is subject to change without notice.



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