



Cast Steel Valves
Technical Data



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PREFACE

The procedures included in this book are to be performed in conjunction with the requirements and recommendations outlined in API Specifications. Any repairs to the equipment covered by this book should be done by an authorized Newmans repair shop. Newmans will not be responsible for loss or expense resulting from any failure of equipment or any damage to any property or death or injury to any person resulting in whole or in part from repairs performed by anyone other than authorized Newmans repair shop. Such unauthorized repairs shall also serve to terminate any contractual or other warranty, if any, on the equipment and may also result in equipment no longer meeting applicable requirements.

File copies of this manual are maintained. Revisions and/or additions will be made as deemed necessary by Newmans. The drawings in this book are not drawn to scale, but the dimensions shown are accurate.

This book covers Newmans products.

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NOTES:

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NOTES:

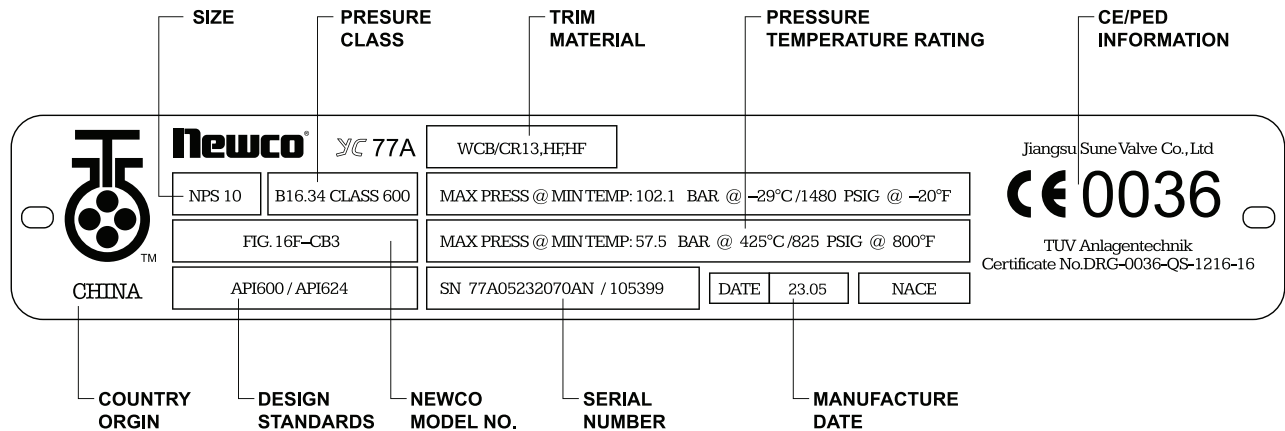
OVERVIEW

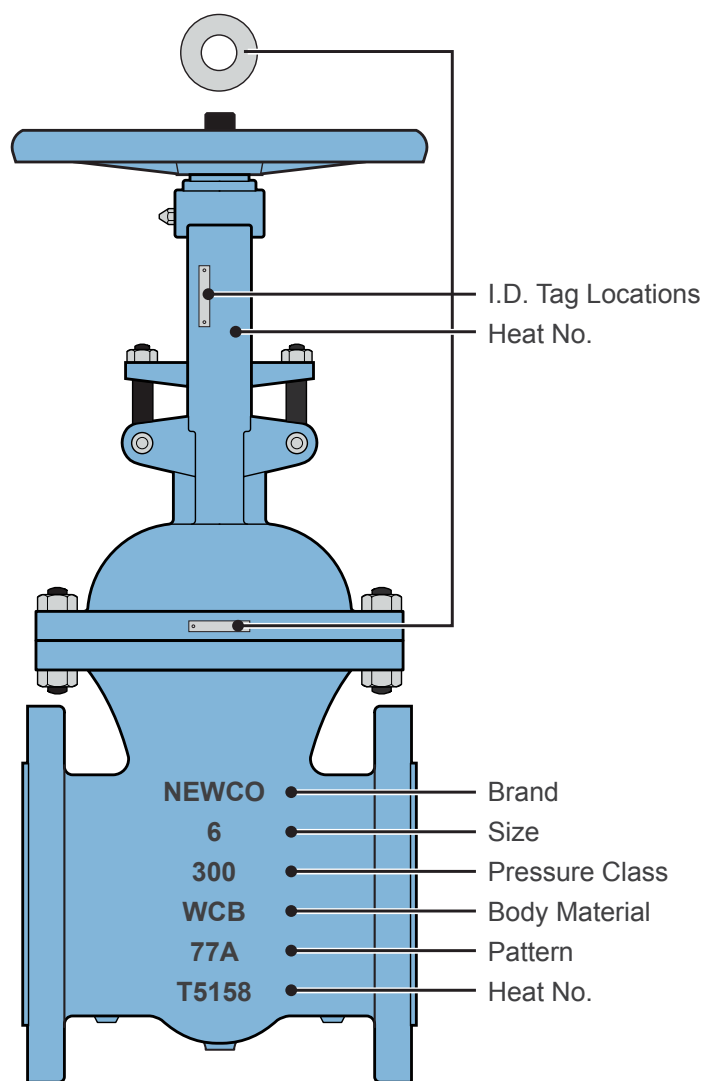
Valve and I.D. Tag Overview

The identification tag displays all construction and tracking data regarding the respective valve on which it is attached. Below is a general overview of the identification tag components.

I.D. tags are located in 1 of the 3 following areas:

- Yoke
- Body/Bonnet Flange
- Under The Handwheel Nut





NOTE: Pattern ID may be on back of valve

Body/Bonnet Materials

Newmans NEWCO® cast steel valves are available in stock in a wide range of body/bonnet materials and optional trim materials. Listed below are some of the more popular materials. Additional materials are available. Please contact Newmans or your local distributor for details.

Material Designation	Common Description	ASTM Specs.	Body/Bonnet Material Service Limitations*
CB	Carbon Steel	A216	Non-corrosive service water, oil and gases at temperatures between -20° F and +800° F.
LCC	Low Temp. Carbon	A352	Low temperature service between -50° F and +650° F.
WC6	1.25% Chrome and .5% Moly	A217	Non-corrosive service water, oil and gases at temperatures between -20° F and +1100° F.
WC9	2.25% Chrome and 1% Moly	A217	Non-corrosive service water, oil, and gases at temperatures between -20° F and +1100° F.
C5	5% Chrome and .5% Moly	A217	Corrosive, non-corrosive or erosive service at temperatures between -20° F and +1200° F.
C12	9% Chrome and 1% Moly	A217	Corrosive, non-corrosive or erosive service at temperatures between -20° F and +1200° F.
C12A	9% Chrome, 1% Moly and V	A217	Corrosive, non-corrosive or erosive service at temperatures between -20° F and +1200° F.
C8M	Cast 316	A351	Corrosive, cryogenic or high temperature service between -450° F and +1200° F.
A20	Alloy 20	A351	Corrosive service at temperatures between -20° F and +600° F.

* Limitations are per 2017 Edition of ASME B16.34.

Trim Materials

The following are Newmans NEWCO standard trim designations.

Trim Number	Common Name	API 600 Trim No.	Seat Ring Facing (1)	Wedge or Disc Facing (1)	Stem	Other Trim Parts (2)	Service Limitations
2	Half Stellite	8	HF	CR 13	CR 13	CR 13	Steam, gas and general service to 1000° F. Standard trim for gate valves.
3	Full Stellite	5	HF	HF	CR 13	CR 13	Premium trim service to 1200° F. Excellent for high pressure water and steam service.
4	316	10	316	316	316	316	Corrosive services to 1000° F. Low temperature service standard for 316 SS valves.

Trim Number	Common Name	API 600 Trim No.	Seat Ring Facing (1)	Wedge or Disc Facing (1)	Stem	Other Trim Parts (2)	Service Limitations
4/2	316/Half Stellite	12	HF	316	316	316	Corrosive services to 1000° F. Low temperature service standard for 316 SS valves.
4/3	316/Full Stellite	16	HF	HF	316	316	Corrosive services to 1000° F. Low temperature service standard for 316 SS valves.
5	Monel	9	NiCu	NiCu	NiCu	NiCu	Corrosive services to 900° F.
5/2	Monel/Half Stellite	11	HF	NiCu	NiCu	NiCu	Corrosive services to 900° F.
5/3	Monel/Full Stellite	-	HF	HF	NiCu	NiCu	Corrosive services to 900° F.
6	Alloy 20	13	A20	A20	A20	A20	Corrosive services to 600° F.
7	Bronze	-	BRZ	BRZ	BRZ	BRZ	Water, gas or low-pressure steam to 450° F.
A7	Aluminum Bronze	-	AL BRZ	AL BRZ	AL BRZ	AL BRZ	
8	Iron	-	Iron	Iron	STL	Iron or STL	
9	Special	Special	Special	Special	Special	Special	Customer to specify.

(1) Facing is defined as the seating surface of a seat ring and wedge/disc.

(2) Other trim parts are defined as small internal parts that are normally in contact with the service fluid. This includes the stem, backseat bushing and packing gland in gate and globe valves and the swing check disc nut and hinge pin.

Sour Gas Service Materials

Newmans NEWCO cast steel valves may be furnished with body and trim materials in compliance with NACE MR0103 and MR0175 specifications. The standard valve is WCB with double tempered trim 3 and nace compliant bolting. Other materials, trims and bolting are available.

Features and Benefits:

- Certifications
- International Organization for Standardization (ISO)
- Traceability
- Fugitive Emissions Tested
- API-598 Tested
- Major End-user Approved
- Multiple North American Locations
- Extensive Engineering Capabilities
- Excellent Customer Service
- Warranty

Pressure Temperature Ratings - ASME B16.34 - 2017							
Class 150							
Temperature °F (°C)	WCB*	LCC	WC6	WC9	C5	C12	C12A
-20 to 100 (-29 to 38)	285	290	290	290	290	290	290
200 (93)	260	260	260	260	260	260	260
300 (148)	230	230	230	230	230	230	230
400 (204)	200	200	200	200	200	200	200
500 (260)	170	170	170	170	170	170	170
600 (316)	140	140	140	140	140	140	140
650 (343)	125	125	125	125	125	125	125
700 (371)	110	-	110	110	110	110	110
750 (399)	95	-	95	95	95	95	95
800 (427)	80	-	80	80	80	80	80
850 (454)	-	-	65	65	65	65	65
900 (482)	-	-	50	50	50	50	50
950 (510)	-	-	35	35	35	35	35
1000 (538)	-	-	20	20	20	20	20
1050 (566)	-	-	20**	20**	20**	20**	20**
1100 (593)	-	-	20**	20**	20**	20**	20**
1150 (621)	-	-	-	-	20**	20**	20**
1200 (649)	-	-	-	-	15**	20**	20**

Class 300							
Temperature °F (°C)	WCB*	LCC	WC6	WC9	C5	C12	C12A
-20 to 100 (-29 to 38)	740	750	750	750	750	750	750
200 (93)	680	750	750	750	750	750	750
300 (148)	655	730	720	730	730	730	730
400 (204)	635	705	695	705	705	705	705
500 (260)	605	665	665	665	665	665	665
600 (316)	570	605	605	605	605	605	605
650 (343)	550	590	590	590	590	590	590
700 (371)	530	-	570	570	570	570	570
750 (399)	505	-	530	530	530	530	530
800 (427)	410	-	510	510	510	510	510
850 (454)	-	-	485	485	485	485	485
900 (482)	-	-	450	450	375	450	450
950 (510)	-	-	320	385	275	375	385
1000 (538)	-	-	215	265	200	255	365
1050 (566)	-	-	145	175	145	170	360
1100 (593)	-	-	95	110	100	115	300
1150 (621)	-	-	65	70	60	75	225
1200 (649)	-	-	40	40	35	50	145

Class 600							
Temperature °F (°C)	WCB*	LCC	WC6	WC9	C5	C12	C12A
-20 to 100 (-29 to 38)	1480	1500	1500	1500	1500	1500	1500
200 (93)	1360	1500	1500	1500	1500	1500	1500
300 (148)	1310	1455	1445	1455	1455	1455	1455
400 (204)	1265	1405	1385	1410	1410	1410	1410
500 (260)	1205	1330	1330	1330	1330	1330	1330
600 (316)	1135	1210	1210	1210	1210	1210	1210
650 (343)	1100	1175	1175	1175	1175	1175	1175
700 (371)	1060	-	1135	1135	1135	1135	1135
750 (399)	1015	-	1065	1065	1065	1065	1065
800 (427)	825	-	1015	1015	1015	1015	1015
850 (454)	-	-	975	975	975	975	975
900 (482)	-	-	900	900	745	900	900
950 (510)	-	-	640	755	550	755	775
1000 (538)	-	-	430	535	400	505	725
1050 (566)	-	-	290	350	290	345	720
1100 (593)	-	-	190	220	200	225	605
1150 (621)	-	-	130	135	125	150	445
1200 (649)	-	-	80	80	70	105	290

Class 900							
Temperature °F (°C)	WCB*	LCC	WC6	WC9	C5	C12	C12A
-20 to 100 (-29 to 38)	2220	2250	2250	2250	2250	2250	2250
200 (93)	2035	2250	2250	2250	2250	2250	2250
300 (148)	1965	2185	2165	2185	2185	2185	2185
400 (204)	1900	2110	2080	2115	2115	2115	2115
500 (260)	1810	1995	1995	1995	1995	1995	1995
600 (316)	1705	1815	1815	1815	1815	1815	1815
650 (343)	1650	1765	1765	1765	1765	1765	1765
700 (371)	1590	-	1705	1705	1705	1705	1705
750 (399)	1520	-	1595	1595	1595	1595	1595
800 (427)	1235	-	1525	1525	1525	1525	1525
850 (454)	-	-	1460	1460	1460	1460	1460
900 (482)	-	-	1350	1350	1120	1350	1350
950 (510)	-	-	955	1160	825	1130	1160
1000 (538)	-	-	650	800	595	760	1090
1050 (566)	-	-	430	525	430	515	1080
1100 (593)	-	-	290	330	300	340	905
1150 (621)	-	-	195	205	185	225	670
1200 (649)	-	-	125	125	105	155	430

Class 1500							
Temperature °F (°C)	WCB*	LCC	WC6	WC9	C5	C12	C12A
-20 to 100 (-29 to 38)	3705	3750	3750	3750	3750	3750	3750
200 (93)	3395	3750	3750	3750	3750	3750	3750
300 (148)	3270	3640	3610	3640	3640	3640	3640
400 (204)	3170	3520	3465	3530	3530	3530	3530
500 (260)	3015	3325	3325	3325	3325	3325	3325
600 (316)	2840	3025	3025	3025	3025	3025	3025
650 (343)	2745	2940	2940	2940	2940	2940	2940
700 (371)	2655	-	2840	2840	2840	2840	2840
750 (399)	2535	-	2660	2660	2660	2660	2660
800 (427)	2055	-	2540	2540	2540	2540	2540
850 (454)	-	-	2435	2435	2435	2435	2435
900 (482)	-	-	2245	2245	1870	2245	2245
950 (510)	-	-	1595	1930	1370	1885	1930
1000 (538)	-	-	1080	1335	995	1270	1820
1050 (566)	-	-	720	875	720	855	1800
1100 (593)	-	-	480	550	495	565	1510
1150 (621)	-	-	325	345	310	375	1115
1200 (649)	-	-	205	205	170	255	720

Class 2500							
Temperature °F (°C)	WCB*	LCC	WC6	WC9	C5	C12	C12A
-20 to 100 (-29 to 38)	6170	6250	6250	6250	6250	6250	6250
200 (93)	5655	6250	6250	6250	6250	6250	6250
300 (148)	5450	6070	6015	6070	6070	6070	6070
400 (204)	5280	5865	5775	5880	5880	5880	5880
500 (260)	5025	5540	5540	5540	5540	5540	5540
600 (316)	4730	5040	5040	5040	5040	5040	5040
650 (343)	4575	4905	4905	4905	4905	4905	4905
700 (371)	4425	-	4730	4730	4730	4730	4730
750 (399)	4230	-	4430	4430	4430	4430	4430
800 (427)	3430	-	4230	4230	4230	4230	4230
850 (454)	-	-	4060	4060	4060	4060	4060
900 (482)	-	-	3745	3745	3115	3745	3745
950 (510)	-	-	2655	3220	2285	3145	3220
1000 (538)	-	-	1800	2230	1655	2115	3030
1050 (566)	-	-	1200	1455	1200	1430	3000
1100 (593)	-	-	800	915	830	945	2515
1150 (621)	-	-	545	570	515	630	1855
1200 (649)	-	-	345	345	285	430	1200

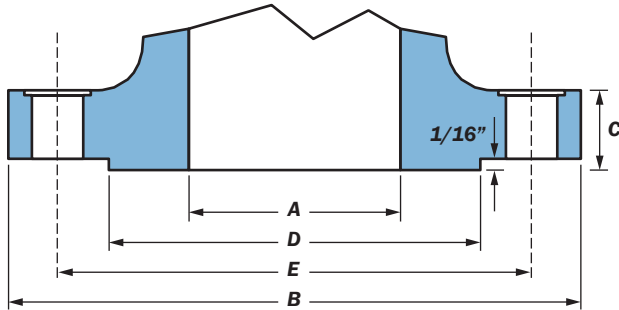
* Not recommended for prolonged use above 800° F.

** For weld end valves only. Flanged end ratings terminate at 1000° F.

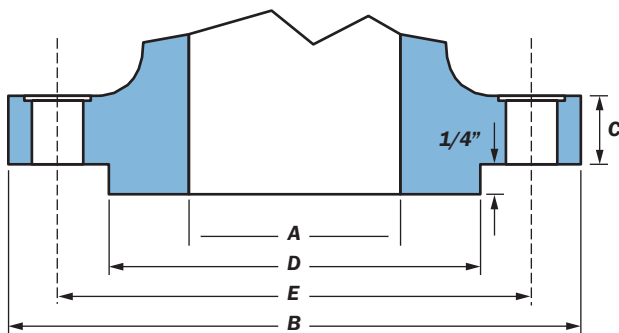
Note: Packing, gasket, or bolting may limit temperature. Please advise service temperature if above 1000° F. Ratings from ASME B16.34 standard class valves. Special class weld end valves to ASME B16.34 are available on special order.

Flange Dimensions - ASME B16.5

Class 150 and 300



Class 600 through 2500



Standards: NPS 24 and smaller in all classes conform to ASME B16.5. NPS 30 and larger conform to ASME B16.47 (Series A).

Facing: End flanges are regularly furnished with a raised face having a serrated finish per MSS SP-6. The thickness of the flange dimension (C) includes the raised face for Class 150 and 300. For Class 600 through 2500, the flange dimension (C) does not include the 1/4" raised face.

Bolt Holes: Bolt holes are 1/8" larger than the bolt diameter. Bolt holes are drilled to straddle the center line.

Flange Dimensions in Inches								
Class 150								
Size In. (mm)	A	B	C	D	E	Stud Bolts		Hole Diam.
						No.	Diam.	
2 (50)	2.00	6.00	0.75	3.62	4.75	4	0.63	0.75
2.5 (65)	2.50	7.00	0.88	4.12	5.50	4	0.63	0.75
3 (80)	3.00	7.50	0.94	5.00	6.00	4	0.63	0.75
4 (100)	4.00	9.00	0.94	6.19	7.50	8	0.63	0.75
5 (125)	5.00	10.00	0.94	7.31	8.50	8	0.75	0.88
6 (150)	6.00	11.00	1.00	8.50	9.50	8	0.75	0.88
8 (200)	8.00	13.50	1.12	10.62	11.75	8	0.75	0.88
10 (250)	10.00	16.00	1.19	12.75	14.25	12	0.88	1.00
12 (300)	12.00	19.00	1.25	15.00	17.00	12	0.88	1.00
14 (350)	13.25	21.00	1.38	16.25	18.75	12	1.00	1.13
16 (400)	15.25	23.50	1.44	18.50	21.25	16	1.00	1.13
18 (450)	17.25	25.00	1.56	21.00	22.75	16	1.125	1.25
20 (500)	19.25	27.50	1.69	23.00	25.00	20	1.125	1.25
24 (600)	23.25	32.00	1.88	27.25	29.50	20	1.25	1.38
30 (750)	29.25	38.75	2.94	33.75	36.00	28	1.25	1.38
36 (900)	35.06	46.00	3.56	40.25	42.75	32	1.50	1.63
42 (1050)	40.87	53.00	3.81	47.00	49.50	36	1.50	1.63
48 (1200)	46.00	59.50	4.25	53.50	56.00	44	1.50	1.63

Flange Dimensions in Inches								
Class 300								
Size In. (mm)	A	B	C	D	E	Stud Bolts		Hole Diam.
						No.	Diam.	
2 (50)	2.00	6.50	0.88	3.62	5.00	8	0.63	0.75
2.5 (65)	2.50	7.50	1.00	4.12	5.88	8	0.75	0.88
3 (80)	3.00	8.25	1.12	5.00	6.62	8	0.75	0.88
4 (100)	4.00	10.00	1.25	6.19	7.88	8	0.75	0.88
5 (125)	5.00	11.00	1.38	7.31	9.25	8	0.75	0.88
6 (150)	6.00	12.50	1.44	8.50	10.62	12	0.75	0.88
8 (200)	8.00	15.00	1.62	10.62	13.00	12	0.88	1.00
10 (250)	10.00	17.50	1.88	12.75	15.25	16	1.00	1.13
12 (300)	12.00	20.50	2.00	15.00	17.75	16	1.13	1.25
14 (350)	13.25	23.00	2.12	16.25	20.25	20	1.13	1.25
16 (400)	15.25	25.50	2.25	18.50	22.50	20	1.25	1.38
18 (450)	17.00	28.00	2.38	21.00	24.75	24	1.25	1.38
20 (500)	19.00	30.50	2.50	23.00	27.00	24	1.25	1.38
24 (600)	23.00	36.00	2.75	27.25	32.00	24	1.50	1.63
30 (750)	29.00	43.00	3.62	33.75	39.25	28	1.75	1.88
36 (900)	34.50	50.00	4.12	40.25	46.00	32	2.00	2.13

Flange Dimensions in Inches								
Class 600								
Size In. (mm)	A	B	C	D	E	Stud Bolts		Hole Diam.
						No.	Diam.	
2 (50)	2.00	6.50	0.88	3.62	5.00	8	0.63	0.75
2.5 (65)	2.50	7.50	1.00	4.12	5.88	8	0.75	0.88
3 (80)	3.00	8.25	1.12	5.00	6.62	8	0.75	0.88
4 (100)	4.00	10.00	1.25	6.19	7.88	8	0.75	0.88
5 (125)	5.00	11.00	1.38	7.31	9.25	8	0.75	0.88
6 (150)	6.00	12.50	1.44	8.50	10.62	12	0.75	0.88
8 (200)	8.00	15.00	1.62	10.62	13.00	12	0.88	1.00
10 (250)	10.00	17.50	1.88	12.75	15.25	16	1.00	1.13
12 (300)	12.00	20.50	2.00	15.00	17.75	16	1.13	1.25
14 (350)	13.25	23.00	2.12	16.25	20.25	20	1.13	1.25
16 (400)	15.25	25.50	2.25	18.50	22.50	20	1.25	1.38
18 (450)	17.00	28.00	2.38	21.00	24.75	24	1.25	1.38
20 (500)	19.00	30.50	2.50	23.00	27.00	24	1.25	1.38
24 (600)	23.00	36.00	2.75	27.25	32.00	24	1.50	1.63
30 (750)	29.00	43.00	3.62	33.75	39.25	28	1.75	1.88
36 (900)	34.50	50.00	4.12	40.25	46.00	32	2.00	2.13

Flange Dimensions in Inches								
Class 900								
Size In. (mm)	A	B	C	D	E	Stud Bolts		Hole Diam.
						No.	Diam.	
2 (50)	1.88	8.50	1.50	3.62	6.50	8	0.88	1.00
2.5 (65)	2.25	9.62	1.62	4.12	7.50	8	1.00	1.13
3 (80)	2.88	9.50	1.50	5.00	7.500	8	0.88	1.00
4 (100)	3.88	11.50	1.75	6.19	9.25	8	1.13	1.25
5 (125)	4.75	13.75	2.00	7.31	11.00	8	1.25	1.38
6 (150)	5.75	15.00	2.19	8.50	12.50	12	1.13	1.25
8 (200)	7.50	18.50	2.50	10.62	15.50	12	1.38	1.50
10 (250)	9.38	21.50	2.75	12.75	18.50	16	1.38	1.50
12 (300)	11.12	24.00	3.12	15.00	21.00	20	1.38	1.50
14 (350)	12.25	25.25	3.38	16.25	22.00	20	1.50	1.63
16 (400)	14.00	27.75	3.50	18.50	24.25	20	1.63	1.75
18 (450)	15.75	31.00	4.00	21.00	27.00	20	1.88	2.00
20 (500)	17.50	33.75	4.25	23.00	29.50	20	2.00	2.13
24 (600)	21.00	41.00	5.50	27.25	35.50	20	2.50	2.63

Flange Dimensions in Inches								
Class 1500								
Size In. (mm)	A	B	C	D	E	Stud Bolts		Hole Diam.
						No.	Diam.	
2 (50)	1.88	8.50	1.50	3.62	6.50	8	0.88	1.00
2.5 (65)	2.25	9.62	1.62	4.12	7.50	8	1.00	1.13
3 (80)	2.75	10.50	1.88	5.00	8.00	8	1.13	1.25
4 (100)	3.62	12.25	2.12	6.19	9.50	8	1.25	1.38
5 (125)	4.38	14.75	2.88	7.31	11.50	8	1.50	1.63
6 (150)	5.38	15.50	3.25	8.50	12.50	12	1.38	1.50
8 (200)	7.00	19.00	3.62	10.62	15.50	12	1.63	1.75
10 (250)	8.75	23.00	4.25	12.75	19.00	12	1.88	2.00
12 (300)	10.38	26.50	4.88	15.00	22.50	16	2.00	2.13
14 (350)	11.38	29.50	5.25	16.25	25.00	16	2.25	2.38
16 (400)	13.00	32.50	5.75	18.50	27.75	16	2.50	2.63
18 (450)	14.62	36.00	6.38	21.00	30.50	16	2.75	2.88
20 (500)	16.38	38.75	7.00	23.00	32.75	16	3.00	3.13
24 (600)	19.62	46.00	8.00	27.25	39.00	16	3.50	3.63

Flange Dimensions in Inches								
Class 2500								
Size In. (mm)	A	B	C	D	E	Stud Bolts		Hole Diam.
						No.	Diam.	
2 (50)	1.50	9.25	2.00	3.62	6.75	8	1.00	1.13
2.5 (65)	1.88	10.50	2.25	4.12	7.75	8	1.13	1.25
3 (80)	2.25	12.00	2.62	5.00	9.00	8	1.25	1.38
4 (100)	2.88	14.00	3.00	6.19	10.75	8	1.50	1.63
5 (125)	3.62	16.50	3.62	7.31	12.75	8	1.75	1.88
6 (150)	4.38	19.00	4.25	8.50	14.50	8	2.00	2.13
8 (200)	5.75	21.75	5.00	10.62	17.25	12	2.00	2.13
10 (250)	7.25	26.50	6.50	12.75	21.75	12	2.50	2.63
12 (300)	8.62	30.00	7.25	15.00	24.38	12	2.75	2.88

Auxiliary Connection Locations (Bypasses, Drains, etc.)

Bypasses

Bypasses serve two purposes. They are used in steam services as a means to warm the line before the main valve is opened. They are also used to balance the pressure on both sides of the main valve as an aid to reduce the torque required to open the main valve.

Newmans NEWCO cast steel valve can be furnished with all welded bypasses when specified. The standard bypass configuration is the single valve bypass attached to the side of the main valve with the stems of both valves parallel as shown below. Piping and the OS&Y globe bypass valve have a pressure-temperature rating and corrosion resistance equal to exceeding that of the main valve.

When other bypass configurations are required, a sketch or drawing must accompany the order.

Drains

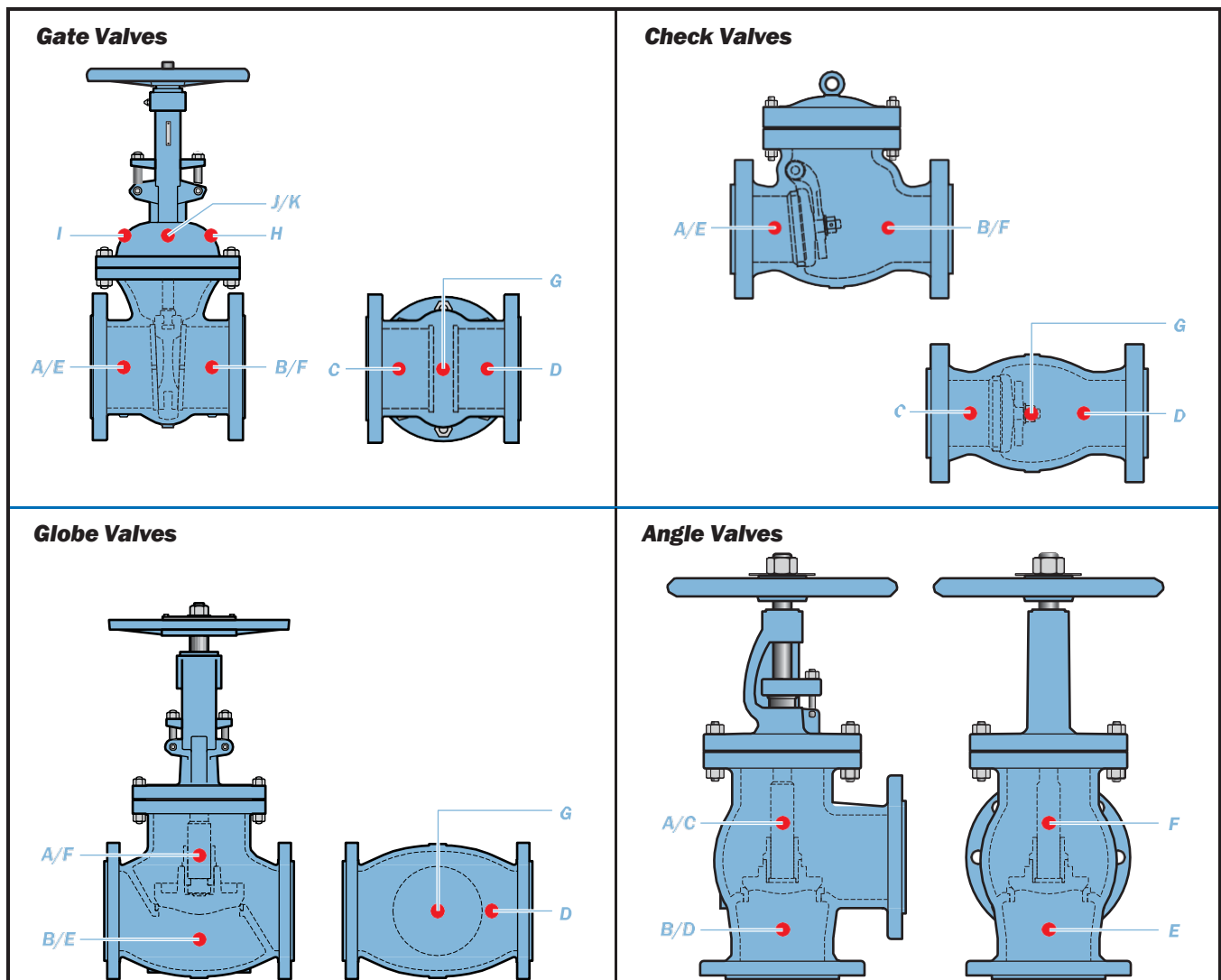
Newmans NEWCO cast steel valves can be furnished with drains at any of the locations shown. Standard drain connections consist of a drilled, tapped, and plugged hole at the location(s) specified. Other types of drains, including welding or thread- ed nipples with or without shut-off valves, can also be furnished when specified.

Please refer to ASME B16.34 for exact auxiliary connection locations, sizes and threading information.

Each letter in the illustration(s) below identifies the possible hole locations for auxiliary connection(s). These illustrations are for reference purposes only.

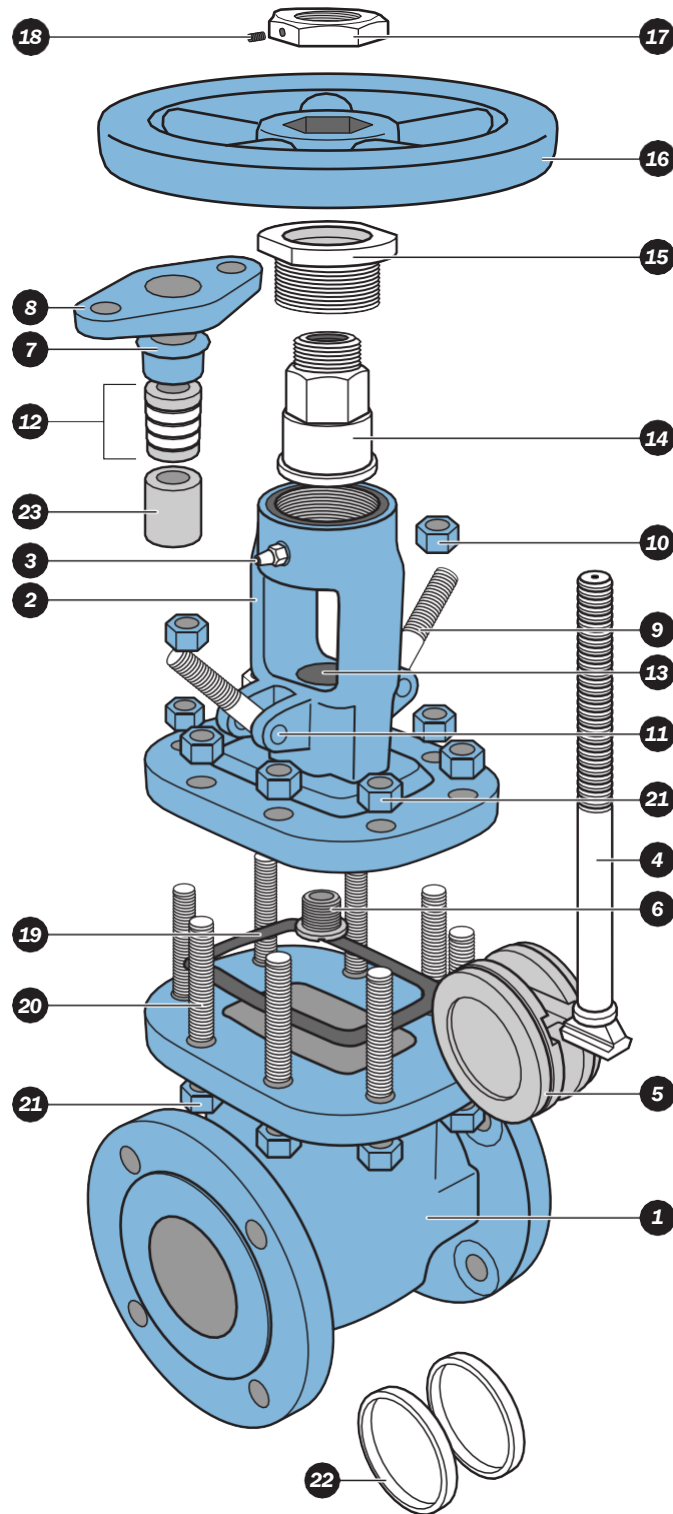
Unless specified otherwise, auxiliary connection hole sizes shall be drilled and tapped as follows:

- 2" through 4" utilizes a .50" hole
- 5" through 8" utilizes a .75" hole
- 10" and larger utilizes a 1" hole



I. CAST STEEL BOLTED BONNET GATE VALVES SIZES: 2" TO 36" (50MM TO 900MM) • PRESSURE CLASS: 150 TO 1500

Typical Cast Steel Bolted Bonnet Gate Valve Expanded View



1. Body: Newmans NEWCO cast steel bodies provide low resistance flow and optimum strength and performance.
2. Yoke and Bonnet: Newmans NEWCO bonnet assemblies are built to the same standards as the bodies. Larger size gate valves utilize a multi-piece bonnet design.
3. Grease Fitting: The grease fitting allows for easy stem lubrication.
4. Stem: The stem is precision machined and inserts into the horizontal channel in the disc.
5. Wedge: Newmans 1-piece flex wedge is machined to the tightest tolerances to ensure trouble free shut-off and cycling.
6. Back Seat Bushing: The back seat, when engaged with the stem head, provides a stable shut-off to the stuffing box which isolates the packing from flow exposure.
7. Gland: The gland compresses the packing to create a stem seal above the back seat, between the bonnet and stem.
8. Gland Flange: The gland flange applies pressure to the gland for accurate packing adjustments.
9. & 10. Gland Bolts and Nuts: The gland bolts and nuts allow for easy adjustments for packing compression.
11. Gland Bolt Pin: The gland bolt pin secures the gland bolts to the yoke and bonnet.
12. Packing: The packing creates a seal above the back seat, between the bonnet and stem.
13. Stuffing Box: The stuffing box contains the packing.
14. Stem Nut: The stem nut provides a precision guide for proper stem alignment.
15. Yoke Bushing: The retaining nut secures the stem nut to the bonnet assembly.
16. Handwheel: The handwheel cycles the valve.
17. Handwheel Nut: The handwheel nut secures the handwheel to the bonnet assembly.
18. Set Screw: The set screw prevents handwheel nut loosening.
19. Bonnet Gasket: The bonnet gasket creates a leakproof seal between the bonnet and body.
20. & 21. Bonnet Studs and Nuts: The bonnet studs and nuts secure the bonnet to the body.
22. Seat Rings: To ensure a stable shut-off, seat rings are aligned and seal-welded into the valve, then precision ground for optimal seating.
23. Spacer Ring: Assists the packing rings in creating a seal above the back seat, between the bonnet and stem.

Styles: CB2, C63 and LCC4/2

Class 150 - Sizes: 2" to 36"

Pressure Class Range: 150 to 1500

Design and Manufacturing Standards

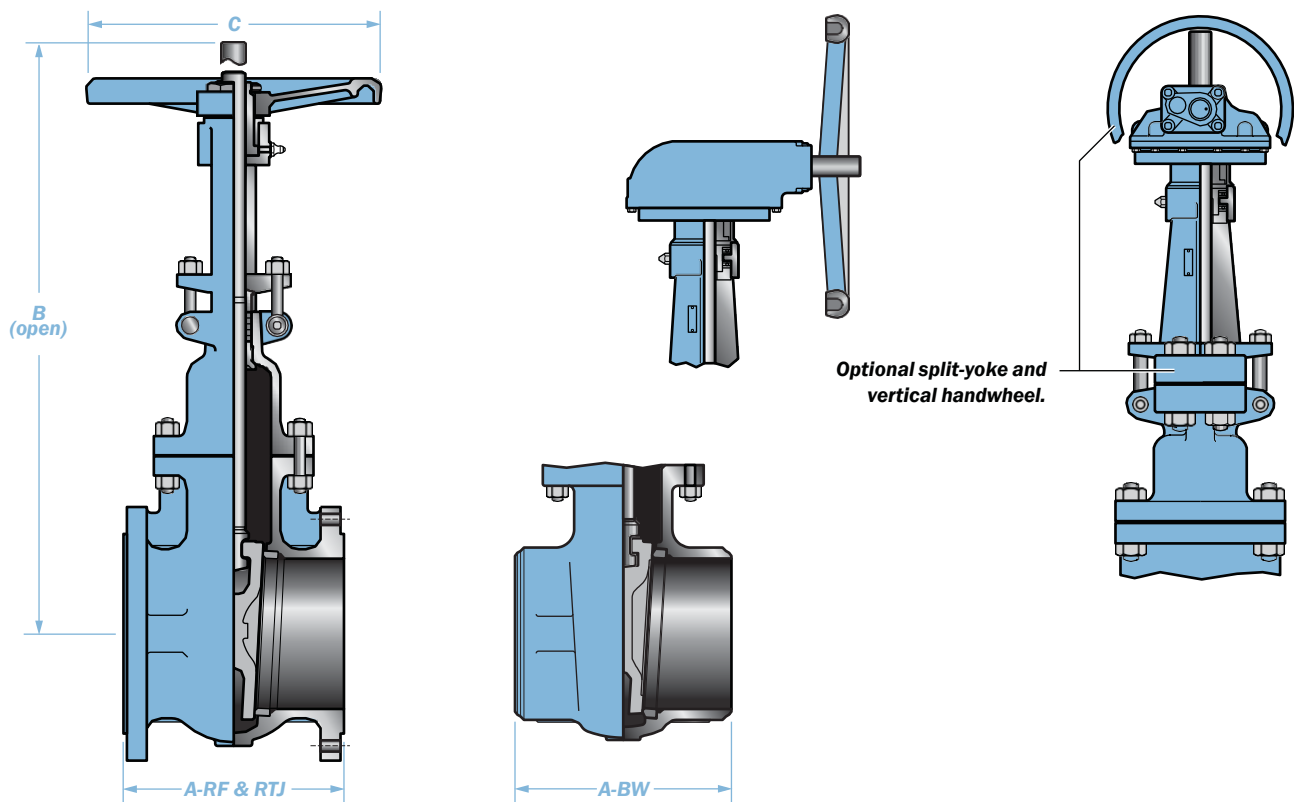
Valve Design: ASME B16.34/API 600

Flange Dimensions : ASME B16.5, B16.47 (Series A)

Face to Face Dimensions: ASME B16.10

Tested in Accordance With: API 598

Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Rings	ASTM A105/HF	ASTM A182-F6a/HF	ASTM A350-LF2/HF
Wedge 2" - 4"	ASTM A276-410/A217-CA15	ASTM A217-WC6/HF	ASTM A352-LCC w/316 SS Faced
Wedge 5" and larger	ASTM A216-WCB w/13% Chrome Faced		
Stem	ASTM A182-F6a		ASTM A182-316
Yoke and Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Multilayered Corrugated 316 w/Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel - Commercial		
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel - Commercial		
Grease Fitting	Carbon Steel - Commercial		
Stem Nut	ASTM A439-D2C		
Yoke Bushing	Carbon Steel - Commercial		
Handwheel	ASTM A536 (60-40-18)		
Handwheel Nut	Carbon Steel - Commercial		
Set Screw	Carbon Steel - Commercial		
Spacer Ring	ASTM A276-410		ASTM A276-316

Note: Material is subject to change without notice.

ASME CLASS 150										
SIZE	A		B		C		WEIGHT (BW)		WEIGHT (RF)	
	RF	BW	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	7.00	8.50	15.1	14.1	8.0	7.9	40.0	36.0	46.0	40.0
50	177.80	215.90	383.5	358.1	203.0	200.7	18.2	16.4	20.9	18.2
2 ½	7.50	9.50	16.5	17.2	8.0	8.0	53.0	47.0	82.0	62.0
65	190.50	241.30	419.1	436.9	203.0	203.0	24.1	21.4	37.3	28.2
3	8.00	11.12	18.3	18.0	8.0	9.8	64.0	61.0	75.0	71.0
80	203.20	282.45	464.8	457.2	203.0	248.9	29.1	27.7	34.1	32.3
4	9.00	12.00	22.9	22.0	10.0	9.8	98.0	86.0	108.0	105.8
100	228.60	304.80	581.7	558.8	254.0	248.9	44.5	39.1	49.1	48.1
5	10.00	15.00	27.5	26.7	13.0	14.0	134.0	134.0	157.0	157.0
125	254.00	381.00	698.5	678.2	330.2	355.6	60.9	60.9	71.4	71.4
6	10.50	15.88	31.1	29.7	14.0	11.8	165.0	141.0	194.0	163.1
150	266.70	403.35	789.9	754.4	355.6	299.7	75.0	64.1	88.2	74.1
8	11.50	16.50	38.9	36.9	16.0	13.8	270.0	242.0	291.0	258.0
200	292.10	419.10	988.1	937.3	406.4	350.5	122.7	110.0	132.3	117.3
10	13.00	18.00	46.6	44.6	18.0	15.7	369.0	327.0	452.0	388.0
250	330.20	457.20	1183.6	1132.8	457.2	398.8	167.7	148.6	205.5	176.4
12	14.00	19.75	54.4	52.6	20.0	17.7	584.0	513.0	695.0	617.3
300	355.60	501.65	1381.8	1336.0	508.0	449.6	265.5	233.2	315.9	280.6
14	15.00	22.50	60.3	58.7	22.0	19.7	811.0	774.0	967.0	904.0
350	381.00	571.50	1531.6	1491.0	558.8	500.4	368.6	351.8	439.5	410.9
16	16.00	24.00	68.5	66.9	24.0	22.0	1146.0	1126.0	1293.0	1193.0
400	406.40	609.60	1739.9	1699.3	609.6	558.8	520.9	511.8	587.7	542.3
18	17.00	26.00	76.2	74.4	27.0	25.2	1349.0	1296.0	1497.0	1497.0
450	431.80	660.40	1935.5	1889.8	685.8	640.1	613.2	589.1	680.5	680.5
20	18.00	28.00	84.8	82.8	30.0	26.8	1720.0	1632.0	1850.0	1715.0
500	457.20	711.20	2153.9	2103.1	762.0	680.7	781.8	741.8	840.9	779.5
24	20.00	32.00	100.6	98.5	30.0	28.3	2534.0	2703.0	2743.0	3042.0
600	508.00	812.80	2555.2	2501.9	762.0	718.8	1151.8	1228.6	1246.8	1382.7
30	24.00	36.00	123.1	122.1	35.0	35.0	4195.0	3944.0	5483.0	5247.0
750	609.60	914.40	3126.7	3101.3	889.0	889.0	1906.8	1792.7	2492.3	2385.0
36	28.00	40.00	143.9	141.3	43.0	43.0	6965.0	6305.0	8422.0	7540.0
900	711.20	1016.00	3655.0	3589.0	1092.0	1092.0	3165.9	2865.9	3828.2	3427.3

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request. Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2

Class 300 - Sizes: 2" to 36"

Pressure Class Range: 150 to 1500

Design and Manufacturing Standards

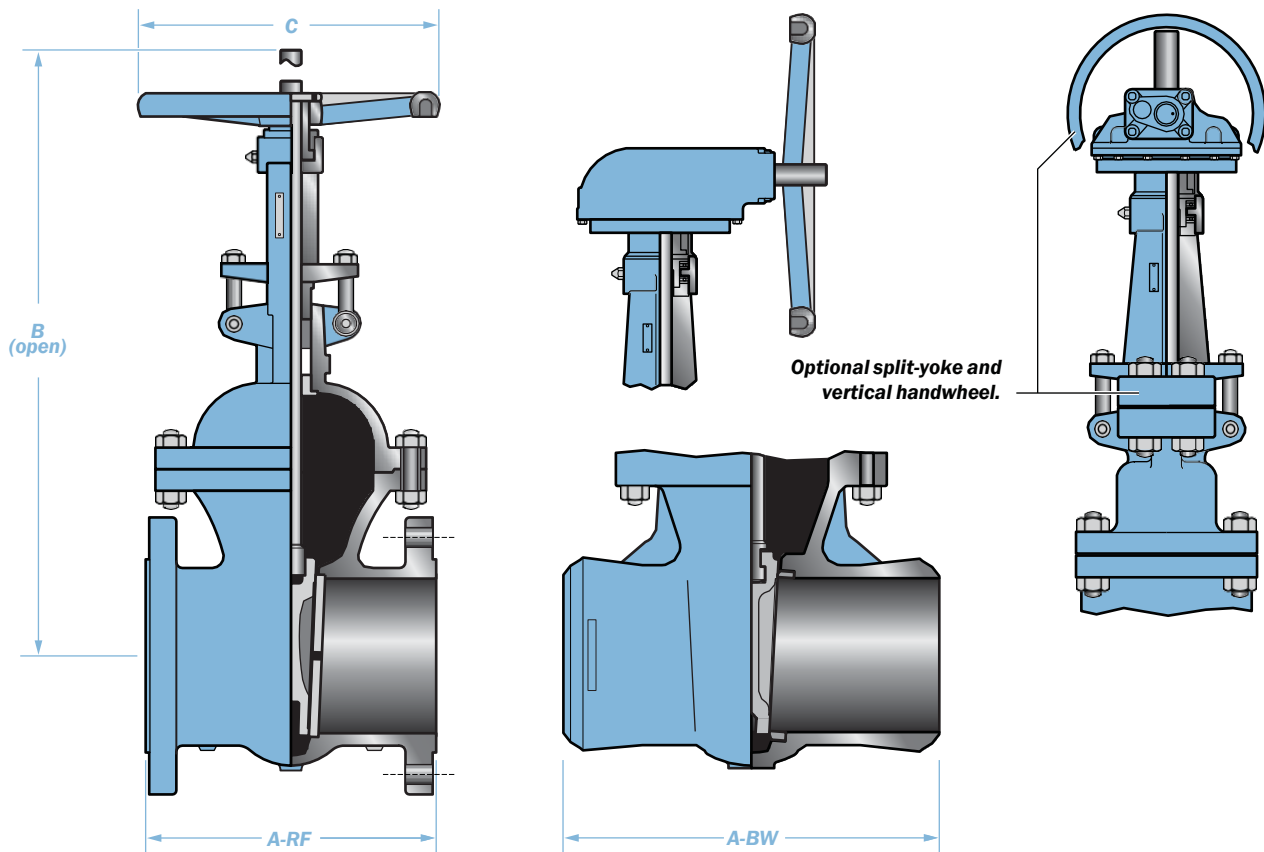
Valve Design: ASME B16.34/API 600

Flange Dimensions : ASME B16.5, B16.47 (Series A)

Face to Face Dimensions: ASME B16.10

Tested in Accordance With: API 598

Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Rings	ASTM A105/HF	ASTM A182-F6a/HF	ASTM A350-LF2/HF
Wedge 2" - 4"	ASTM A276-410/A217-CA15	ASTM A217-WC6/HF	ASTM A352-LCC w/316 SS Faced
Wedge 5" and larger	ASTM A216-WCB w/13% Chrome Faced		
Stem	ASTM A182-F6a		ASTM A182-316
Yoke and Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Spiral Wound 316 Stainless Steel /Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel - Commercial		
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel - Commercial		
Grease Fitting	Carbon Steel - Commercial		
Stem Nut	ASTM A439-D2C		
Yoke Bushing	Carbon Steel - Commercial		
Handwheel	ASTM A536 (60-40-18)		
Handwheel Nut	Carbon Steel - Commercial		
Set Screw	Carbon Steel - Commercial		
Spacer Ring	ASTM A276-410		ASTM A276-316

Note: Material is subject to change without notice.

ASME CLASS 300									
SIZE	A	B		C		WEIGHT (BW)		WEIGHT (RF)	
	RF/BW	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	8.50	17.2	14.1	8.0	7.9	46.0	49.0	62.0	53.0
50	215.90	436.9	358.1	203.2	200.7	20.9	22.3	28.2	24.1
2 ½	9.50	18.4	17.3	10.0	9.8	84.4	60.0	97.0	75.0
65	241.30	467.4	439.4	254.0	250.0	38.4	27.3	44.1	34.1
3	11.12	20.2	18.0	10.0	9.8	99.7	84.0	115.0	93.0
80	282.45	513.1	457.2	254.0	250.0	45.3	38.2	52.3	42.3
4	12.00	24.1	22.0	12.0	11.8	146.0	119.0	168.0	148.0
100	304.80	612.1	558.8	304.8	300.0	66.4	54.1	76.4	67.3
5	15.00	29.0	28.9	15.0	15.0	180.3	180.3	207.0	207.0
125	381.00	736.6	734.1	381.0	381.0	82.0	82.0	94.1	94.1
6	15.88	32.9	29.9	16.0	13.8	280.1	251.0	273.0	287.0
150	403.35	835.7	759.5	406.4	350.0	127.3	114.1	124.1	130.5
8	16.50	41.1	37.6	18.0	15.7	418.2	391.0	501.0	441.0
200	419.10	1043.9	955.0	457.2	400.0	190.1	177.7	227.7	200.5
10	18.00	49.2	46.7	20.0	17.7	675.2	561.0	807.0	639.0
250	457.20	1249.7	1186.2	508.0	450.0	306.9	255.0	366.8	290.5
12	19.75	56.9	54.3	22.0	19.7	972.0	808.0	1180.0	1030.0
300	501.65	1445.3	1379.2	558.8	500.0	441.8	367.3	536.4	468.2
14	30.00	63.2	61.0	27.0	22.0	1290.0	1232.0	1676.0	1477.0
350	762.00	1605.3	1549.4	685.8	558.8	586.4	560.0	761.8	671.4
16	33.00	73.1	69.7	27.0	25.2	1934.0	1793.0	2128.0	1940.0
400	838.20	1856.7	1770.4	685.8	640.1	879.1	815.0	967.3	881.8
18	36.00	81.1(1)	79.6(1)	21.3	21.3	2315.0	2354.0	2961.0	2721.0
450	914.40	2060.0	2022.0	541.0	540.0	1052.3	1070.0	1345.9	1236.8
20	39.00	94.4(1)	87.1(1)	21.3	21.3	3101.0	2558.0	4012.0	3069.0
500	990.60	2397.8	2213.0	541.0	540.0	1409.5	1162.7	1823.6	1395.0
24	45.00	106.8(1)	104.5(1)	24.0	24.0	4347.0	4367.0	5752.0	5291.0
600	1143.00	2712.7	2654.0	609.6	610.0	1975.9	1985.0	2614.5	2405.0
30	55.00	130.6(1)	127.6(1)	32.0	32.0	9669.0	7040.0	10869.0	8316.0
750	1397.00	3317.20	3241.10	812.80	812.80	4395.0	3200.0	4940.5	3780.0
36	68.00	146.1(1)	159.0 (1)	32.0	32.0	11538.0	12600.0	14538.0	16698.0
900	1727.20	3710.94	4038.6	812.80	812.80	5244.5	5727.3	6608.2	7590.0

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

(1) Recommended Gear operators for 18" & larger. Height is to top of the Gear.

Styles: CB2, C63 and LCC4/2

Class: 600 - Sizes: 2" to 24"

Pressure Class Range: 150 to 1500

Design and Manufacturing Standards

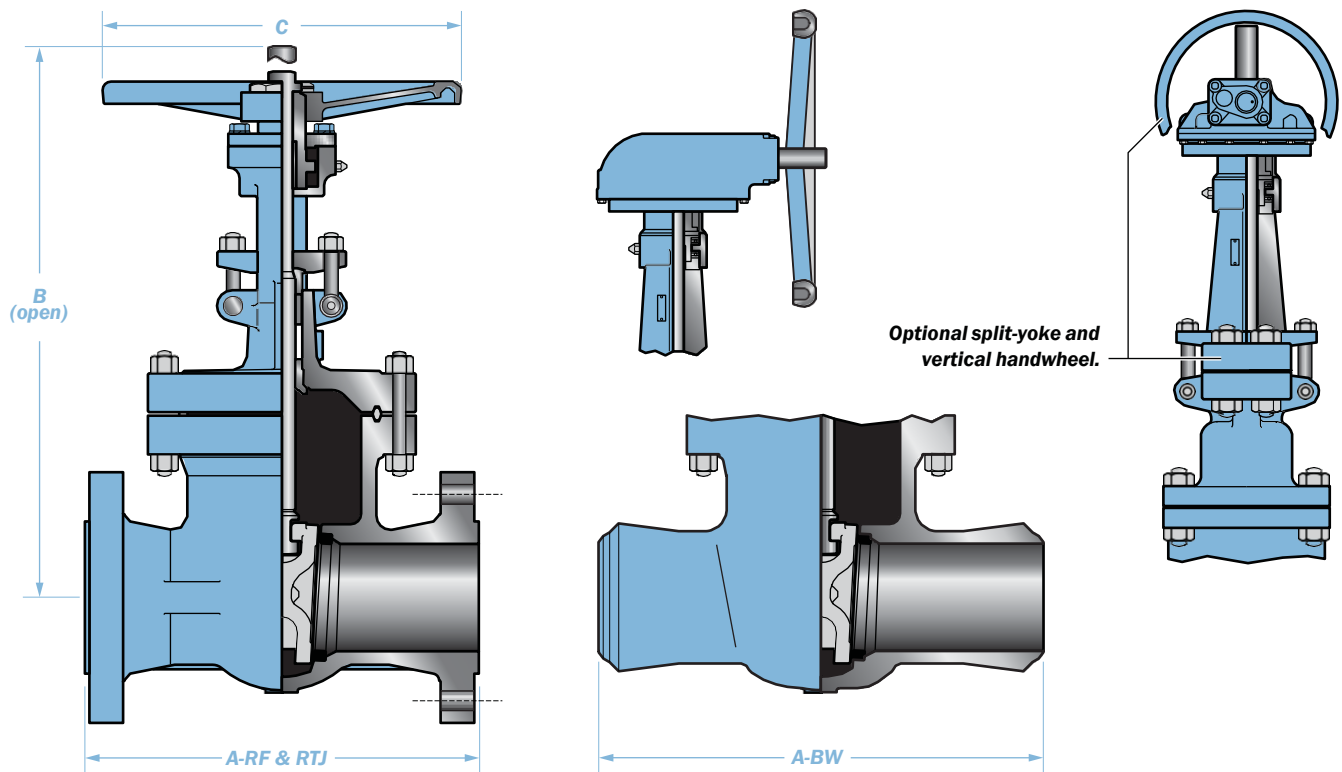
Valve Design: ASME B16.34/API 600

Flange Dimensions : ASME B16.5, B16.47 (Series A)

Face to Face Dimensions: ASME B16.10

Tested in Accordance With: API 598

Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Rings	ASTM A105/HF	ASTM A182-F6a/HF	ASTM A350-LF2/HF
Wedge	ASTM A216-WCB w/13% Chrome Faced	ASTM A217-WC6/HF	ASTM A352-LCC w/316 SS Faced
Stem	ASTM A182-F6a		ASTM A182-316
Yoke and Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Soft Steel Ring Joint		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel - Commercial		
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel - Commercial		
Grease Fitting	Carbon Steel - Commercial		
Stem Nut	ASTM A439-D2C		
Yoke Bushing	Carbon Steel - Commercial		
Handwheel	ASTM A536 (60-40-18)		
Handwheel Nut	Carbon Steel - Commercial		
Set Screw	Carbon Steel - Commercial		
Spacer Ring	ASTM A276-410		ASTM A276-316

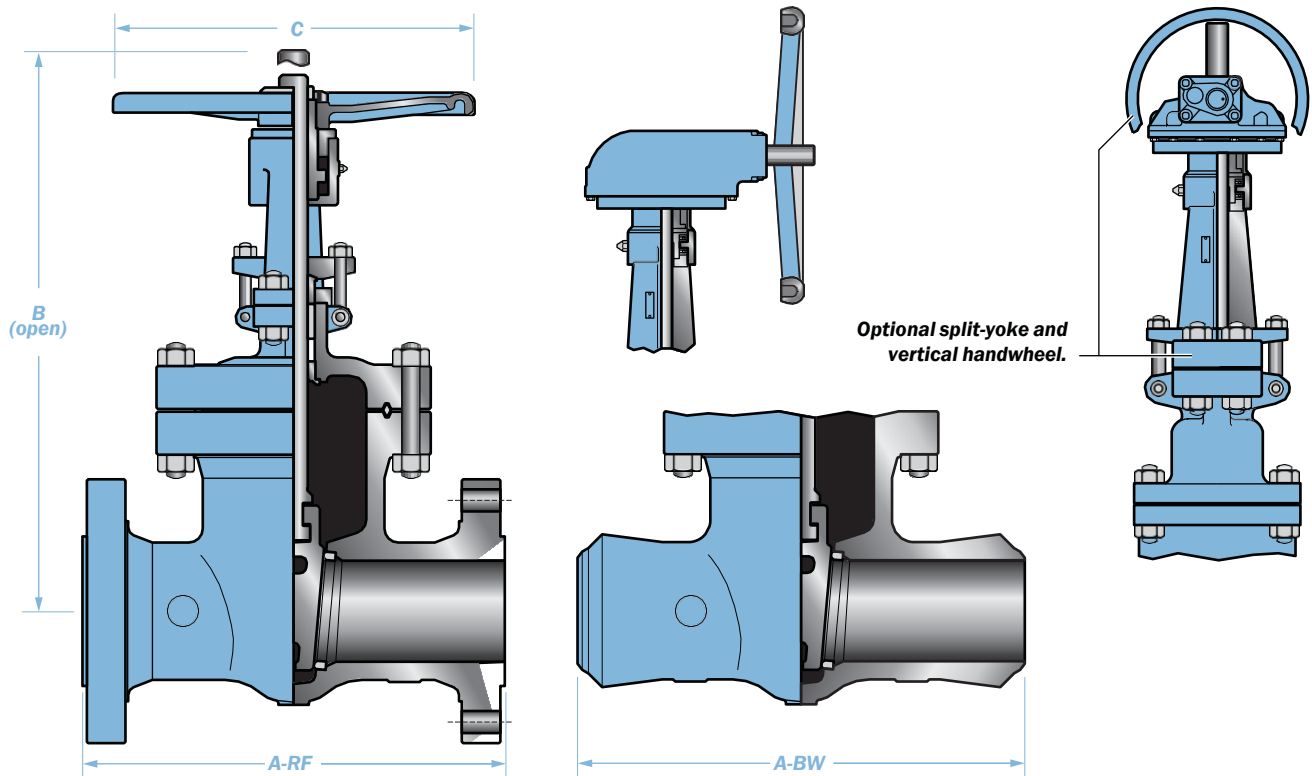
Note: Material is subject to change without notice.

ASME CLASS 600										
SIZE	A		B		C		WEIGHT(BW)		WEIGHT(RF/RTJ)	
	RF/BW	RTJ	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	11.50	11.62	17.7	14.6	10.0	7.9	79.0	75.0	90.4	90.4
50	292.10	295.15	449.6	370.8	254.0	200.7	35.9	34.1	41.1	41.1
2 ½	13.00	13.12	19.4	18.0	10.0	9.8	106.3	97.0	121.3	113.0
65	330.20	333.25	492.8	457.2	254.0	250.0	48.3	44.1	55.1	51.4
3	14.00	14.12	21.1	18.9	12.0	11.8	144.0	123.0	158.7	145.5
80	355.60	358.65	535.9	480.1	304.8	299.7	65.5	55.9	72.1	66.1
4	17.00	17.12	26.4	22.9	15.0	11.8	209.0	205.0	280.0	271.0
100	431.80	434.85	670.6	581.7	381.0	299.7	95.0	93.2	127.3	123.2
5	20.00	20.12	31.1	-	18.0	-	363.0	-	463.0	-
125	508.00	511.05	789.9	-	457.2	-	165.0	-	210.5	-
6	22.00	22.12	36.4	31.8	20.0	17.7	494.0	434.0	610.7	542.0
150	558.80	561.85	924.6	807.7	508.0	449.6	224.5	197.3	277.6	246.4
8	26.00	26.12	43.2	39.1	24.0	19.7	832.0	765.0	1053.8	945.8
200	660.40	663.45	1097.3	993.1	609.6	500.4	378.2	347.7	479.0	429.9
10	31.00	31.12	52.2	50.6	27.0	25.2	1293.0	1063.0	1671.1	1358.0
250	787.40	790.45	1325.9	1285.2	685.8	640.1	587.7	483.2	759.6	617.3
12	33.00	33.12	60.8	57.4	27.0	26.8	1716.0	1499.0	2112.0	1812.0
300	838.20	841.25	1544.3	1458.0	685.8	680.7	780.0	681.4	960.0	823.6
14	35.00	35.12	69.4 (1)	68.9(1)	24.0	24.0	2466.0	2542.0	2938.7	2901.0
350	889.00	892.05	1762.8	1750.1	609.6	609.6	1120.9	1155.5	1335.8	1318.6
16	39.00	39.12	73.4(1)	74.8(1)	24.0	24.0	3133.0	3369.0	3637.6	3686.0
400	990.60	993.65	1864.4	1899.9	609.6	609.6	1424.1	1531.4	1653.5	1675.5
18	43.00	43.12	80(1)	80.3(1)	24.0	24.0	3879.0	3869.0	4358.5	4370.0
450	1092.20	1095.25	2032.0	2039.6	609.6	609.6	1763.2	1758.6	1981.1	1986.4
20	47.00	47.25	90.6(1)	88.9(1)	24.0	24.0	4597.0	5668.0	6111.2	6302.0
500	1193.80	1200.15	2301.2	2258.1	609.6	609.6	2089.5	2576.4	2777.8	2864.5
24	55.00	55.38	106.7(1)	106.7(1)	32.0	32.0	7288.0	7557.0	8399.0	8399.0
600	1397.00	1406.65	2710.2	2710.2	812.8	812.8	3312.7	3435.0	3817.7	3817.7

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

(1) Recommended Gear operators for 14" & larger. Height is to top of the Gear.

Styles: CB2, C63 and LCC4/2
Class: 900 - Sizes: 2" to 12"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 600
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



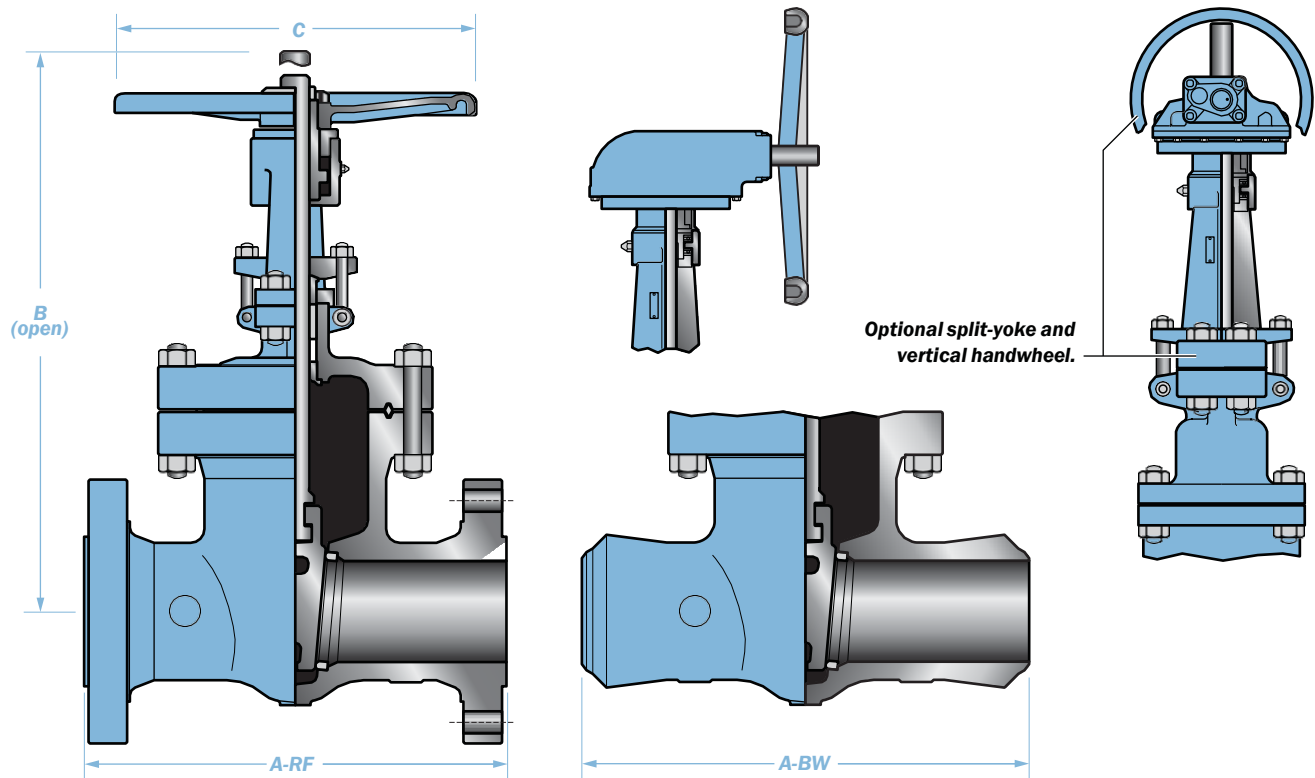
Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Rings	ASTM A105/HF	ASTM A182-F6a/HF	ASTM A350-LF2/HF
Wedge	ASTM A216-WCB w/13% Chrome Faced	ASTM A217-WC6/HF	ASTM A352-LCC w/316 SS Faced
Stem	ASTM A182-F6a		ASTM A182-316
Yoke and Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Soft Steel Ring Joint		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel - Commercial		
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel - Commercial		
Grease Fitting	Carbon Steel - Commercial		
Stem Nut	ASTM A439-D2C		
Yoke Bushing	Carbon Steel - Commercial		
Handwheel	ASTM A536 (60-40-18)		
Handwheel Nut	Carbon Steel - Commercial		
Set Screw	Carbon Steel - Commercial		
Spacer Ring	ASTM A276-410		ASTM A276-316

Note: Material is subject to change without notice.

ASME CLASS 900										
SIZE	A		B		C		WEIGHT(BW)		WEIGHT(RF/RTJ)	
	RF/BW	RTJ	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	14.50	14.62	20.7	19.3	12.0	11.8	145.0	141.0	181.0	176.0
50	368.30	371.35	525.8	490.2	304.8	299.7	65.9	64.1	82.3	80.0
3	15.00	15.12	25.6	23.4	13.8	14.0	170.0	172.0	276.0	220.0
80	381.00	384.05	650.2	594.4	350.5	355.6	77.3	78.2	125.5	100.0
4	18.00	18.12	31.2	26.3	16.0	15.7	381.0	328.0	415.0	395.0
100	432.00	460.25	792.5	668.0	406.4	398.8	173.2	149.1	188.6	179.5
6	24.00	24.12	35.7	32.4	22.0	19.7	615.0	595.0	767.0	721.0
150	609.60	612.65	906.8	823.0	558.8	500.4	279.5	270.5	348.6	327.7
8	29.00	29.12	40.2	41.0	24.0	25.0	820.0	1045.0	1024.0	1235.0
200	736.60	739.65	1021.1	1041.4	609.6	635.0	372.7	475.0	465.5	561.4
10	33.00	33.12	53.2	50.9	30.0	30.0	1765.0	1755.0	1984.2	1984.0
250	838.20	841.25	1351.3	1292.9	762.0	762.0	802.3	797.7	901.9	901.8
12	38.00	38.12	58.2	58.2	35.0	35.0	2400.0	2337.0	2915.0	2855.0
300	965.20	968.25	1478.3	1478.3	889.0	889.0	1090.9	1062.3	1325.0	1297.7

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2
Class: 1500 - Sizes: 2" to 10"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 600
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Rings	ASTM A105/HF	ASTM A182-F6a/HF	ASTM A350-LF2/HF
Wedge	ASTM A216-WCB w/13% Chrome Faced	ASTM A217-WC6/HF	ASTM A352-LCC w/316 SS Faced
Stem	ASTM A182-F6a		ASTM A182-316
Yoke and Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Soft Steel Ring Joint		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel - Commercial		
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel - Commercial		
Grease Fitting	Carbon Steel - Commercial		
Stem Nut	ASTM A439-D2C		
Yoke Bushing	Carbon Steel - Commercial		
Handwheel	ASTM A536 (60-40-18)		
Handwheel Nut	Carbon Steel - Commercial		
Set Screw	Carbon Steel - Commercial		
Spacer Ring	ASTM A276-410		ASTM A276-316

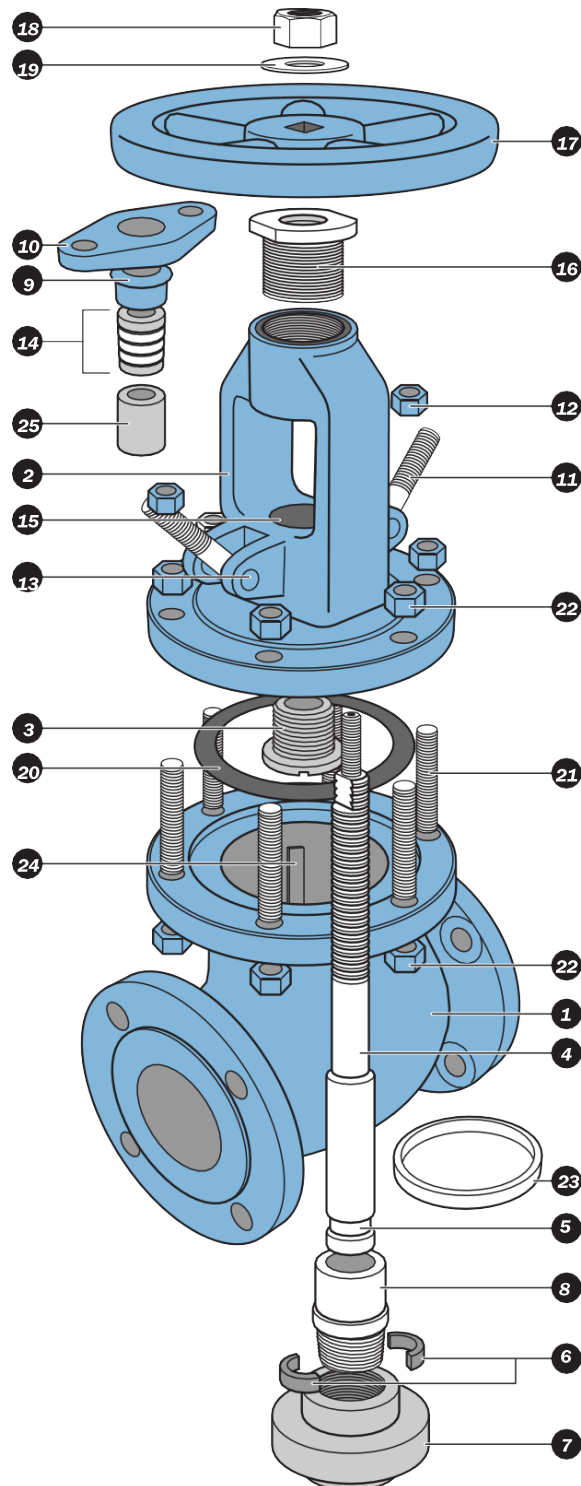
Note: Material is subject to change without notice.

ASME CLASS 1500										
SIZE	A		B		C		WEIGHT(BW)		WEIGHT(RF/RTJ)	
	RF/BW	RTJ	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	14.50	14.62	20.7	19.3	12.0	11.8	145.0	141.0	181.0	176.0
50	368.30	371.35	525.8	490.2	304.8	299.7	65.9	64.1	82.3	80.0
3	18.50	18.62	28.9	23.8	16.0	15.7	334.0	234.0	417.0	326.0
80	469.90	472.95	734.1	604.5	406.4	398.8	151.8	106.4	189.5	148.2
4	21.50	21.62	31.3	27.2	20.0	17.7	518.0	403.0	609.0	518.0
100	546.10	549.15	795.0	690.9	508.0	449.6	235.5	183.2	276.8	235.5
6	27.75	28.00	41.9	34.0	24.0	22.0	1165.0	849.0	1371.0	1096.0
150	704.85	711.20	1064.3	863.6	609.6	558.8	529.5	385.9	623.2	498.2
8	32.75	33.13	54.1	42.4	30.0	30.0	2000.0	1687.0	2392.0	2050.0
200	831.85	841.50	1374.1	1077.0	762.0	762.0	909.1	766.8	1087.3	931.8
10	39.00	39.38	52.9	52.6	35.0	35.0	2095.0	1841.0	2465.0	2465.0
250	990.60	1000.25	1343.7	1336.0	889.0	889.0	952.3	836.8	1120.5	1120.5

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request. Dimensions are subject to change without notice.

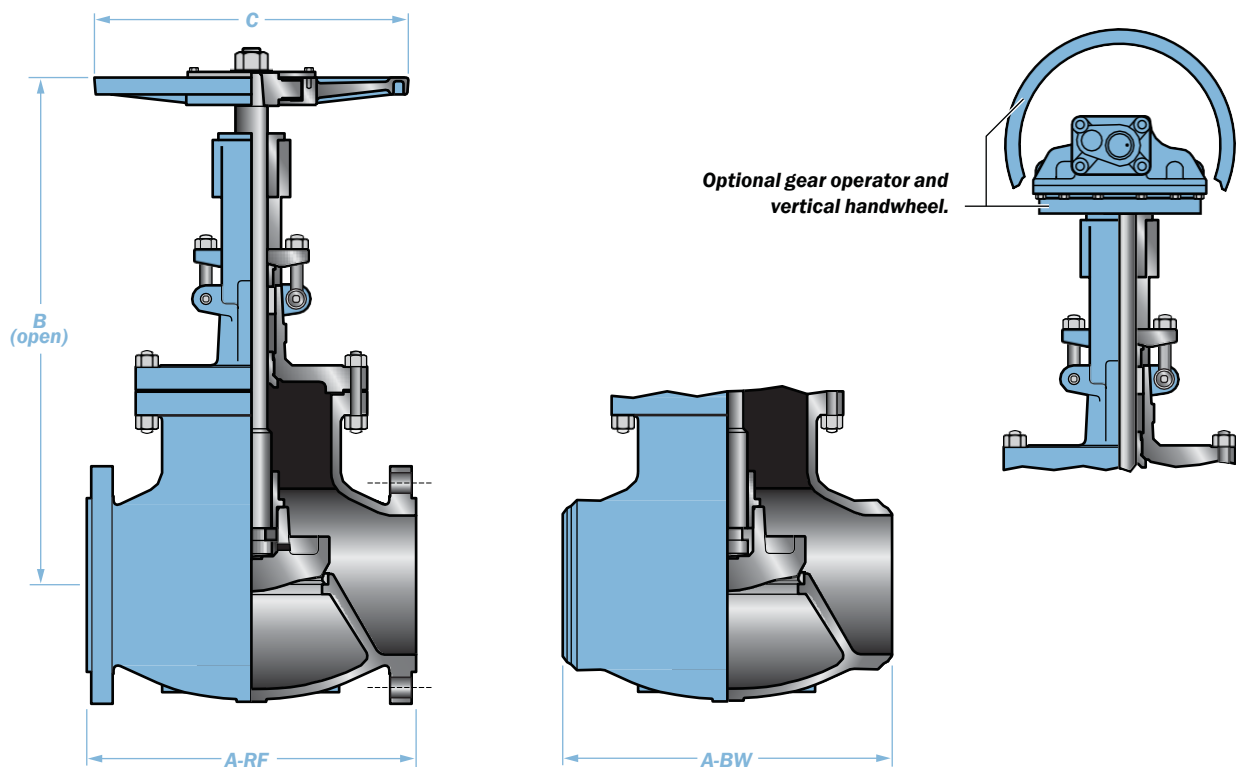
II. CAST STEEL BOLTED BONNET GLOBE VALVES SIZES: 2" TO 14" (50MM TO 350MM) • PRESSURE CLASS: 150 TO 1500

Typical Cast Steel Bolted Bonnet Globe Valve Expanded View



1. Body: Newmans NEWCO cast steel bodies provide low resistance flow and optimum strength and performance.
2. Bonnet: Newmans NEWCO bonnet assemblies are built to the same standards as the bodies.
3. Back Seat Bushing: The back seat, when engaged with the stem head, provides a stable shut-off to the stuffing box which isolates the packing from flow exposure.
4. Stem: The stem inserts vertically into the disc.
5. Lock Groove: The lock groove receives the split lock ring, which allows the disc nut to lift the disc during cycling.
6. Split Ring: The split ring allows the disc nut to lift the disc during cycling.
7. Disc: Newmans plug type disc is machined to the tightest tolerances to ensure trouble free shut-off and cycling.
8. Disc Nut: The disc nut, in conjunction with the split lock ring, secures the disc to the stem.
9. Gland: The gland compresses the packing to create a stem seal above the back seat between the bonnet and stem.
10. Gland Flange: The gland flange applies pressure to the gland for accurate packing compression.
11. & 12. Gland Bolts and Nuts: The gland bolts and nuts allow for easy adjustments for packing compression.
13. Gland Bolt Pin: The gland bolt pin secures the gland bolts to the yoke and bonnet.
14. Packing: The packing creates a seal above the back seat between the bonnet and stem.
15. Stuffing Box: The stuffing box contains the packing.
16. Stem Nut: The stem nut provides a precision guide for proper stem alignment.
17. Handwheel: The handwheel cycles the valve.
18. Handwheel Nut: The handwheel nut secures the handwheel to the bonnet assembly.
19. Handwheel Washer: The washer helps to prevent loosening or distributes pressure evenly.
20. Bonnet Gasket: The bonnet gasket creates a leakproof seal between the bonnet and body.
21. & 22. Bonnet Studs and Nuts: The bonnet studs and nuts secure the bonnet to the body.
23. Seat Ring: To ensure a stable shut-off, the seat ring is aligned and seal-welded into the valve, then precision ground for optimal seating.
24. Disc Guide: The disc guides provide a stable track for keeping the disc aligned with the seat during cycling.
25. Spacer Ring: The spacer ring assists the packing rings in creating a seal above the back seat between the bonnet and stem.

Styles: CB2, C63 and LCC4/2
Class: 150 - Sizes: 2" to 14"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



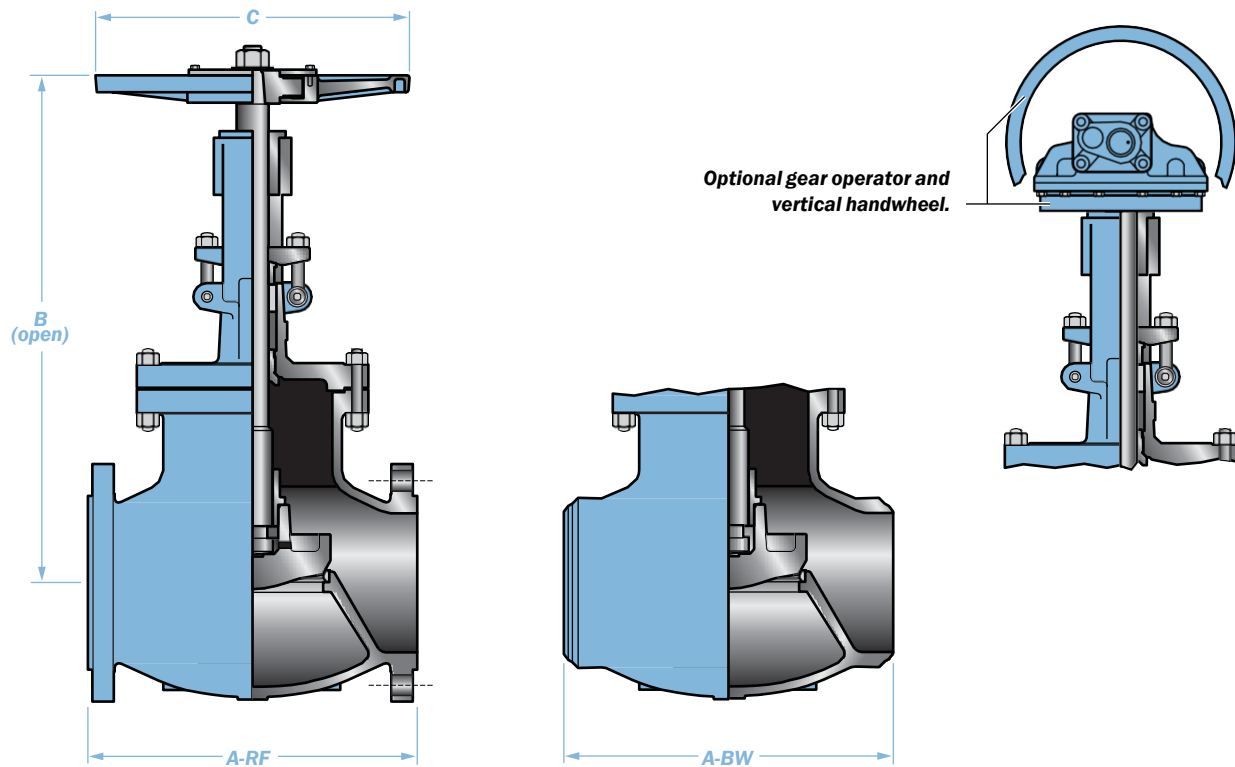
Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	ASTM A276-410		ASTM A276-316
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

Note: Material is subject to change without notice.

ASME CLASS 150									
SIZE	A	B		C		WEIGHT (BW)		WEIGHT (RF)	
	BW/RF	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	8.00	15.2	11.8	8.0	8.0	43.0	33.0	51.0	39.0
50	203.20	386.1	299.7	203.2	203.2	19.5	15.0	23.2	17.7
2 ½	8.50	16.0	13.0	10.0	10.0	60.0	46.0	71.0	53.0
65	215.90	406.4	330.2	254.0	254.0	27.3	20.9	32.3	24.1
3	9.50	17.0	15.6	10.0	10.0	82.0	73.0	97.0	79.0
80	241.30	431.8	396.2	254.0	254.0	37.3	33.2	44.1	35.9
4	11.50	20.4	17.9	12.0	12.0	126.0	95.0	148.0	112.0
100	292.10	518.2	454.7	304.8	304.8	57.3	43.2	67.3	50.9
5	14.00	23.1	20.2	14.0	14.0	145.0	179.0	170.0	203.0
125	355.60	586.7	513.1	355.6	355.6	65.9	81.4	77.3	92.3
6	16.00	24.1	21.5	16.0	14.0	240.0	201.0	260.0	223.0
150	406.40	612.1	546.1	406.4	355.6	109.1	91.4	118.2	101.4
8	19.50	28.3	26.0	18.0	18.0	350.0	300.0	375.0	326.0
200	495.30	718.8	660.4	457.2	457.2	159.1	136.4	170.5	148.2
10	24.50	32.5	29.4	22.0	18.0	529.0	492.0	661.4	542.0
250	622.30	825.5	746.8	558.8	457.2	240.5	223.6	300.6	246.4
12	27.50	37.4	33.2	24.0	20.0	867.0	783.0	968.0	858.0
300	698.50	950.0	843.3	609.6	508.0	394.1	355.9	440.0	390.0
14	31.00	39.3	-	25.2	-	1276.0	-	1345.0	-
350	787.40	998.2	-	640.1	-	580.0	-	611.4	-

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2
Class: 300 - Sizes: 2" to 14"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts**



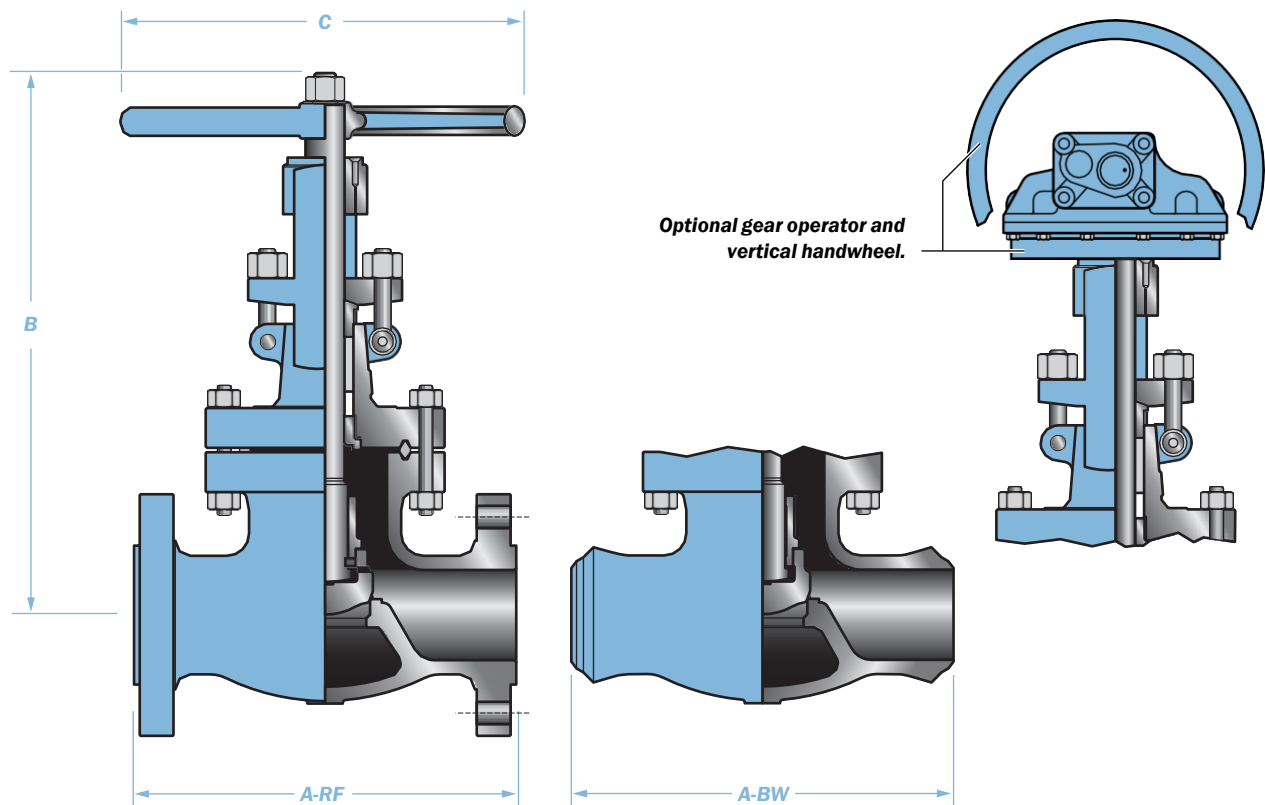
Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	ASTM A276-410		ASTM A276-316
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

Note: Material is subject to change without notice.

ASME 300									
SIZE	A	B		C		WEIGHT (BW)		WEIGHT (RF)	
	BW/RF	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	10.50	17.3	12.3	10.0	8.0	55.0	42.0	73.0	51.0
50	266.70	439.4	312.4	254.0	203.2	25.0	19.1	33.2	23.2
2 ½	11.50	17.9	15.4	10.0	10.0	79.0	68.0	97.0	79.0
65	292.10	454.7	391.2	254.0	254.0	35.9	30.9	44.1	35.9
3	12.50	20.4	16.0	12.0	12.0	101.0	93.0	139.0	110.0
80	317.50	518.2	406.4	304.8	304.8	45.9	42.3	63.2	50.0
4	14.00	24.0	18.5	14.0	14.0	163.0	139.0	198.0	161.0
100	355.60	609.6	469.9	355.6	355.6	74.1	63.2	90.0	73.2
5	15.75	28.9	22.7	14.0	18.0	242.0	203.0	260.0	229.0
125	400.05	734.1	576.6	355.6	457.2	110.0	92.3	118.2	104.1
6	17.50	32.5	24.2	18.0	18.0	386.0	304.0	430.0	359.0
150	444.50	825.5	614.7	457.2	457.2	175.5	138.2	195.5	163.2
8	22.00	38.0	29.4	24.0	20.0	609.0	507.0	716.5	617.0
200	558.80	965.2	746.8	609.6	508.0	276.8	230.5	325.7	280.5
10	24.50	42.6	37.9	24.0	22.0	845.0	719.0	994.3	873.0
250	622.30	1082.0	962.7	609.6	558.8	384.1	326.8	452.0	396.8
12	28.00	49.8	42.4	27.0	25.0	1260.0	1054.0	1461.6	1270.0
300	711.20	1264.9	1077.0	685.8	635.0	572.7	479.1	664.4	577.3
14	33.00	54.3	-	28.3	-	1996.0	-	2446.0	-
350	838.20	1379.2	-	718.8	-	907.3	-	1111.8	-

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2
Class: 600 - Sizes: 2" to 12"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts**



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Soft Steel Ring Joint		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	ASTM A276-410		ASTM A276-316
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

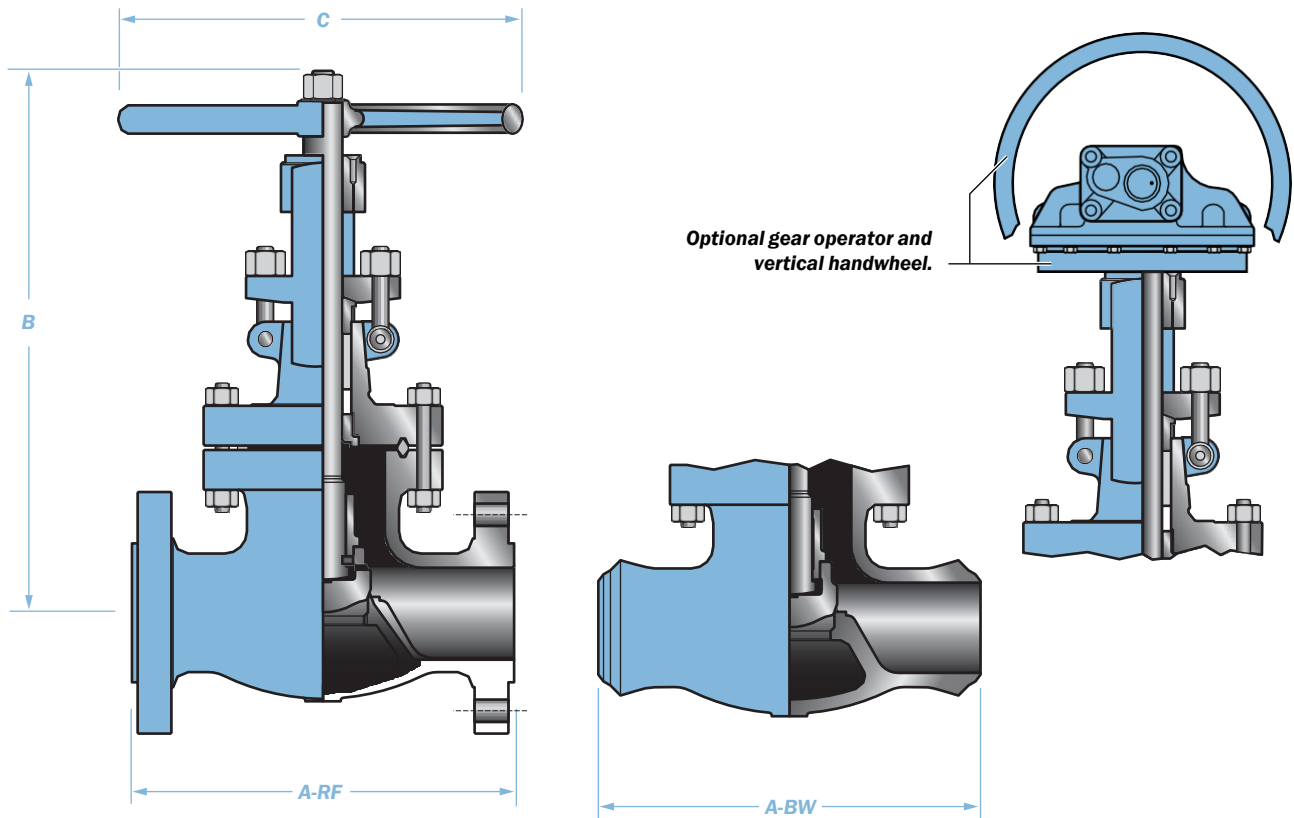
Note: Material is subject to change without notice.

ASME CLASS 600										
SIZE	A		B		C		WEIGHT (BW)		WEIGHT (RF/RTJ)	
	BW/RF	RTJ	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	11.50	11.62	19.5	14.3	10.0	10.0	77.0	55.0	91.0	68.0
50	292.10	295.15	495.3	363.2	254.0	254.0	35.0	25.0	41.4	30.9
2 ½	13.00	13.12	21.3	17.0	12.0	12.0	137.0	88.0	161.0	101.0
65	330.20	333.25	541.0	431.8	304.8	304.8	62.3	40.0	73.2	45.9
3	14.00	14.12	25.3	17.8	14.0	14.0	140.0	101.0	165.0	130.0
80	355.60	358.65	642.6	452.1	355.6	355.6	63.6	45.9	75.0	59.1
4	17.00	17.12	29.7	20.9	18.0	18.0	266.0	179.0	313.0	249.0
100	431.80	434.85	754.4	530.9	457.2	457.2	120.9	81.4	142.3	113.2
6	22.00	22.12	40.0	28.8	24.0	20.0	652.0	445.0	833.0	538.0
150	558.80	561.85	1016.0	731.5	609.6	508.0	296.4	202.3	378.6	244.5
8	26.00	26.12	47.5	37.5	24.0	25.0	1094.0	939.0	1279.0	1102.0
200	660.40	663.45	1206.5	952.5	609.6	635.0	497.3	426.8	581.4	500.9
10	31.00	31.12	44.9	44.8	28.3	28.0	1312.0	1323.0	1626.0	1616.0
250	787.40	790.45	1140.5	1137.9	718.8	711.2	596.4	601.4	739.1	734.5
12	33.00	33.12	59.7(1)	49.0(1)	32.0	32.0	1980.0	2165.0	2870.0	2476.0
300	838.20	841.25	1516.4	1244.6	812.8	812.8	900.0	984.1	1304.5	1125.5

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request. Dimensions are subject to change without notice.

(1) Recommended Gear operators for 12" and larger. Height is to top of the Gear.

Styles: CB2, C63 and LCC4/2
Class: 900 - Sizes: 2" to 12"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Soft Steel Ring Joint		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	ASTM A276-410		ASTM A276-316
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

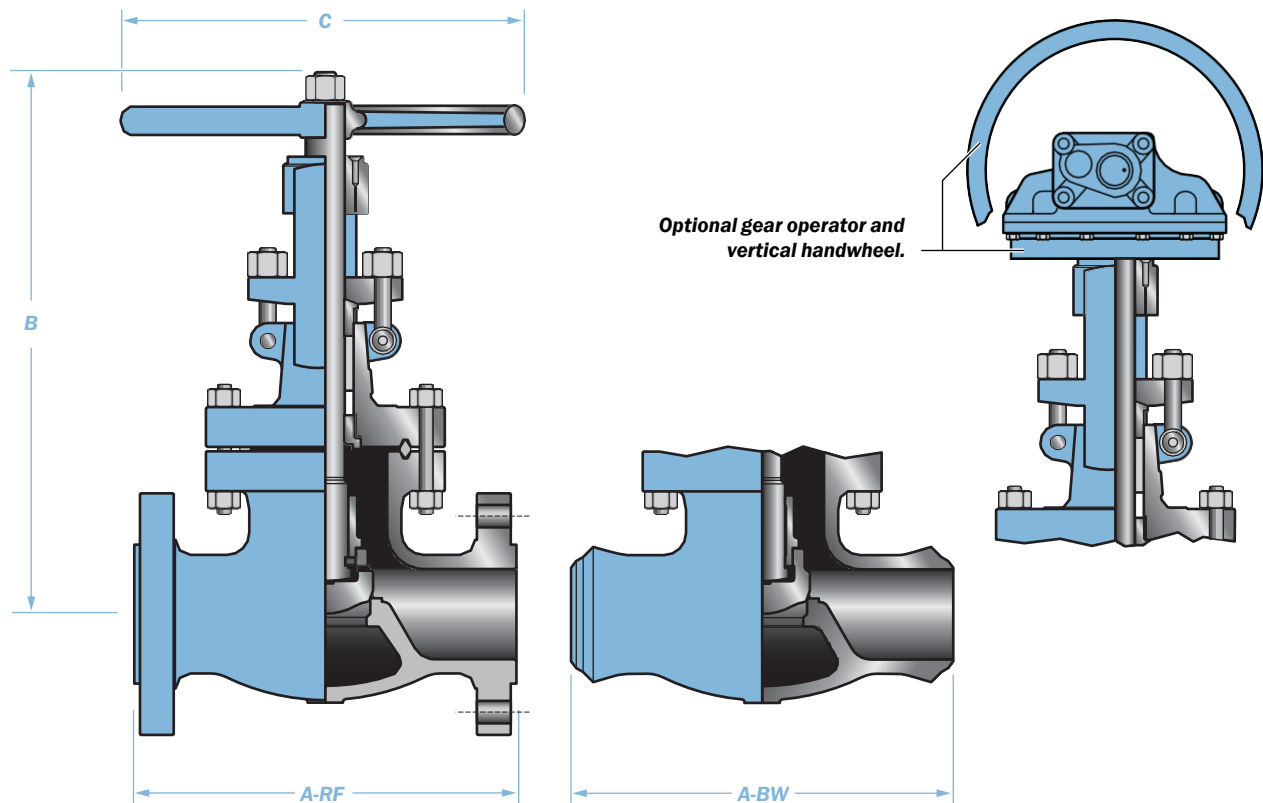
Note: Material is subject to change without notice.

ASME CLASS 900										
SIZE	A		B		C		WEIGHT (BW)		WEIGHT (RF/RTJ)	
	BW/RF	RTJ	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	14.50	14.62	28.0	21.5	15.8	13.8	223.0	174.0	262.4	209.0
50	368.30	371.35	711.2	546.1	401.3	350.5	101.4	79.1	119.3	95.0
3	15.00	15.12	30.5	22.0	15.8	17.7	263.0	194.0	309.0	243.0
80	381.00	384.05	774.7	558.8	401.3	449.6	119.5	88.2	140.5	110.5
4	18.00	18.12	35.0	26.5	19.7	19.7	400.0	357.0	487.0	434.0
100	457.20	460.25	889.0	673.1	500.4	500.4	181.8	162.3	221.4	197.3
6	24.00	24.12	45.3	32.2	25.2	22.0	980.0	833.0	1146.0	961.0
150	609.60	612.65	1150.6	817.9	640.1	558.8	445.5	378.6	520.9	436.8
8	29.00	29.12	51.5	37.7	25.2	28.3	1634.0	1393.0	2090.0	1583.0
200	736.60	739.65	1308.1	957.6	640.1	718.8	742.7	633.2	950.0	719.5
10	33.00	33.12	57(1)	49.4(1)	31.9	32.0	2414	2306.0	2714.0	2659.0
250	838.20	841.25	1447.8	1254.8	810.3	812.8	1097.3	1048.2	1233.6	1208.6
12	38.00	38.12	62.1(1)	62.1(1)	39.4	39.4	3000	3693.0	3457.0	4211.0
300	965.20	968.25	1577.3	1577.3	1000.8	1000.8	1363.6	1678.6	1571.4	1914.1

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

(1) Recommended Gear operators for 10" and larger. Height is to top of the Gear.

Styles: CB2, C63 and LCC4/2
Class: 1500 - Sizes: 2" to 10"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Soft Steel Ring Joint		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	ASTM A276-410		ASTM A276-316
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

Note: Material is subject to change without notice.

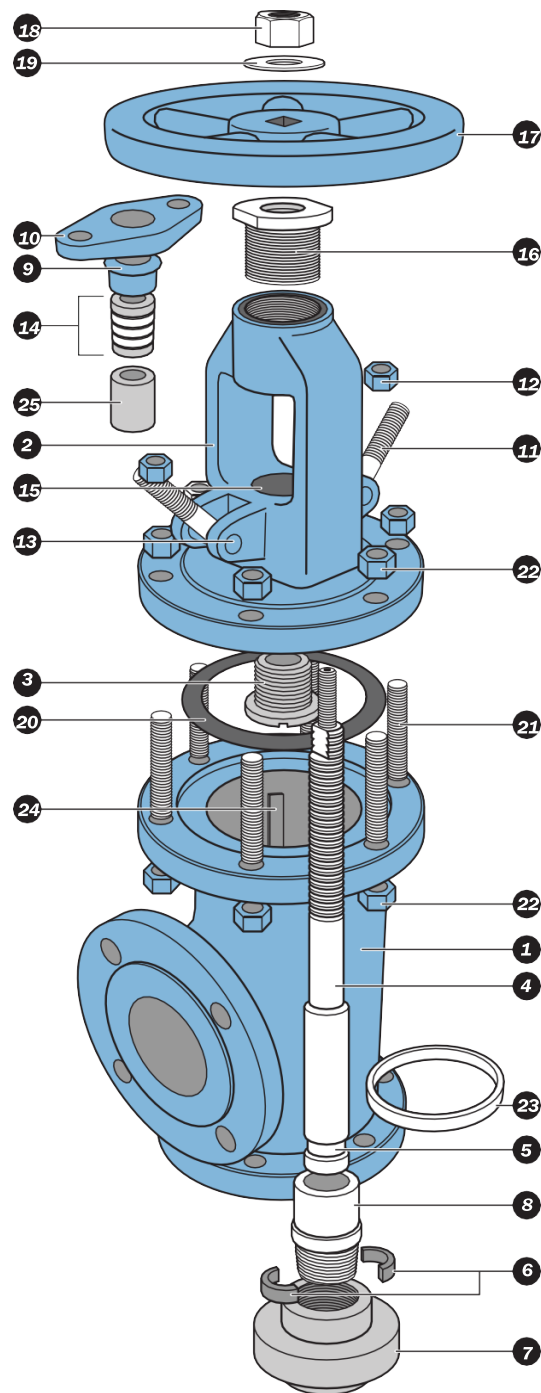
ASME CLASS 1500										
SIZE	A		B		C		WEIGHT (BW)		WEIGHT (RF/RTJ)	
	BW/RF	RTJ	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	14.50	14.62	28.0	21.5	15.7	13.8	223.0	174.0	262.4	209.0
50	368.30	371.35	711.2	546.1	398.8	350.5	101.4	79.1	119.3	95.0
3	18.50	18.62	32.1	25.2	19.7	17.7	460.0	348.0	551.1	441.0
80	469.90	472.95	815.3	640.1	500.4	449.6	209.1	158.2	250.5	200.5
4	21.50	21.62	40.0	28.0	19.7	19.7	830.0	547.0	959.0	661.0
100	546.10	549.15	1016.0	711.2	500.4	500.4	377.3	248.6	435.9	300.5
6	27.75	28.00	47.2	38.0	28.7	28.3	996.0	939.0	1552.0	1186.0
150	704.85	711.20	1198.9	965.2	729.0	718.8	452.7	426.8	705.5	539.1
8	32.75	33.12	-	49.4	-	31.9	-	1753.0	-	2116.0
200	831.85	841.25	-	1254.8	-	810.3	-	796.8	-	961.8
10	39.00	39.38	-	61.8(1)	-	39.4	-	2652.0	-	3276.0
250	990.60	1000.25	-	1569.7	-	1000.8	-	1205.5	-	1489.1

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

(1) Recommended Gear operators for 10" and larger. Height is to top of the Gear.

III. CAST STEEL BOLTED BONNET ANGLE VALVES SIZES: 2" TO 12" (50MM TO 300MM) • PRESSURE CLASS: 150 TO 300

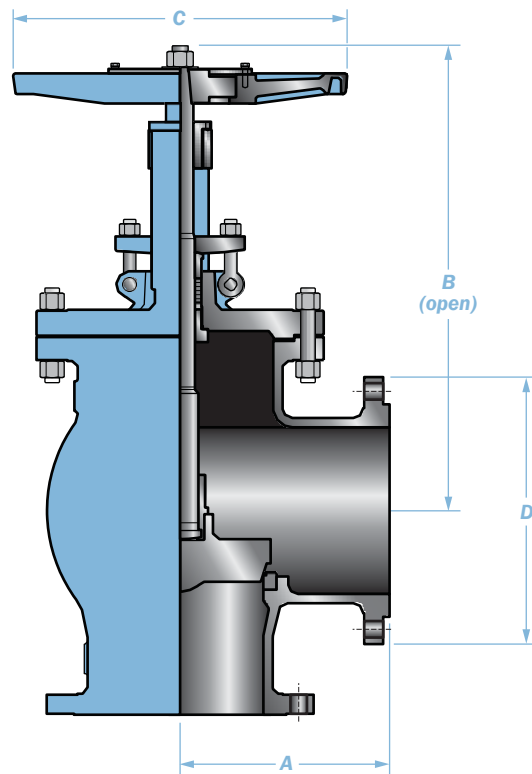
Typical Cast Steel Bolted Bonnet Angle Valve Expanded View



1. Body: Newmans NEWCO cast steel bodies provide low resistance flow and optimum strength and performance.
2. Bonnet: Newmans NEWCO bonnet assemblies are built to the same standards as the bodies.
3. Back Seat Bushing: The back seat, when engaged with the stem head, provides a stable shut-off to the stuffing box which isolates the packing from flow exposure.
4. Stem: The stem inserts vertically into the disc.
5. Lock Groove: The lock groove receives the split lock ring which allows the disc nut to lift the disc during cycling.
6. Split Ring: The split ring allows the disc nut to lift the disc during cycling.
7. Disc: The disc is machined to the tightest tolerances to ensure trouble free shut-off and cycling.
8. Disc Nut: The disc nut, in conjunction with the split lock ring, secures the disc to the stem.
9. Gland: The gland compresses the packing to create a stem seal above the back seat between the bonnet and stem.
10. Gland Flange: The gland flange applies pressure to the gland for accurate packing compression.
11. & 12. Gland Bolts and Nuts: The gland bolts and nuts allow for easy adjustments for packing compression.
13. Gland Bolt Pin: The gland bolt pin secures the gland bolts to the yoke and bonnet.
14. Packing: The packing creates a seal above the back seat between the bonnet and stem.
15. Stuffing Box: The stuffing box contains the packing.
16. Stem Nut: The stem nut provides a precision guide for proper stem alignment.
17. Handwheel: The handwheel cycles the valve.
18. Handwheel Nut: The handwheel nut secures the handwheel to the bonnet assembly.
19. Handwheel Washer: The washer helps to prevent loosening or distributes pressure evenly.
20. Bonnet Gasket: The bonnet gasket creates a leakproof seal between the bonnet and body.
21. & 22. Bonnet Studs and Nuts: The bonnet studs and nuts secure the bonnet to the body.
23. Seat Ring: To ensure a stable shut-off, the seat rings are aligned and seal-welded into the valve, then precision ground for optimal seating.
24. Disc Guide: The disc guides provide a stable track for keeping the disc aligned with the seat during cycling.
25. Spacer Ring: The spacer ring assists the packing rings in creating a seal above the back seat between the bonnet and stem.

Styles: CB2, C63 and LCC4/2
Class: 150 - Sizes: 2" to 12"
Pressure Class Range: 150 to 300

Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



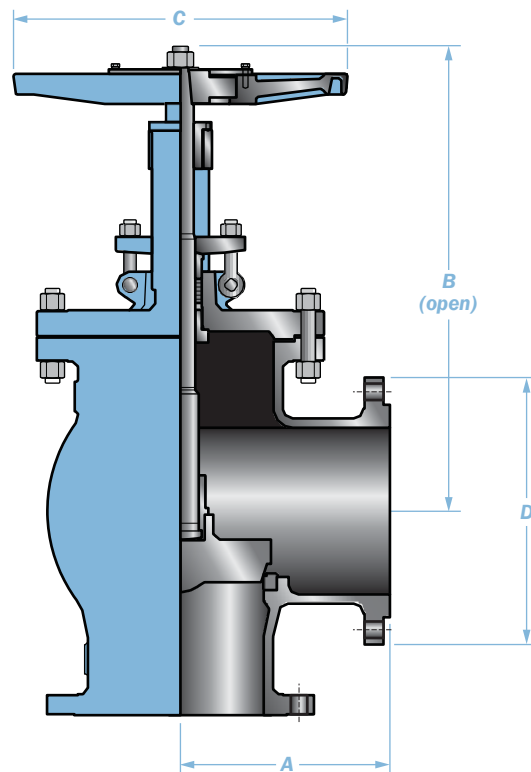
Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	N/A		N/A
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

Note: Material is subject to change without notice.

ASME CLASS 150								
SIZE	A	B		C		D	WEIGHT (RF)	
	RF	77	77A	77	77A		77	77A
NPS	in	in	in	in	in	in	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg
2	4.00	15.2	15.6	8.0	8.0	6.0	57.0	49.0
50	101.60	386.1	396.2	203.2	203.2	152.4	25.9	22.3
2 ½	4.25	16.0	15.9	10.0	10.0	7.0	66.0	66.0
65	107.95	406.4	403.9	254.0	254.0	177.8	30.0	30.0
3	4.75	17.0	17.2	10.0	10.0	7.5	84.0	93.0
80	120.65	431.8	436.9	254.0	254.0	190.5	38.2	42.3
4	5.75	20.5	20.6	12.0	12.0	9.0	141.0	132.0
100	146.05	520.7	523.2	304.8	304.8	228.6	64.1	60.0
5	7.00	21.5	-	14.0	-	10.0	163.0	-
125	177.80	546.1	-	355.6	-	254.0	74.1	-
6	8.00	21.8	23.3	15.0	16.0	11.0	234.0	223.0
150	203.20	553.7	591.8	381.0	406.4	279.4	106.4	101.4
8	9.75	27.4	28.2	18.0	18.0	13.5	399.0	355.0
200	247.65	696.0	716.3	457.2	457.2	342.9	181.4	161.4
10	12.25	31.0	32.2	22.0	22.0	16.0	611.0	679.0
250	311.15	787.4	817.9	558.8	558.8	406.4	277.7	308.6
12	13.75	37.8	36.2	24.0	24.0	19.0	794.0	968.0
300	349.25	960.1	919.5	609.6	609.6	482.6	360.9	440.0

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2
Class: 300 - Sizes: 2" to 12"
Pressure Class Range: 150 to 300
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	N/A		N/A
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

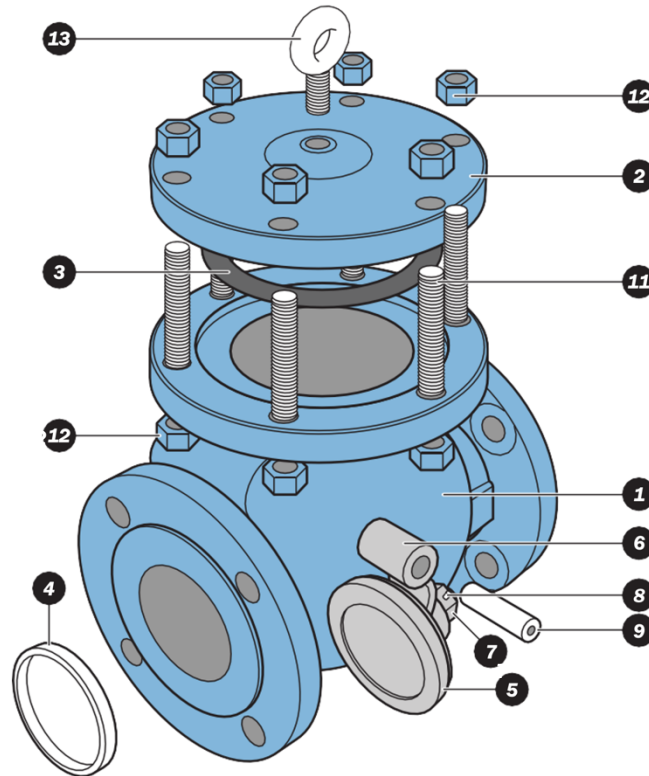
Note: Material is subject to change without notice.

ASME CLASS 300								
SIZE	A	B		C		D	WEIGHT (RF)	
	RF	77	77A	77	77A		77	77A
NPS	in	in	in	in	in	in	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg
2	5.25	15.0	15.7	10.0	8.0	6.50	68.3	68.0
50	133.35	381.0	398.8	254.0	203.2	165.1	31.0	30.9
2 ½	5.75	16.9	17.3	10.0	10.0	7.50	97.0	88.0
65	146.05	429.3	439.4	254.0	254.0	190.5	44.1	40.0
3	6.25	16.9	18.6	12.0	10.0	8.25	108.0	128.0
80	158.75	429.3	472.4	304.8	254.0	209.6	49.1	58.2
4	7.00	21.7	22.9	14.0	14.0	10.00	198.0	190.0
100	177.80	551.2	581.7	355.6	355.6	254.0	90.0	86.4
6	8.75	28.0	27.7	17.0	18.0	12.50	392.0	331.0
150	222.25	711.2	703.6	431.8	457.2	317.5	178.2	150.5
8	11.00	30.7	31.9	24.0	24.0	15.00	760.0	875.0
200	279.40	779.8	810.3	609.6	609.6	381.0	345.5	397.7
10	12.25	37.5	38.4	24.0	24.0	17.50	934.0	1162.0
250	311.15	952.5	975.4	609.6	609.6	444.5	424.5	528.2
12	14.00	41.6	42.0	27.0	27.0	20.50	1288.0	1340.0
300	355.60	1056.6	1066.8	685.8	685.8	520.7	585.5	609.1

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

IV. CAST STEEL BOLTED COVER SWING CHECK VALVES SIZES: 2" TO 24" (50MM TO 600MM) • PRESSURE CLASS: 150 TO 1500

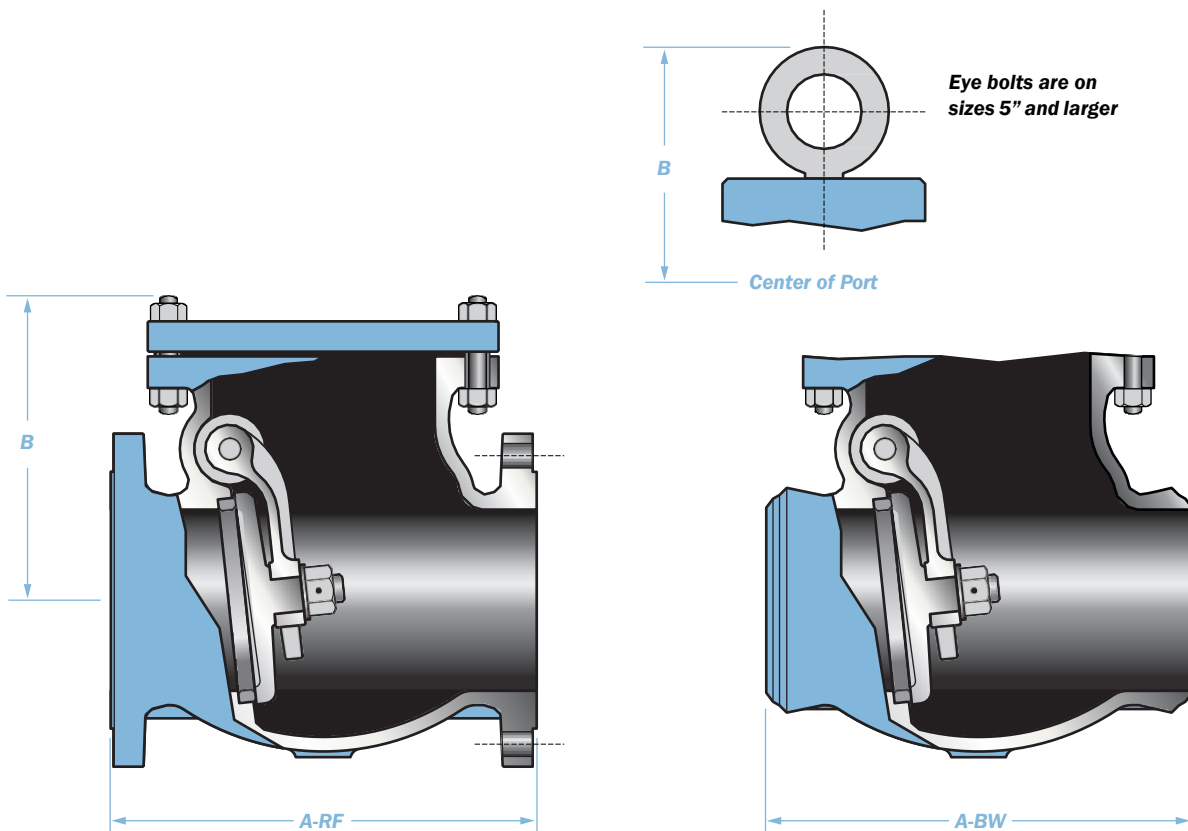
Typical Cast Steel Bolted Cover Swing Check Valve Expanded View



Note: Classes 150, 300, and 600, 2" to 12" use internal hinge pin.

1. Body: Newmans NEWCO cast steel bodies provide low resistance flow and optimum strength and performance.
2. Cover: The cover allows access to internal components.
3. Cover Gasket: The cover gasket creates a leakproof seal between the bonnet and body.
4. Seat Ring: To ensure a stable shut-off, the seat ring is aligned and seal-welded into the valve, then precision ground for optimal seating.
5. Disc: The disc allows unidirectional flow and restricts back flow with trouble free shutoff.
6. Swing Arm: The swing arm allows the disc to open and close.
7. & 8. Disc Nut and Pin: The disc nut and pin secure the disc to the swing arm.
9. Hinge Pin: The hinge pin provides a stable mechanism for the swing arm to operate.
- 11 & 12 Cover Studs and Nuts: The cover studs and nuts secure the bonnet to the body.
13. Eyebolt: The eyebolt is used to aid in lifting the valve.

Styles: CB2, C63 and LCC4/2
Class: 150 - Sizes: 2" to 24"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 594
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



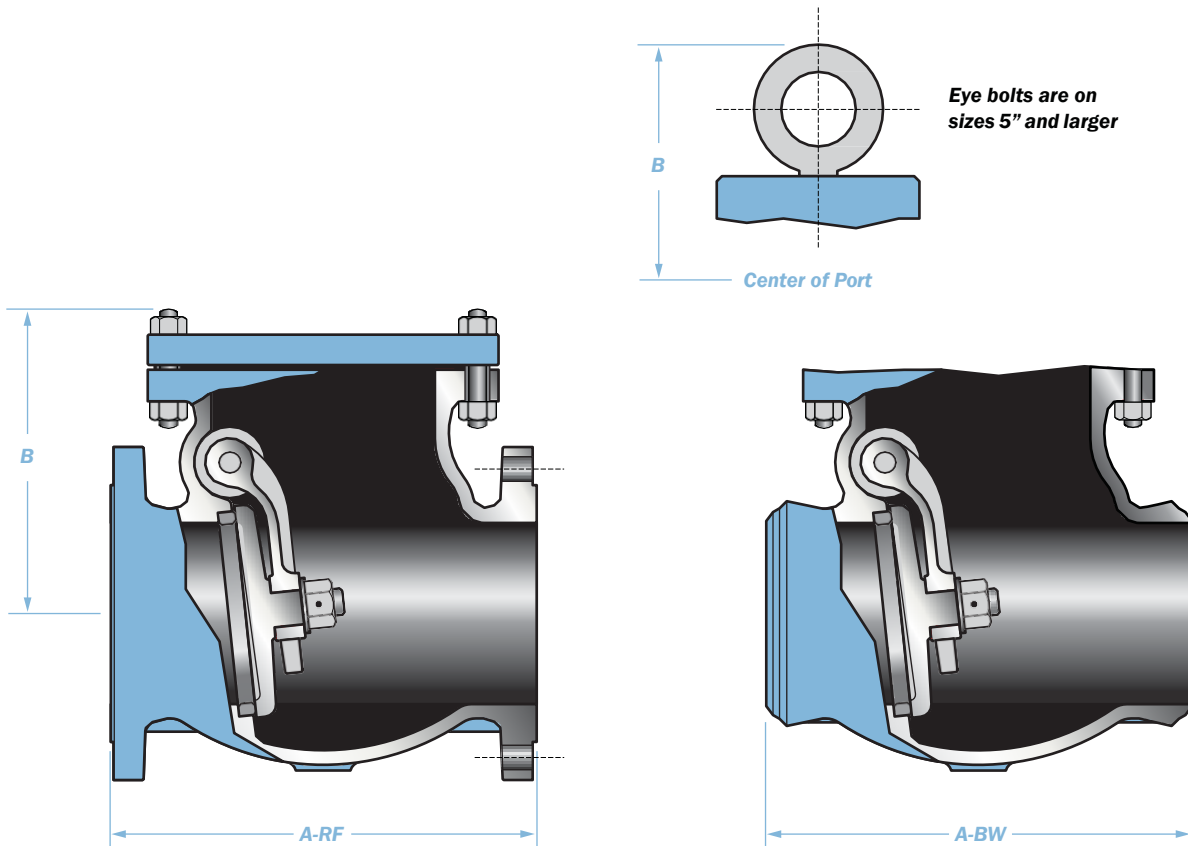
Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Cover	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc	ASTM A216-WCB/13% Chrome Faced	ASTM A217-WC6/HF	ASTM A352-LCC/316 SS Faced
Disc Nut	ASTM A194-8		ASTM A194-8M
Swing Arm	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Ring	ASTM A105/HF	ASTM A182-F11/HF	ASTM A350-LF2/HF
*Cover Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Hinge Pin	ASTM A276-410		ASTM A276-316
Name Plate	304 Stainless Steel		
Plug Washer (external design)	Stainless Steel		
Cover Bolt	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Cover Nut	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Plug (external design)	ASTM A276-410		ASTM A276-316
Disc Nut Pin	ASTM A276-316		
Eye Bolt 6" through 24"	Carbon Steel-Commercial		

Note: Material is subject to change without notice.

ASME CLASS 150							
SIZE	A	B		WEIGHT(BW)		WEIGHT(RF)	
	BW/RF	77	77A	77	77A	77	77A
NPS	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	kg	kg	kg	kg
2	8.00	6.1	5.8	33.6	36.0	42.0	42.0
50	203.20	154.9	147.3	15.3	16.4	19.1	19.1
2 ½	8.50	6.9	6.7	45.0	50.0	53.0	57.0
65	215.90	175.3	170.2	20.5	22.7	24.1	25.9
3	9.50	7.1	6.8	59.3	58.0	64.0	64.0
80	241.30	180.3	172.7	27.0	26.4	29.1	29.1
4	11.50	7.9	8.2	83.3	99.0	104.0	108.0
100	292.10	200.7	208.3	37.9	45.0	47.3	49.1
5	13.00	10.7	10.7	125.0	114.0	137.0	135.0
125	330.20	271.8	271.8	56.8	51.8	62.3	61.4
6	14.00	11.2	11.4	153.7	148.0	181.0	170.0
150	355.60	284.5	289.6	69.9	67.3	82.3	77.3
8	19.50	12.7	12.5	259.2	285.0	296.0	311.0
200	495.30	322.6	317.5	117.8	129.5	134.5	141.4
10	24.50	15.5	16.5	431.5	536.0	518.0	586.0
250	622.30	393.7	419.1	196.1	243.6	235.5	266.4
12	27.50	16.2	18.7	525.0	688.0	725.0	763.0
300	698.50	411.5	475.0	238.6	312.7	329.5	346.8
14	31.00	17.9	19.3	675.0	851.0	997.0	990.0
350	787.40	454.7	490.2	306.8	386.8	453.2	450.0
16	34.00	19.6	20.5	1041.0	1049.0	1239.0	1226.0
400	863.60	497.8	520.7	473.2	476.8	563.2	557.3
18	38.50	21.8	22.0	1200.0	1534.0	1600.0	1728.0
450	977.90	553.7	558.8	545.5	697.3	727.3	785.5
20	38.50	24.7	23.0	1773.0	1828.0	2061.0	2086.0
500	977.90	627.4	584.2	805.9	830.9	936.8	948.2
24	51.00	29.2	27.2	2266.0	2681.0	2866.0	2976.0
600	1295.40	741.7	690.9	1030.0	1218.6	1302.7	1352.7

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request. Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2
Class: 300 - Sizes: 2" to 24"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 594
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



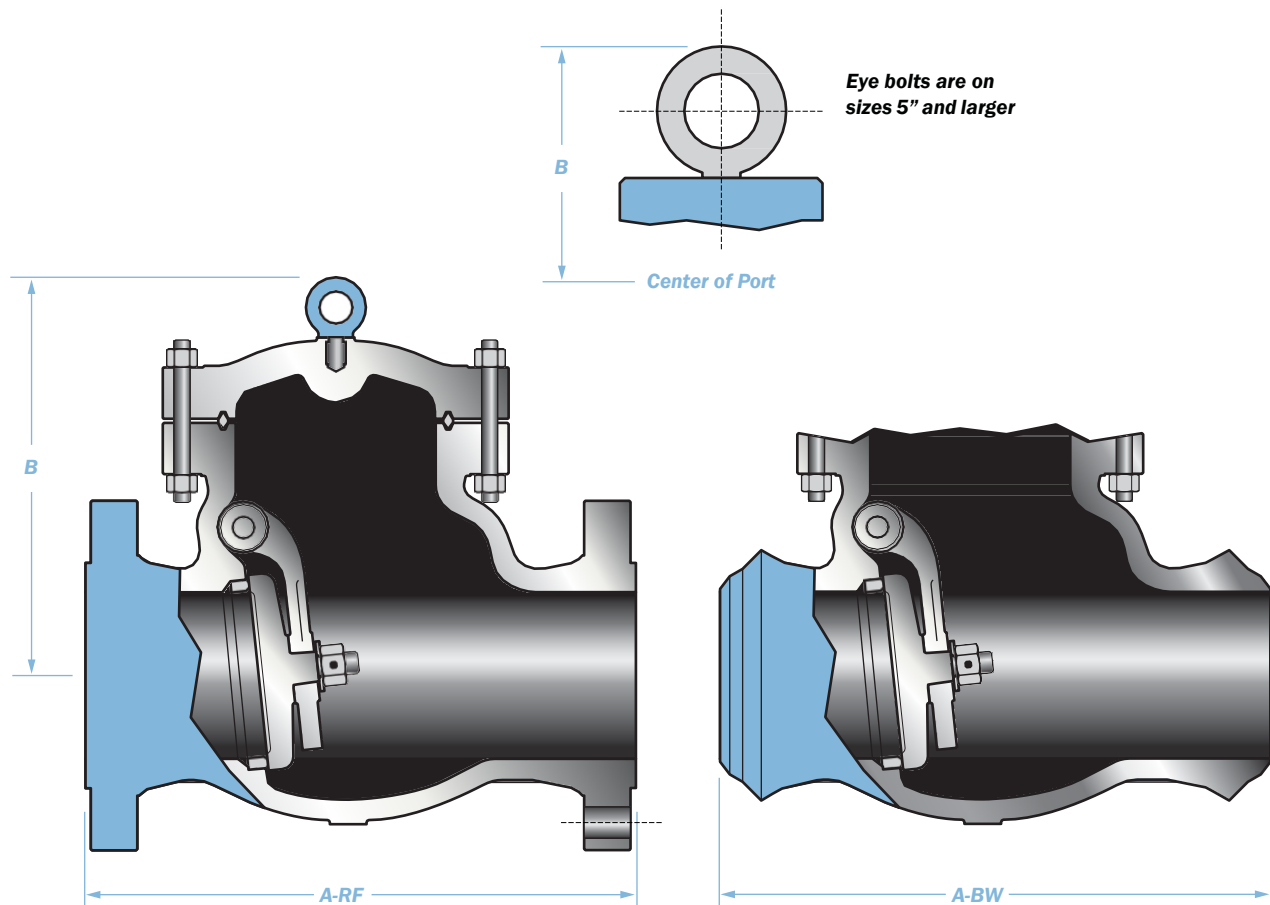
Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Cover	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc	ASTM A216-WCB/13% Chrome Faced	ASTM A217-WC6/HF	ASTM A352-LCC/316 SS Faced
Disc Nut	ASTM A194-8		ASTM A194-8M
Swing Arm	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Ring	ASTM A105/HF	ASTM A182-F11/HF	ASTM A350-LF2/HF
*Cover Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Hinge Pin	ASTM A276-410		ASTM A276-316
Name Plate	304 Stainless Steel		
Plug Washer (external design)	Stainless Steel		
Cover Bolt	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Cover Nut	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Plug (external design)	ASTM A276-410		ASTM A276-316
Disc Nut Pin	ASTM A276-316		
Eye Bolt 6" through 24"	Carbon Steel-Commercial		

Note: Material is subject to change without notice.

ASME CLASS 300							
SIZE	A	B		WEIGHT(BW)		WEIGHT(RF)	
	BW/RF	77	77A	77	77A	77	77A
NPS	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	kg	kg	kg	kg
2	10.50	6.9	7.0	44.0	44.0	57.3	53.0
50	266.70	175.3	177.8	20.0	20.0	26.0	24.1
2 ½	11.50	7.7	7.5	55.0	50.0	71.0	70.5
65	292.10	195.6	190.5	25.0	22.7	32.3	32.0
3	12.50	8.3	8.1	78.0	78.0	95.0	95.0
80	317.50	210.8	205.7	35.5	35.5	43.2	43.2
4	14.00	9.1	9.7	103.0	132.0	135.0	154.3
100	355.60	231.1	246.4	46.8	60.0	61.4	70.1
5	15.75	11.8	12.0	185.0	159	201.0	185
125	400.05	299.7	304.8	84.1	72.3	91.4	84.1
6	17.50	12.4	12.5	214.0	221.0	276.0	276.0
150	444.50	315.0	317.5	97.3	100.5	125.5	125.5
8	21.00	14.2	14.0	341.0	355.0	474.0	465.2
200	533.40	360.7	355.6	155.0	161.4	215.5	211.5
10	24.50	17.0	16.6	562.0	546.0	847.0	701.0
250	622.30	431.8	421.6	255.5	248.2	385.0	318.6
12	28.00	19.5	20.0	815.0	764.0	990.0	990.0
300	711.20	495.3	508.0	370.5	347.3	450.0	450.0
14	33.00	21.3	20.2	1087.0	1146.0	1371.0	1554.2
350	838.20	541.0	513.1	494.1	520.9	623.2	706.5
16	34.00	23.3	22.5	1397.0	1466.0	1819.0	1944.0
400	863.60	591.8	571.5	635.0	666.4	826.8	883.6
18	38.50	26.3	24.6	1873.0	1874.0	2436.0	2260.0
450	977.90	668.0	624.8	851.4	851.8	1107.3	1027.3
20	40.00	26.4	26.0	2300.0	2213.0	2910.0	2910.0
500	1016.00	670.6	660.4	1045.5	1005.9	1322.7	1322.7
24	53.00	28.7	29.0	3840.0	3840.0	4321.0	4321.0
600	1346.20	729.0	736.6	1745.5	1745.5	1964.1	1964.1

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request. Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2
Class: 600 - Sizes: 2" to 24"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 594
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Cover	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc	ASTM A216-WCB/13% Chrome Faced	ASTM A217-WC6/HF	ASTM A352-LCC/316 SS Faced
Disc Nut	ASTM A194-8		ASTM A194-8M
Swing Arm	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Ring	ASTM A105/HF	ASTM A182-F11/HF	ASTM A350-LF2/HF
*Cover Gasket	Soft Steel Ring Joint		
Hinge Pin	ASTM A276-410		ASTM A276-316
Name Plate	304 Stainless Steel		
Plug Washer (external design)	Stainless Steel		
Cover Bolt	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Cover Nut	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Plug (external design)	ASTM A276-410		ASTM A276-316
Disc Nut Pin	ASTM A276-316		
Eye Bolt 6" through 24"	Carbon Steel-Commercial		

Note: Material is subject to change without notice.

ASME CLASS 600								
SIZE	A		B		WEIGHT(BW)		WEIGHT(RF/RTJ)	
	BW/RF	RTJ	77	77A	77	77A	77	77A
NPS	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	kg	kg	kg	kg
2	11.50	11.62	7.3	8.3	53.0	53.0	68.3	66.1
50	292.10	295.15	185.42	210.82	24.1	24.1	31.0	30.0
2 ½	13.00	13.12	7.5	9.0	118.0	82.0	138.0	95.0
65	330.20	333.25	190.50	228.60	53.6	37.3	62.7	43.2
3	14.00	14.12	9.0	10.0	154.0	90.0	174.2	119.0
80	355.60	358.65	228.60	254.00	70.0	40.9	79.2	54.1
4	17.00	17.12	12.0	11.3	186.0	154.0	218.2	214.0
100	431.80	434.85	304.80	287.02	84.5	70.0	99.2	97.3
6	22.00	22.12	15.1	14.4	425.0	353.0	500.4	445.0
150	558.80	561.85	383.54	365.76	193.2	160.5	227.5	202.3
8	26.00	26.12	17.5	17.0	605.0	536.0	761.0	763.0
200	660.40	663.45	444.50	431.80	275.0	243.6	345.9	346.8
10	31.00	31.12	20.7	20.2	1129.0	1071.0	1411.0	1384.5
250	787.40	790.45	525.78	513.08	513.2	486.8	641.4	629.3
12	33.00	33.12	23.0	22.8	1446.0	1446.0	1755.0	1755.0
300	838.20	841.25	584.20	579.12	657.3	657.3	797.7	797.7
14	35.00	35.12	23.1	23.5	1650.0	1675.0	1966.0	1966.0
350	889.00	892.05	586.74	596.90	750.0	761.4	893.6	893.6
16	39.00	39.12	26.1	25.9	2245.0	2227.0	2445.5	2646.0
400	990.60	993.65	662.94	657.86	1020.5	1012.3	1111.6	1202.7
18	43.00	43.12	28.1	28.7	3000.0	2965.0	3520.0	3527.0
450	1092.20	1095.25	713.74	728.98	1363.6	1347.7	1600.0	1603.2
20	47.00	47.25	29.7	31.5	5000.0	4162.0	5324.0	4674.0
500	1193.80	1200.15	754.38	800.10	2272.7	1891.8	2420.0	2124.5
24	55.00	55.38	31.6	35.4	6330.0	6261.0	6930.0	6922.0
600	1397.00	1406.65	802.64	899.16	2877.3	2845.9	3150.0	3146.4

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2

Class: 900 - Sizes: 2" to 12"

Pressure Class Range: 150 to 1500

Design and Manufacturing Standards

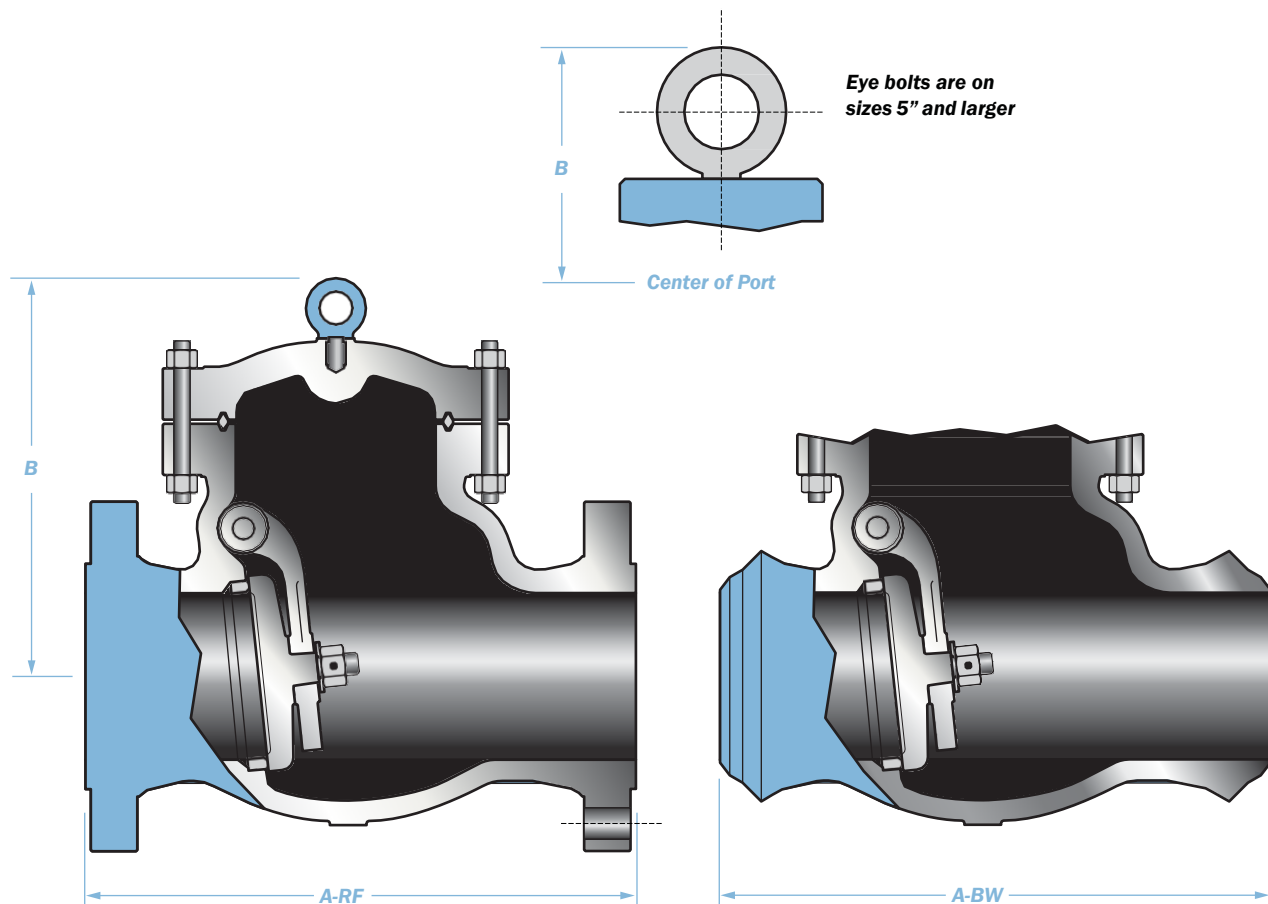
Valve Design: ASME B16.34/API 594

Flange Dimensions : ASME B16.5, B16.47 (Series A)

Face to Face Dimensions: ASME B16.10

Tested in Accordance With: API 598

Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Cover	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc	ASTM A216-WCB/13% Chrome Faced	ASTM A217-WC6/HF	ASTM A352-LCC/316 SS Faced
Disc Nut	ASTM A194-8		ASTM A194-8M
Swing Arm	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Ring	ASTM A105/HF	ASTM A182-F11/HF	ASTM A350-LF2/HF
*Cover Gasket	Soft Steel Ring Joint		
Hinge Pin	ASTM A276-410		ASTM A276-316
Name Plate	304 Stainless Steel		
Plug Washer (external design)	Stainless Steel		
Cover Bolt	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Cover Nut	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Plug (external design)	ASTM A276-410		ASTM A276-316
Disc Nut Pin	ASTM A276-316		
Eye Bolt 6" through 24"	Carbon Steel-Commercial		

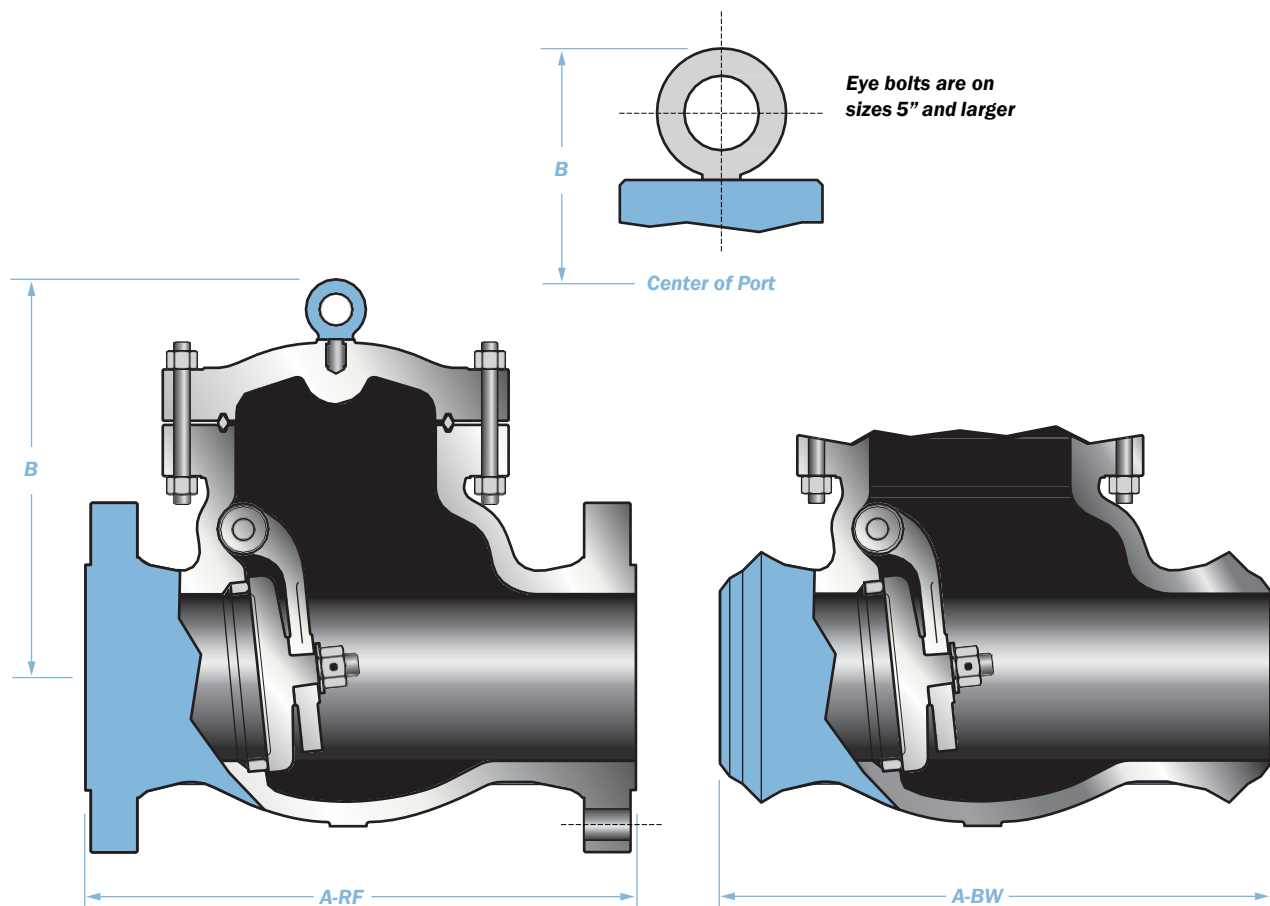
Note: Material is subject to change without notice.

ASME CLASS 900								
SIZE	A		B		WEIGHT(BW)		WEIGHT(RF/RTJ)	
	BW/RF	RTJ	77	77A	77	77A	77	77A
NPS	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	kg	kg	kg	kg
2	14.50	14.62	10.5	10.6	133.0	126.0	153.0	148.0
50	368.30	371.35	266.7	269.2	60.5	57.3	69.5	67.3
3	15.00	15.12	11.0	11.6	147.0	161.0	187.4	183.0
80	381.00	384.05	279.4	294.6	66.8	73.2	85.2	83.2
4	18.00	18.12	13.2	13.1	360.0	234.0	445.0	289.0
100	457.20	460.25	335.3	332.7	163.6	106.4	202.3	131.4
6	24.00	24.12	14.2	14.8	503.0	421.0	683.0	547.0
150	609.60	612.65	360.7	375.9	228.6	191.4	310.5	248.6
8	29.00	29.12	17.0	19.6	910.0	858.0	1263.2	1034.0
200	736.60	739.65	431.8	497.8	413.6	390.0	574.2	470.0
10	33.00	33.12	22.1	20.0	1272.0	1378.0	1671.7	1702.0
250	838.20	841.25	561.3	508.0	578.2	626.4	759.9	773.6
12	38.00	38.12	25.5	22.0	2000.0	1929.0	2412.0	2392.0
300	965.20	968.25	647.7	558.8	909.1	876.8	1096.4	1087.3

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2
Class: 1500 - Sizes: 2" to 12"
Pressure Class Range: 150 to 1500

Design and Manufacturing Standards
Valve Design: ASME B16.34/API 594
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Cover	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc	ASTM A216-WCB/13% Chrome Faced	ASTM A217-WC6/HF	ASTM A352-LCC/316 SS Faced
Disc Nut	ASTM A194-8		ASTM A194-8M
Swing Arm	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Seat Ring	ASTM A105/HF	ASTM A182-F11/HF	ASTM A350-LF2/HF
*Cover Gasket	Soft Steel Ring Joint		
Hinge Pin	ASTM A276-410		ASTM A276-316
Name Plate	304 Stainless Steel		
Plug Washer (external design)	Stainless Steel		
Cover Bolt	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Cover Nut	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Plug (external design)	ASTM A276-410		ASTM A276-316
Disc Nut Pin	ASTM A276-316		
Eye Bolt 6" through 24"	Carbon Steel-Commercial		

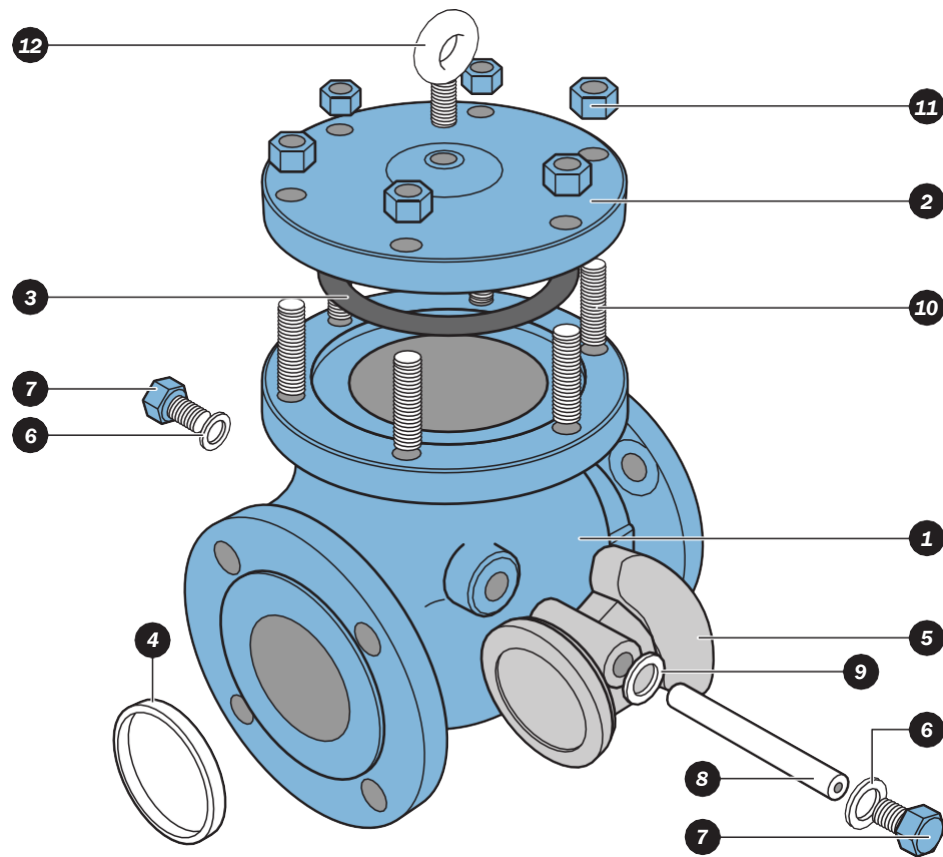
Note: Material is subject to change without notice.

ASME CLASS 1500								
SIZE	A		B		WEIGHT(BW)		WEIGHT(RF/RTJ)	
	BW/RF	RTJ	77	77A	77	77A	77	77A
NPS	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	kg	kg	kg	kg
2	14.50	14.62	10.5	10.6	133.0	126.0	153.0	148.0
50	368.30	371.35	266.7	269.2	60.5	57.3	69.5	67.3
2 ½	16.50	16.62	10.9	-	275.0	-	295.2	-
65	419.10	422.15	276.9	-	125.0	-	134.2	-
3	18.50	18.62	14.6	12.6	412.0	198.0	432.1	269.0
80	469.90	472.95	370.8	320.0	187.3	90.0	196.4	122.3
4	21.50	21.62	15.8	14.0	481.5	397.0	511.5	540.0
100	546.10	549.15	401.3	355.6	218.9	180.5	232.5	245.5
6	27.75	28.00	21.3	17.0	1118.0	895.0	1318.4	1102.0
150	704.85	711.20	541.0	431.8	508.2	406.8	599.3	500.9
8	32.75	33.12	21.8	21.9	1324.0	1477.0	1763.7	1803.0
200	831.85	841.25	553.7	556.3	601.8	671.4	801.7	819.5
10	39.00	39.38	22.1	22.0	2784.0	2745.0	3284.8	3439.0
250	990.60	1000.25	561.3	558.8	1265.5	1247.7	1493.1	1563.2
12	44.50	45.12	30.0	25.6	3793.0	3613.0	4343.0	4442.0
300	1130.30	1146.05	762.0	650.2	1724.1	1642.3	1974.1	2019.1

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

V. CAST STEEL BOLTED COVER TILTING DISC CHECK VALVES
SIZES: 2" TO 12" (50MM TO 300MM) • PRESSURE CLASS: 150 TO 300
(PRESSURE SEAL 600 TO 2500)

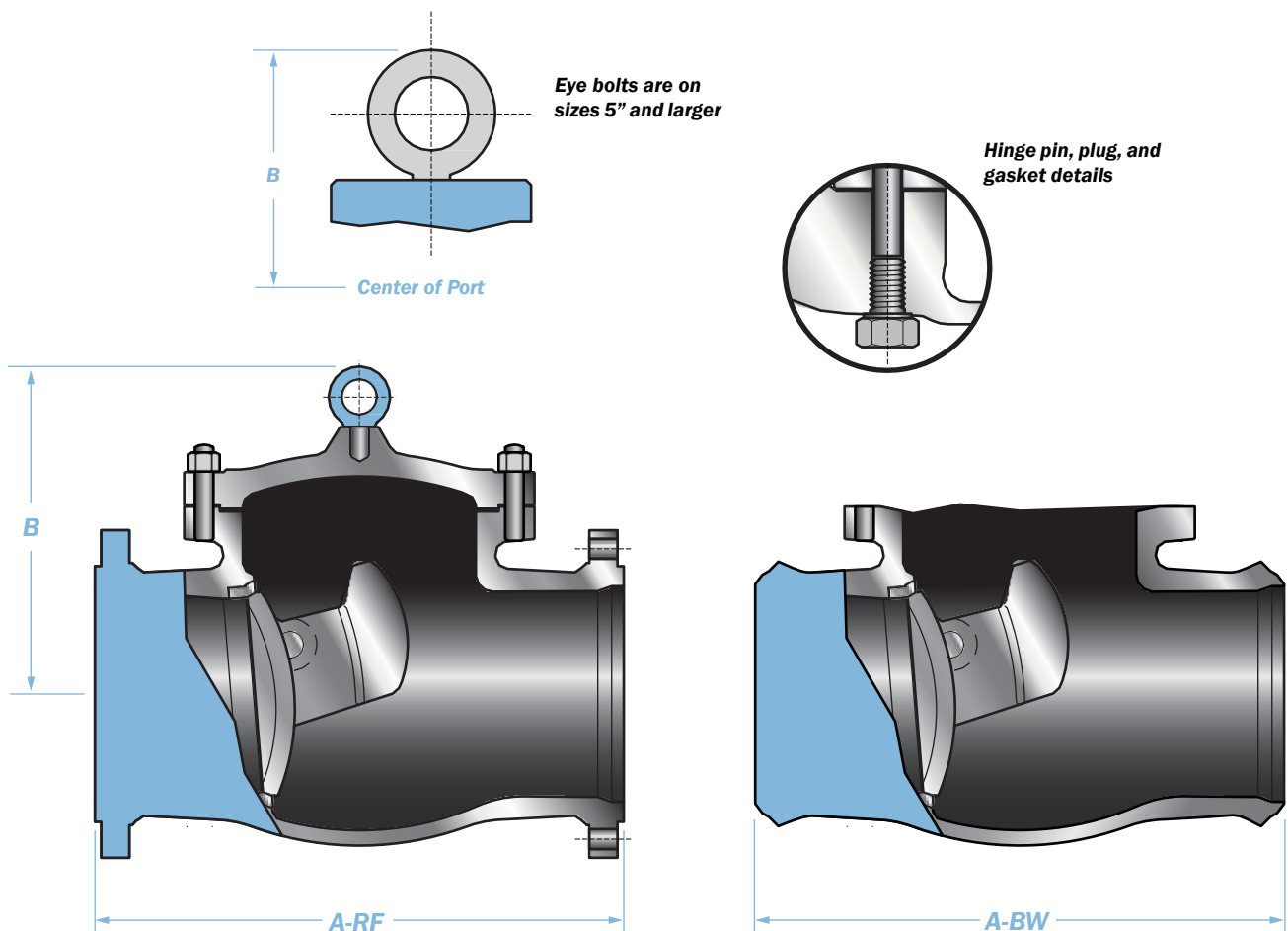
Typical Cast Steel Bolted Cover Tilting Disc Check Valve Expanded View



Note: Classes 600 and larger use internal hinge pin.

1. Body: Newmans NEWCO cast steel bodies provide low resistance flow and optimum strength and performance.
2. Cover: The cover allows access to internal components.
3. Cover Gasket: The cover gasket creates a leak-proof seal between the bonnet and body.
4. Seat Ring: To ensure a stable shut-off, the seat ring is aligned and seal-welded into the valve, then precision ground for optimal seating.
5. Disc: The disc allows unidirectional flow and restricts back flow with trouble free shutoff.
6. Plug Gasket: The plug gasket creates a leak-proof seal between the plug and body.
7. Plug: The disc nut and pin secure the disc to the arm.
8. Hinge Pin: The hinge pin provides a stable mechanism for the disc to operate.
9. Hinge Pin Washer: The hinge pin washer provides accurate disc positioning.
10. & 11. Cover Studs and Nuts: The cover studs and nuts secure the bonnet to the body.
12. Eyebolt: The eyebolt is used to aid in lifting the valve.

Styles: CB2, C63 and LCC4/2
Class: 150 - Sizes: 2.5" to 12"
Pressure Class Range: 150 to 300 (See Pressure Seal To 2500)
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 594
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



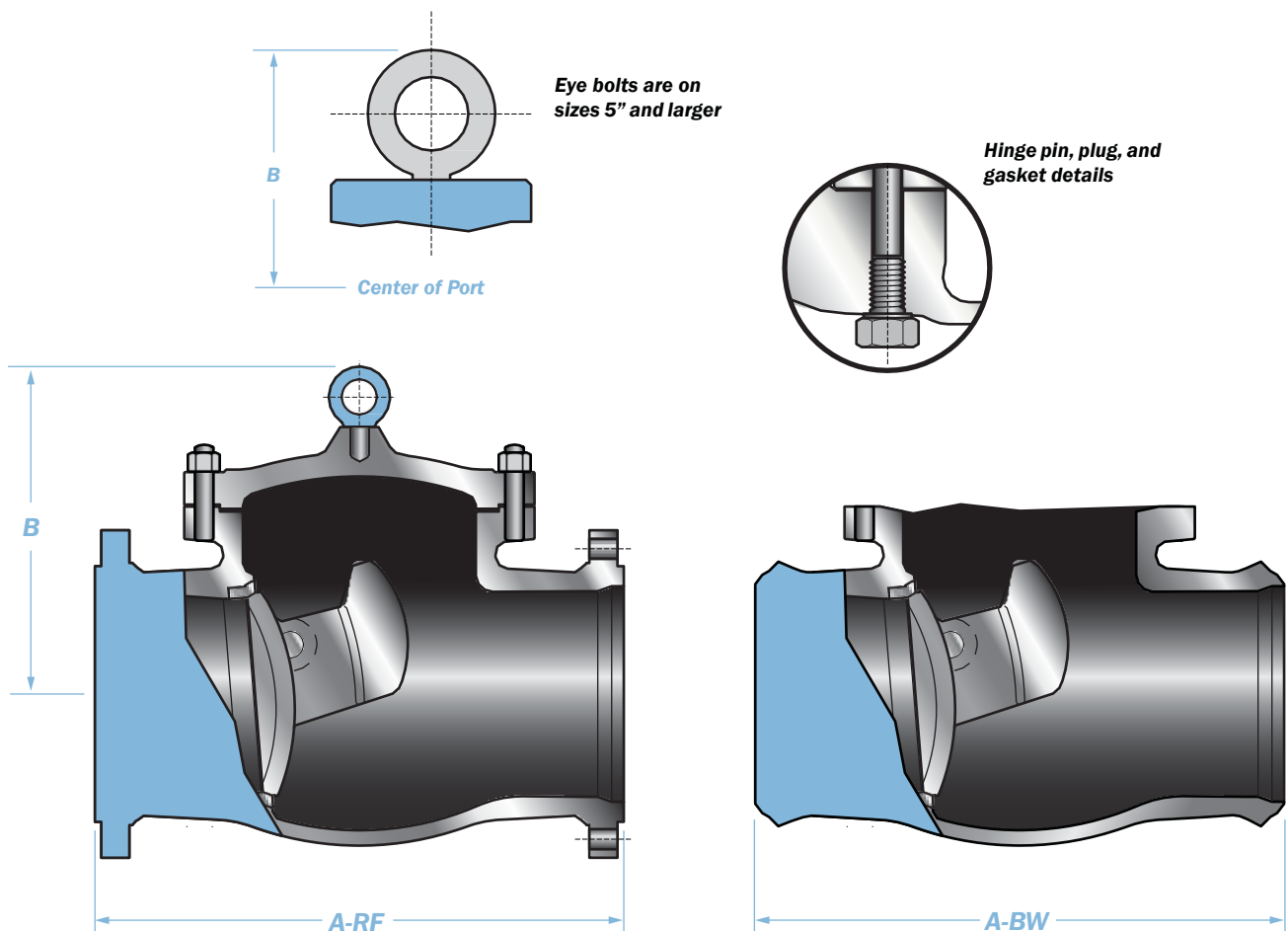
Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Cover	ASTM A105/A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc	ASTM A216-WCB/13% Chrome	ASTM A217-WC6/HF	ASTM A182-F316/ ASTM A351-CF8M
Seat Ring	ASTM A105/HF	ASTM A182-F11/HF	ASTM A182-F316/ ASTM A351-CF8M w/HF
*Cover Gasket	Spiral Wound 304 Stainless Steel/Graphite		
Hinge Pin	ASTM A479-410		ASTM A479-316
Hinge Pin Washer	ASTM A479-410		ASTM A479-316
Plug Gasket	304 Stainless Steel/Graphite		
Name Plate	304 Stainless Steel		
Cover Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Cover Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Plug	ASTM A105		
Eye Bolt 5" and larger	Carbon Steel-Commercial		

Note: Material is subject to change without notice.

Class 150								
Size	NPS	2.5	3	4	6	8	10	12
	DN	65	75	100	150	200	250	300
A-RF	In	8.5	9.5	11.5	14.0	19.5	24.5	27.5
	mm	216	241	292	356	495	622	699
A-BW	In	8.5	9.5	11.5	14.0	19.5	24.5	27.5
	mm	216	241	292	356	495	622	699
B	In	8.27	7.5	7.3	9.0	13.8	15.4	16.1
	mm	210	190	185	230	350	390	410
RF Wt.	Lbs	42	68	92	174	302	477	655
	Kg	92	150	202	383	664	1049	1441
BW Wt.	Lbs	30	50	78	136	244	376	464
	Kg	66	110	172	299	537	827	1021

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2
Class: 300 - Sizes: 3" to 12"
Pressure Class Range: 150 to 300 (See Pressure Seal To 2500)
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 594
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



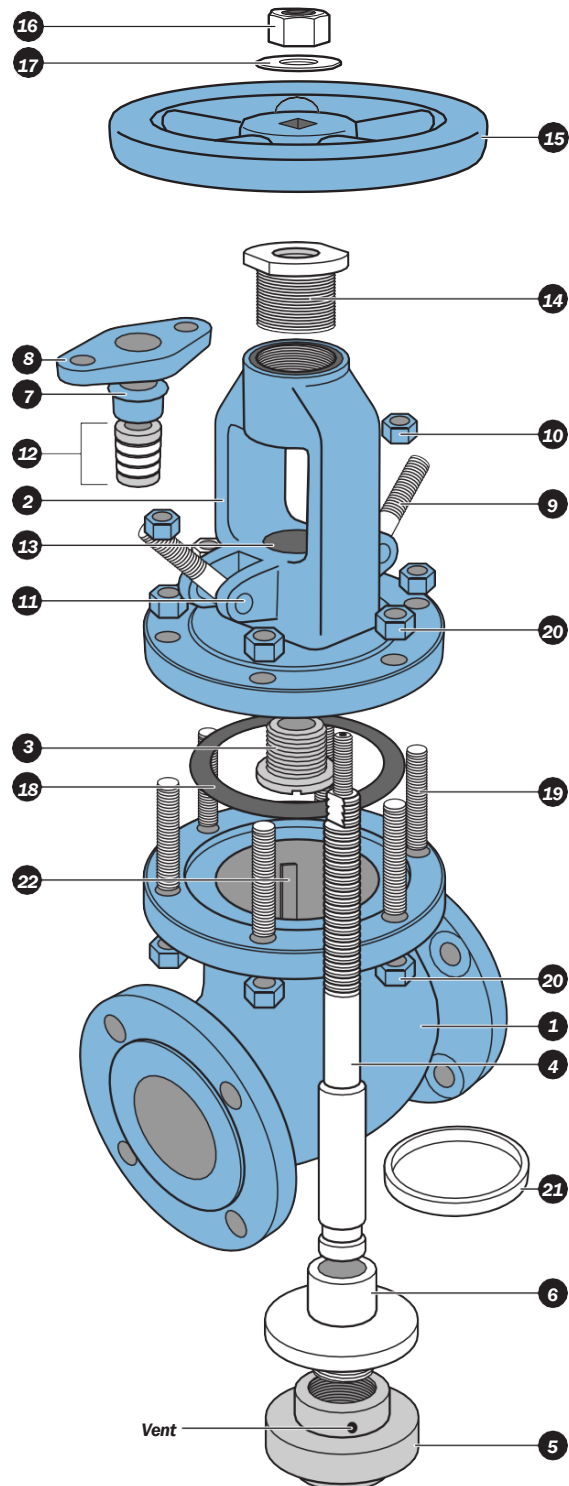
Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Cover	ASTM A105/A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc	ASTM A216-WCB/13% Chrome	ASTM A217-WC6/HF	ASTM A182-F316/ ASTM A351-CF8M
Seat Ring	ASTM A105/HF	ASTM A182-F11/HF	ASTM A182-F316/ ASTM A351-CF8M w/HF
*Cover Gasket	Spiral Wound 304 Stainless Steel/Graphite		
Hinge Pin	ASTM A479-410		ASTM A479-316
Hinge Pin Washer	ASTM A479-410		ASTM A479-316
Plug Gasket	304 Stainless Steel/Graphite		
Name Plate	304 Stainless Steel		
Cover Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A320-L7M
Cover Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Plug	ASTM A105		
Eye Bolt 5" and larger	Carbon Steel-Commercial		

Class 300							
Size	NPS	3	4	6	8	10	12
	DN	75	100	150	200	250	300
A-RF	In	12.5	14.0	17.5	21.0	24.5	28.0
	mm	318	356	444	533	622	711
A-BW	In	12.5	14.0	17.5	21.0	24.5	28.0
	mm	318	356	444	533	622	711
B	In	6.5	7.3	8.8	13.4	15.2	17.7
	mm	165	185	224	340	385	450
RF Wt.	Lbs	82	122	252	386	568	818
	Kg	180	268	554	849	1250	1800
BW Wt.	Lbs	57	78	168	278	458	690
	Kg	125	172	370	612	1008	1518

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request. Dimensions are subject to change without notice.

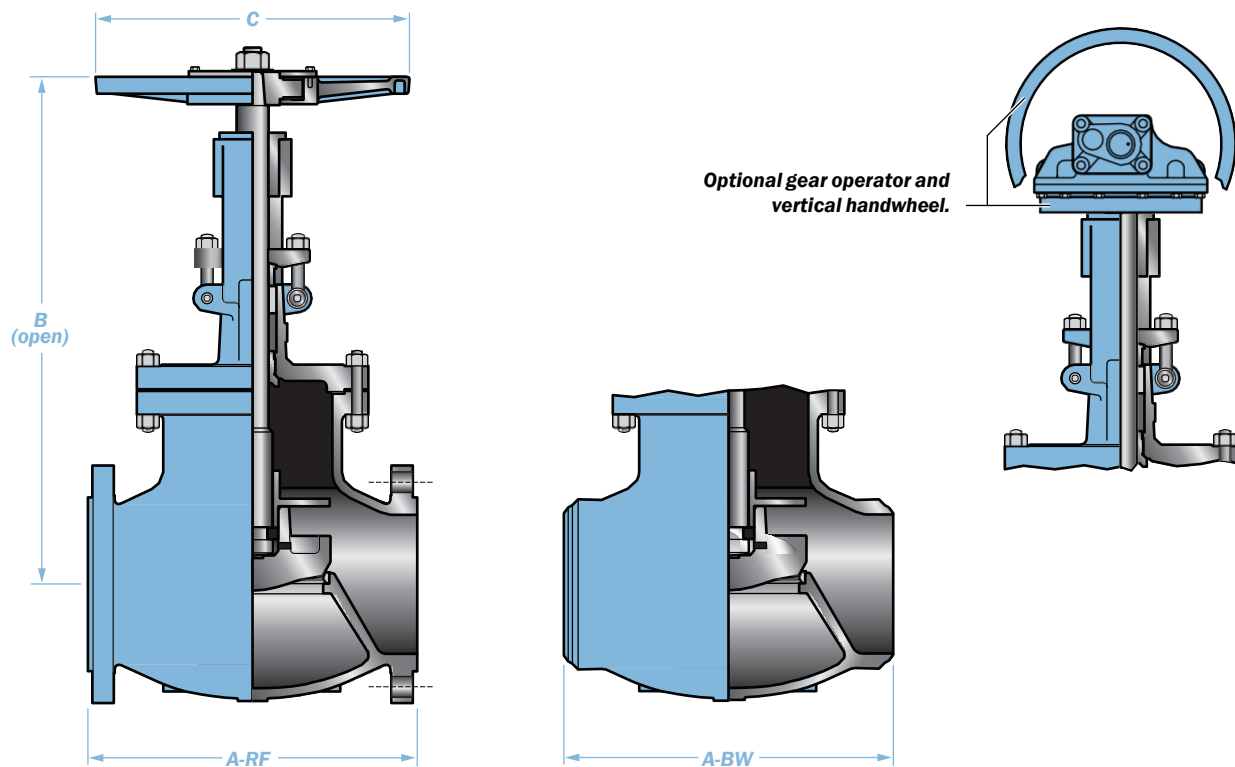
VI. CAST STEEL BOLTED BONNET STOP CHECK VALVES SIZES: 2" TO 14" (50MM TO 350MM) • PRESSURE CLASS: 150 TO 1500

Typical Cast Steel Bolted Bonnet Stop Check Valve Expanded View



1. Body: Newmans NEWCO cast steel bodies provide low resistance flow and optimum strength and performance.
2. Bonnet: Newmans NEWCO bonnet assemblies are built to the same standards as the bodies.
3. Back Seat: The back seat, when engaged with the stem head, provides a stable shut-off to the stuffing box which isolates the packing from flow exposure.
4. Stem: The stem inserts vertically into the disc.
5. Disc: The 1-piece vented disc is machined to the tightest tolerance to ensure trouble free shut-off and cycling.
6. Disc Nut: The disc nut serves as a mechanical guide acting on the stem to ensure proper alignment of the disc to the seat.
7. Gland: The gland compresses the packing to create a stem seal above the back seat between the bonnet and stem.
8. Gland Flange: The gland flange applies pressure to the gland for accurate packing adjustments.
9. & 10. Gland Bolts and Nuts: The gland bolts and nuts allow for easy adjustments for packing compression.
11. Gland Bolt Pin: The gland bolt pin secures the gland bolts to the yoke and bonnet.
12. Packing: The packing creates a seal above the back seat between the bonnet and stem.
13. Stuffing Box: The stuffing box contains the packing.
14. Stem Nut: The stem nut provides a precision guide for proper stem alignment.
15. Handwheel: The handwheel cycles the valve.
16. Handwheel Nut: The handwheel nut secures the handwheel to the bonnet assembly.
17. Handwheel Washer: The washer helps to prevent loosening or distributes pressure evenly.
18. Bonnet Gasket: The bonnet gasket creates a leakproof seal between the bonnet and body.
19. & 20. Bonnet Studs and Nuts: The bonnet studs and nuts secure the bonnet to the body.
21. Seat Ring: To ensure a stable shut-off, the seat ring is aligned and seal-welded into the valve, then precision ground for optimal seating.
22. Disc Guide: The disc guides provide a stable track for keeping the disc aligned with the seat during cycling.

Styles: CB2, C63 and LCC4/2
Class: 150 - Sizes: 2" to 14"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

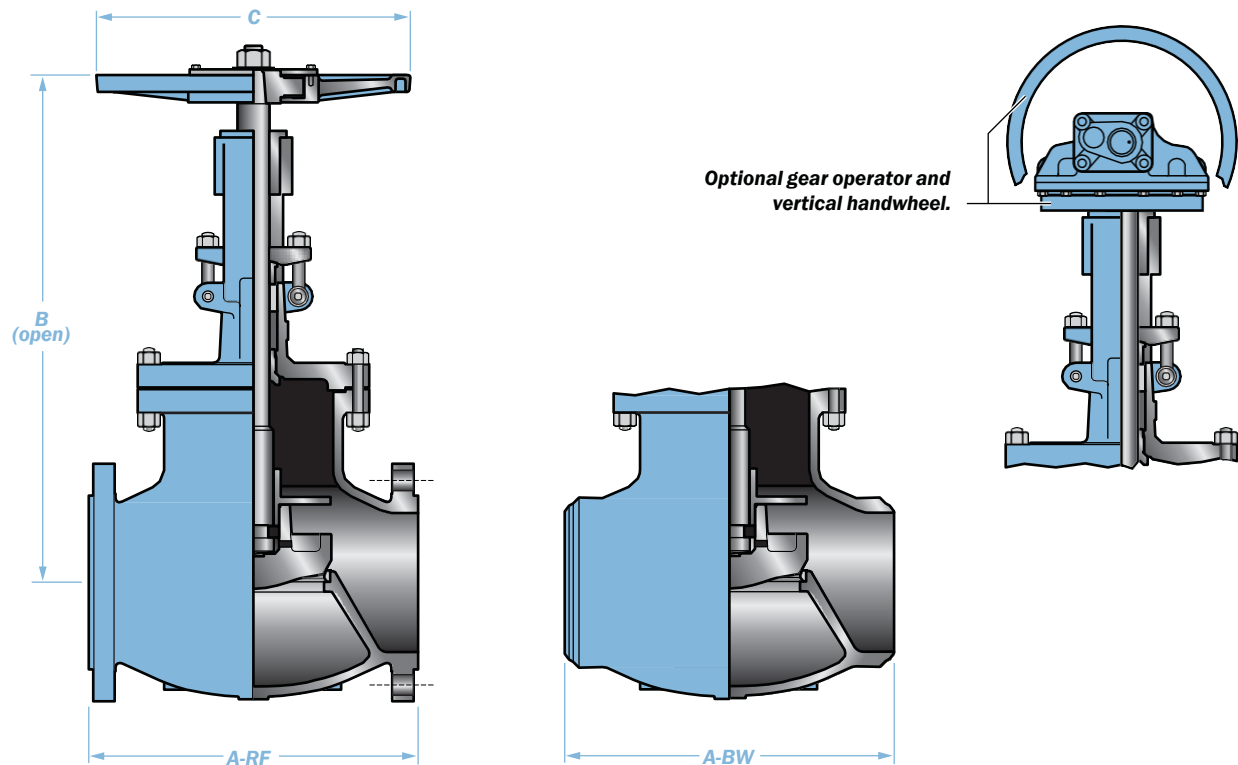
Note: Material is subject to change without notice.

ASME CLASS 150									
SIZE	A	B		C		WEIGHT (BW)		WEIGHT (RF)	
	BW/RF	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	8.00	15.2	11.8	8.0	8.0	43.0	33.0	51.0	39.0
50	203.20	386.1	299.7	203.2	203.2	19.5	15.0	23.2	17.7
2 ½	8.50	16.0	13.0	10.0	10.0	60.0	46.0	71.0	53.0
65	215.90	406.4	330.2	254.0	254.0	27.3	20.9	32.3	24.1
3	9.50	17.0	15.6	10.0	10.0	82.0	73.0	97.0	79.0
80	241.30	431.8	396.2	254.0	254.0	37.3	33.2	44.1	35.9
4	11.50	20.4	17.9	12.0	12.0	126.0	95.0	148.0	112.0
100	292.10	518.2	454.7	304.8	304.8	57.3	43.2	67.3	50.9
5	14.00	23.1	20.2	14.0	14.0	145.0	179.0	170.0	203.0
125	355.60	586.7	513.1	355.6	355.6	65.9	81.4	77.3	92.3
6	16.00	24.1	21.5	16.0	14.0	240.0	201.0	260.0	223.0
150	406.40	612.1	546.1	406.4	355.6	109.1	91.4	118.2	101.4
8	19.50	28.3	26.0	18.0	18.0	350.0	300.0	375.0	326.0
200	495.30	718.8	660.4	457.2	457.2	159.1	136.4	170.5	148.2
10	24.50	32.5	29.4	22.0	18.0	529.0	492.0	661.4	542.0
250	622.30	825.5	746.8	558.8	457.2	240.5	223.6	300.6	246.4
12	27.50	37.4	33.2	24.0	20.0	867.0	783.0	968.0	858.0
300	698.50	950.0	843.3	609.6	508.0	394.1	355.9	440.0	390.0
14	31.00	39.3	-	25.2	-	1276.0	-	1345.0	-
350	787.40	998.2	-	640.1	-	580.0	-	611.4	-

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request. Dimensions are subject to change without notice.

Note: Integral seat w/HF for size 2" - 4"

Styles: CB2, C63 and LCC4/2
Class: 300 - Sizes: 2" to 14"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions: ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

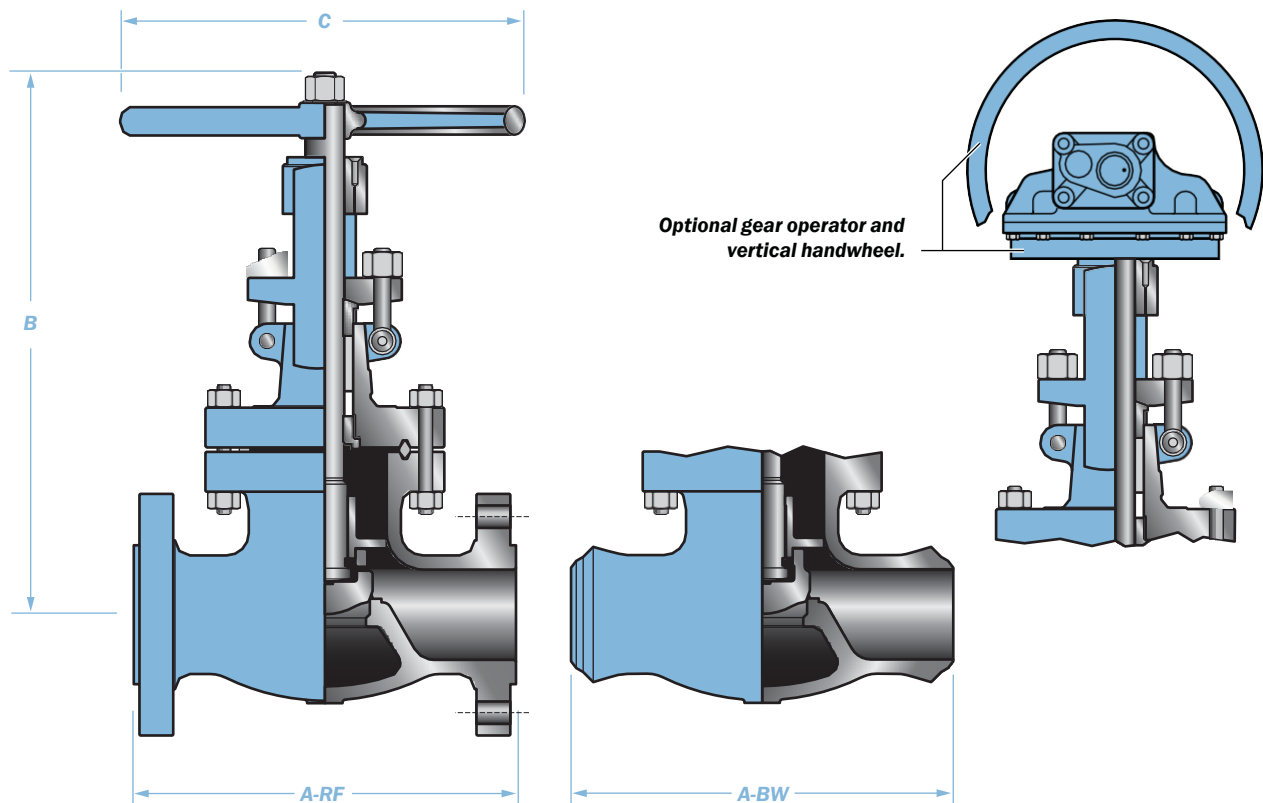
Note: Material is subject to change without notice.

ASME 300									
SIZE	A	B		C		WEIGHT (BW)		WEIGHT (RF)	
	BW/RF	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	10.50	17.3	12.3	10.0	8.0	55.0	42.0	73.0	51.0
50	266.70	439.4	312.4	254.0	203.2	25.0	19.1	33.2	23.2
2 ½	11.50	17.9	15.4	10.0	10.0	79.0	68.0	97.0	79.0
65	292.10	454.7	391.2	254.0	254.0	35.9	30.9	44.1	35.9
3	12.50	20.4	16.0	12.0	12.0	101.0	93.0	139.0	110.0
80	317.50	518.2	406.4	304.8	304.8	45.9	42.3	63.2	50.0
4	14.00	24.0	18.5	14.0	14.0	163.0	139.0	198.0	161.0
100	355.60	609.6	469.9	355.6	355.6	74.1	63.2	90.0	73.2
5	15.75	28.9	22.7	14.0	18.0	242.0	203.0	260.0	229.0
125	400.05	734.1	576.6	355.6	457.2	110.0	92.3	118.2	104.1
6	17.50	32.5	24.2	18.0	18.0	386.0	304.0	430.0	359.0
150	444.50	825.5	614.7	457.2	457.2	175.5	138.2	195.5	163.2
8	22.00	38.0	29.4	24.0	20.0	609.0	507.0	716.5	617.0
200	558.80	965.2	746.8	609.6	508.0	276.8	230.5	325.7	280.5
10	24.50	42.6	37.9	24.0	22.0	845.0	719.0	994.3	873.0
250	622.30	1082.0	962.7	609.6	558.8	384.1	326.8	452.0	396.8
12	28.00	49.8	42.4	27.0	25.0	1260.0	1054.0	1461.6	1270.0
300	711.20	1264.9	1077.0	685.8	635.0	572.7	479.1	664.4	577.3
14	33.00	54.3	-	28.3	-	1996.0	-	2446.0	-
350	838.20	1379.2	-	718.8	-	907.3	-	1111.8	-

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request. Dimensions are subject to change without notice.

Note: Integral seat w/HF for size 2" - 4"

Styles: CB2, C63 and LCC4/2
Class: 600 - Sizes: 2" to 12"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Soft Steel Ring Joint		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	N/A		N/A
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

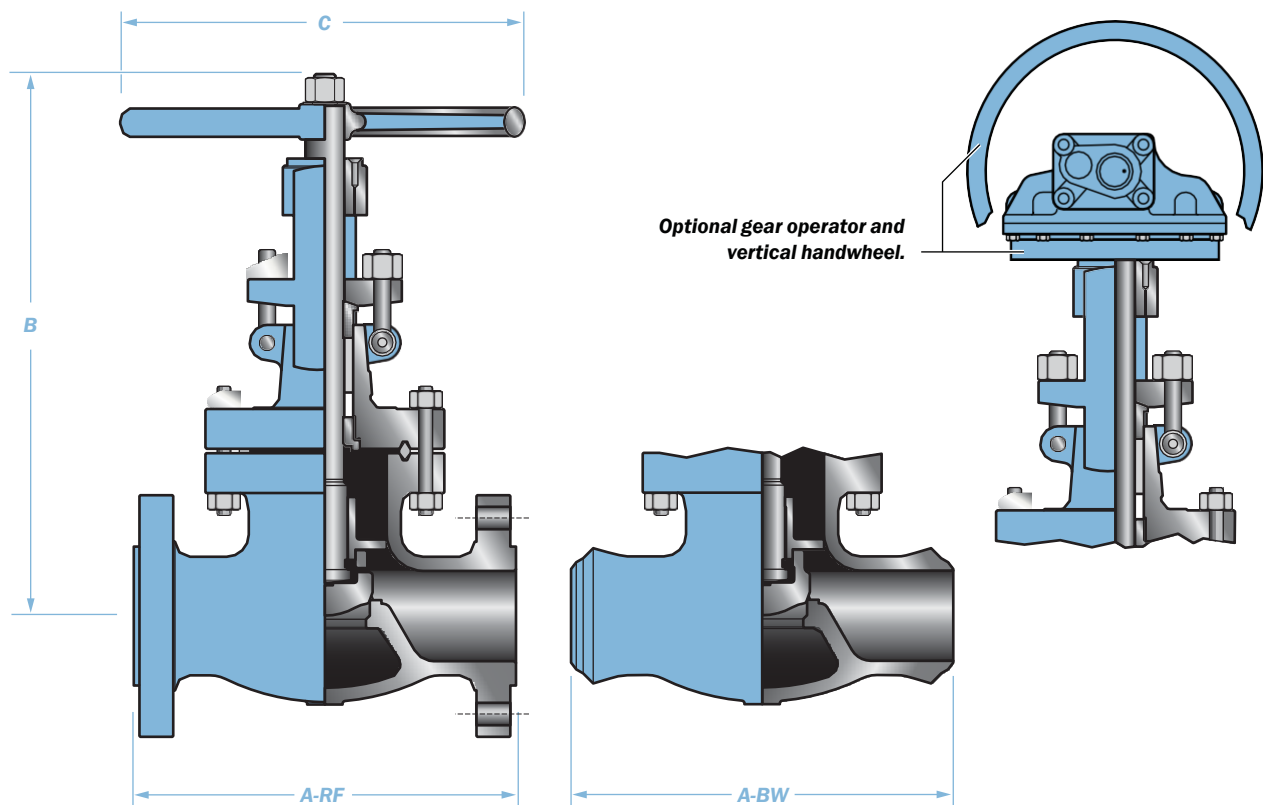
Note: Material is subject to change without notice.

ASME CLASS 600										
SIZE	A		B		C		WEIGHT (BW)		WEIGHT (RF/RTJ)	
	BW/RF	RTJ	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	11.50	11.62	19.5	14.3	10.0	10.0	77.0	55.0	91.0	68.0
50	292.10	295.15	495.3	363.2	254.0	254.0	35.0	25.0	41.4	30.9
2 ½	13.00	13.12	21.3	17.0	12.0	12.0	137.0	88.0	161.0	101.0
65	330.20	333.25	541.0	431.8	304.8	304.8	62.3	40.0	73.2	45.9
3	14.00	14.12	25.3	17.8	14.0	14.0	140.0	101.0	165.0	130.0
80	355.60	358.65	642.6	452.1	355.6	355.6	63.6	45.9	75.0	59.1
4	17.00	17.12	29.7	20.9	18.0	18.0	266.0	179.0	313.0	249.0
100	431.80	434.85	754.4	530.9	457.2	457.2	120.9	81.4	142.3	113.2
6	22.00	22.12	40.0	28.8	24.0	20.0	652.0	445.0	833.0	538.0
150	558.80	561.85	1016.0	731.5	609.6	508.0	296.4	202.3	378.6	244.5
8	26.00	26.12	47.5	37.5	24.0	25.0	1094.0	939.0	1279.0	1102.0
200	660.40	663.45	1206.5	952.5	609.6	635.0	497.3	426.8	581.4	500.9
10	31.00	31.12	44.9	44.8	28.3	28.0	1312.0	1323.0	1626.0	1616.0
250	787.40	790.45	1140.5	1137.9	718.8	711.2	596.4	601.4	739.1	734.5
12	33.00	33.12	59.7(1)	49.0(1)	32.0	32.0	1980.0	2165.0	2870.0	2476.0
300	838.20	841.25	1516.4	1244.6	812.8	812.8	900.0	984.1	1304.5	1125.5

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

(1) Recommended Gear operators for 12" and larger. Height is to top of the Gear.

Styles: CB2, C63 and LCC4/2
Class: 900 - Sizes: 2" to 12"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Soft Steel Ring Joint		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	N/A		N/A
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

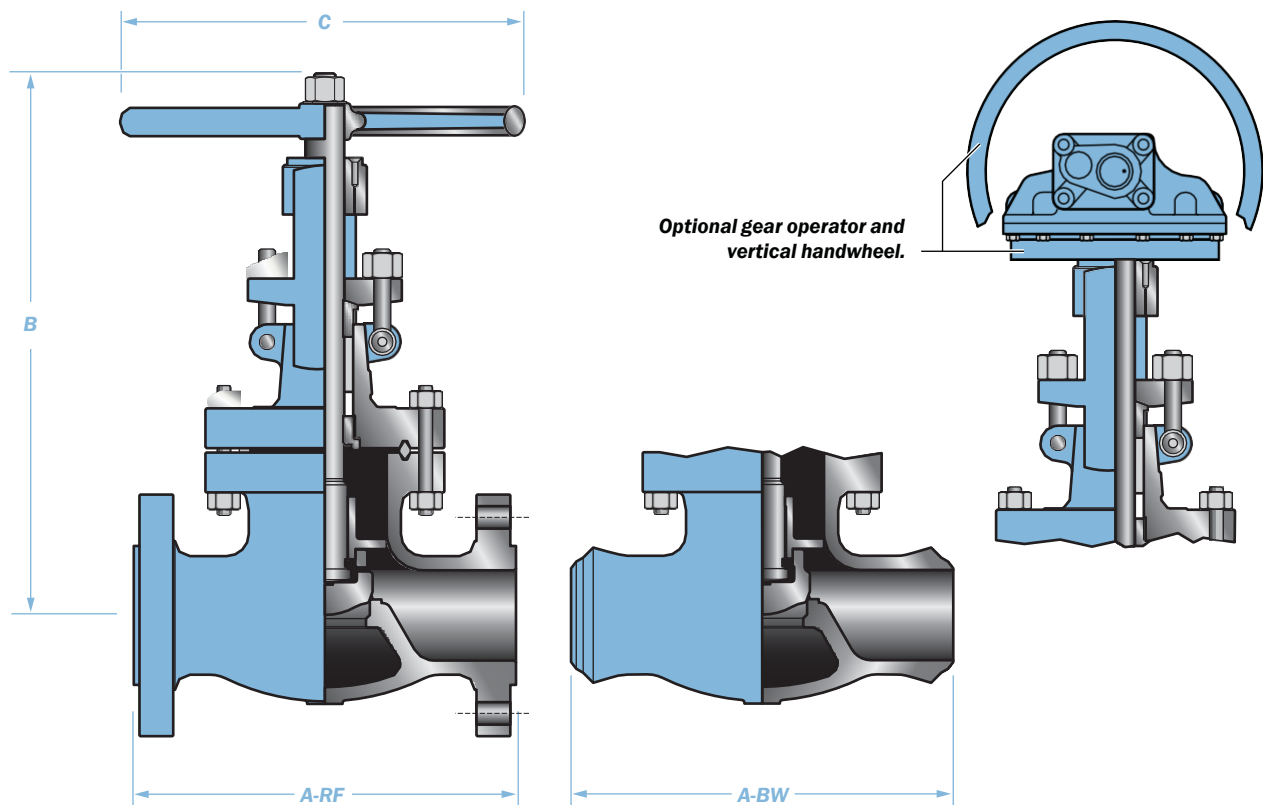
Note: Material is subject to change without notice.

ASME CLASS 900										
SIZE	A		B		C		WEIGHT (BW)		WEIGHT (RF/RTJ)	
	BW/RF	RTJ	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	14.50	14.62	28.0	21.5	15.8	13.8	223.0	174.0	262.4	209.0
50	368.30	371.35	711.2	546.1	401.3	350.5	101.4	79.1	119.3	95.0
3	15.00	15.12	30.5	22.0	15.8	17.7	263.0	194.0	309.0	243.0
80	381.00	384.05	774.7	558.8	401.3	449.6	119.5	88.2	140.5	110.5
4	18.00	18.12	35.0	26.5	19.7	19.7	400.0	357.0	487.0	434.0
100	457.20	460.25	889.0	673.1	500.4	500.4	181.8	162.3	221.4	197.3
6	24.00	24.12	45.3	32.2	25.2	22.0	980.0	833.0	1146.0	961.0
150	609.60	612.65	1150.6	817.9	640.1	558.8	445.5	378.6	520.9	436.8
8	29.00	29.12	51.5	37.7	25.2	28.3	1634.0	1393.0	2090.0	1583.0
200	736.60	739.65	1308.1	957.6	640.1	718.8	742.7	633.2	950.0	719.5
10	33.00	33.12	57(1)	49.4(1)	31.9	32.0	2414	2306.0	2714.0	2659.0
250	838.20	841.25	1447.8	1254.8	810.3	812.8	1097.3	1048.2	1233.6	1208.6
12	38.00	38.12	62.1(1)	62.1(1)	39.4	39.4	3000	3693.0	3457.0	4211.0
300	965.20	968.25	1577.3	1577.3	1000.8	1000.8	1363.6	1678.6	1571.4	1914.1

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

(1) Recommended Gear operators for 10" and larger. Height is to top of the Gear.

Styles: CB2, C63 and LCC4/2
Class: 1500 - Sizes: 2" to 10"
Pressure Class Range: 150 to 1500
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Soft Steel Ring Joint		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	N/A		N/A
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

Note: Material is subject to change without notice.

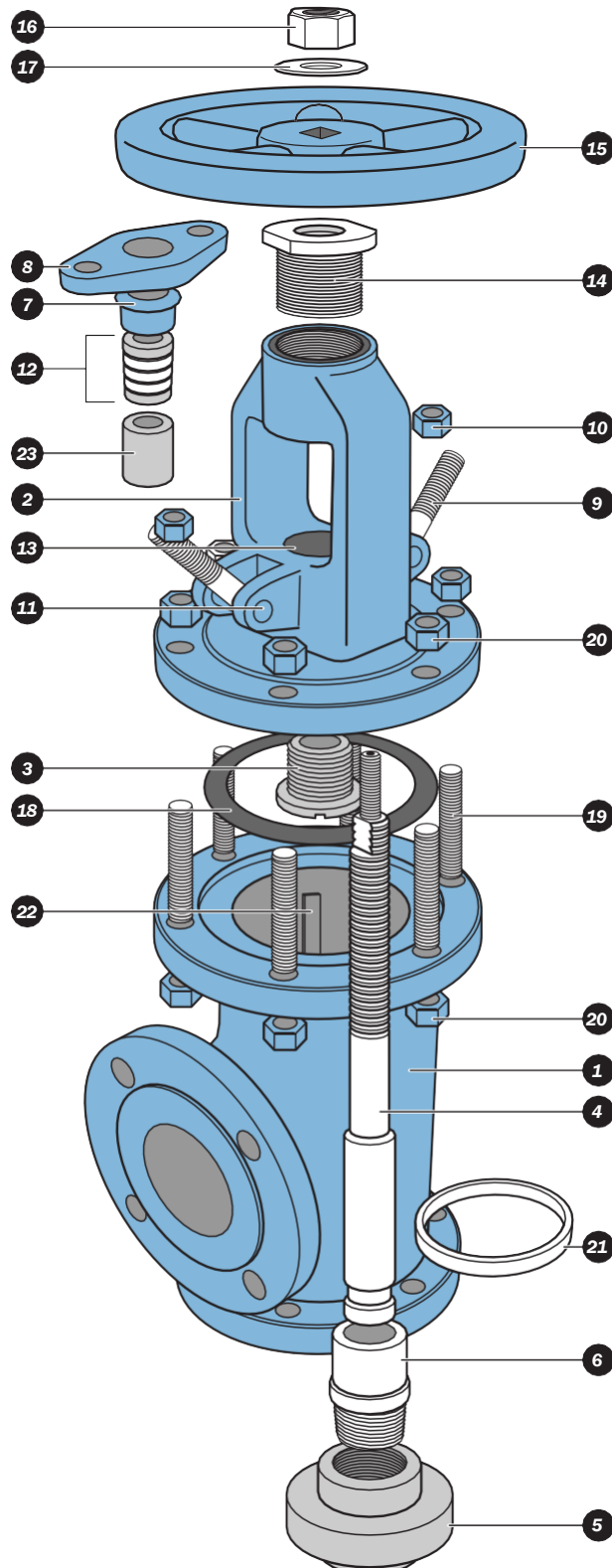
ASME CLASS 1500										
SIZE	A		B		C		WEIGHT (BW)		WEIGHT (RF/RTJ)	
	BW/RF	RTJ	77	77A	77	77A	77	77A	77	77A
NPS	in	in	in	in	in	in	lb	lb	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
2	14.50	14.62	28.0	21.5	15.7	13.8	223.0	174.0	262.4	209.0
50	368.30	371.35	711.2	546.1	398.8	350.5	101.4	79.1	119.3	95.0
3	18.50	18.62	32.1	25.2	19.7	17.7	460.0	348.0	551.1	441.0
80	469.90	472.95	815.3	640.1	500.4	449.6	209.1	158.2	250.5	200.5
4	21.50	21.62	40.0	28.0	19.7	19.7	830.0	547.0	959.0	661.0
100	546.10	549.15	1016.0	711.2	500.4	500.4	377.3	248.6	435.9	300.5
6	27.75	28.00	47.2	38.0	28.7	28.3	996.0	939.0	1552.0	1186.0
150	704.85	711.20	1198.9	965.2	729.0	718.8	452.7	426.8	705.5	539.1
8	32.75	33.12	-	49.4	-	31.9	-	1753.0	-	2116.0
200	831.85	841.25	-	1254.8	-	810.3	-	796.8	-	961.8
10	39.00	39.38	-	61.8(1)	-	39.4	-	2652.0	-	3276.0
250	990.60	1000.2 5	-	1569.7	-	1000.8	-	1205.5	-	1489.1

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

(1) Recommended Gear operators for 10" and larger. Height is to top of the Gear.

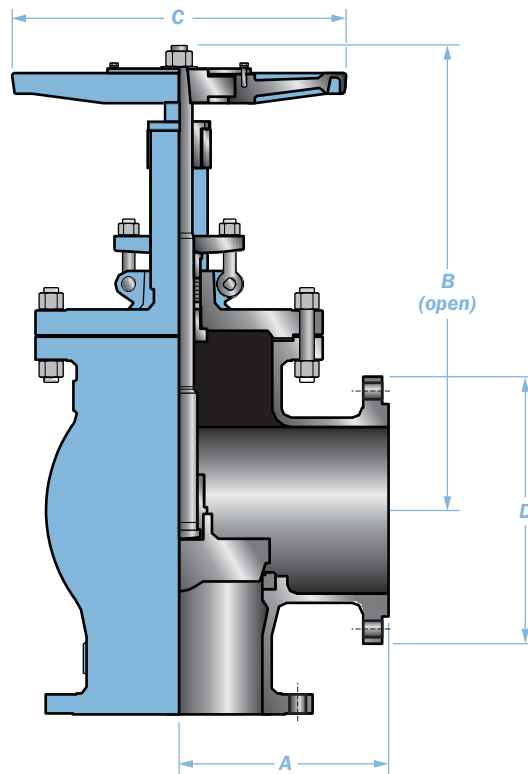
VII. CAST STEEL BOLTED BONNET ANGLE STOP CHECK VALVES SIZES: 2" TO 12" (50MM TO 300MM) • PRESSURE CLASS: 150 TO 300

Typical Cast Steel Bolted Bonnet Angle Stop Check Valve Expanded View



1. Body: Newmans NEWCO cast steel bodies provide low resistance flow and optimum strength and performance.
2. Bonnet: Newmans NEWCO bonnet assemblies are built to the same standards as the bodies.
3. Back Seat Bushing: The back seat, when engaged with the stem head, provides a stable shut-off to the stuffing box which isolates the packing from flow exposure.
4. Stem: The stem inserts vertically into the disc.
5. Disc: The 1-piece disc is machined to the tightest tolerance to ensure trouble-free shutoff and cycling.
6. Disc Nut: The disc nut serves as a mechanical guide acting on the stem to ensure proper alignment of the disc to the seat.
7. Gland: The gland compresses the packing to create a stem seal above the back seat between the bonnet and stem.
8. Gland Flange: The gland flange applies pressure to the gland for accurate packing adjustments.
9. & 10. Gland Bolts and Nuts: The gland bolts and nuts allow for easy adjustments for packing compression.
11. Gland Bolt Pin: The gland bolt pin secures the gland bolts to the yoke and bonnet.
12. Packing: The packing creates a seal above the back seat between the bonnet and stem.
13. Stuffing Box: The stuffing box contains the packing.
14. Stem Nut: The stem nut provides a precision guide for proper stem alignment.
15. Handwheel: The handwheel cycles the valve.
16. Handwheel Nut: The handwheel nut secures the handwheel to the bonnet assembly.
17. Handwheel Washer: The washer helps to prevent loosening or distributes pressure evenly.
18. Bonnet Gasket: The bonnet gasket creates a leakproof seal between the bonnet and body.
19. & 20. Bonnet Studs and Nuts: The bonnet studs and nuts secure the bonnet to the body.
21. Seat Ring: To ensure a stable shut-off, the seat ring is aligned and seal-welded into the valve, then precision ground for optimal seating.
22. Disc Guide: The disc guides provide a stable track for keeping the disc aligned with the seat during cycling.
23. Spacer Ring: The spacer ring assists the packing rings in creating a seal above the back seat between the bonnet and stem.

Styles: CB2, C63 and LCC4/2
Class: 150 - Sizes: 2" to 12"
Pressure Class Range: 150 to 300
Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	N/A		N/A
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

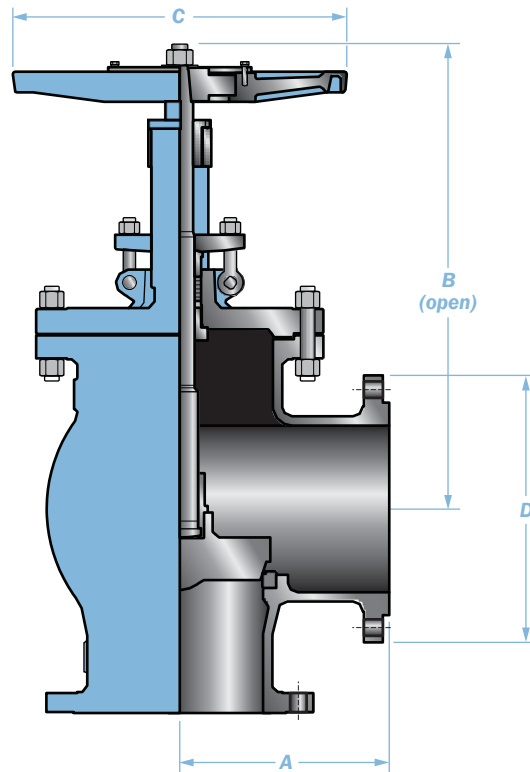
Note: Material is subject to change without notice.

ASME CLASS 150								
SIZE	A	B		C		D	WEIGHT (RF)	
	RF	77	77A	77	77A		77	77A
NPS	in	in	in	in	in	in	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg
2	4.00	15.2	15.6	8.0	8.0	6.0	57.0	49.0
50	101.60	386.1	396.2	203.2	203.2	152.4	25.9	22.3
2 ½	4.25	16.0	15.9	10.0	10.0	7.0	66.0	66.0
65	107.95	406.4	403.9	254.0	254.0	177.8	30.0	30.0
3	4.75	17.0	17.2	10.0	10.0	7.5	84.0	93.0
80	120.65	431.8	436.9	254.0	254.0	190.5	38.2	42.3
4	5.75	20.5	20.6	12.0	12.0	9.0	141.0	132.0
100	146.05	520.7	523.2	304.8	304.8	228.6	64.1	60.0
5	7.00	21.5	-	14.0	-	10.0	163.0	-
125	177.80	546.1	-	355.6	-	254.0	74.1	-
6	8.00	21.8	23.3	15.0	16.0	11.0	234.0	223.0
150	203.20	553.7	591.8	381.0	406.4	279.4	106.4	101.4
8	9.75	27.4	28.2	18.0	18.0	13.5	399.0	355.0
200	247.65	696.0	716.3	457.2	457.2	342.9	181.4	161.4
10	12.25	31.0	32.2	22.0	22.0	16.0	611.0	679.0
250	311.15	787.4	817.9	558.8	558.8	406.4	277.7	308.6
12	13.75	37.8	36.2	24.0	24.0	19.0	794.0	968.0
300	349.25	960.1	919.5	609.6	609.6	482.6	360.9	440.0

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request. Dimensions are subject to change without notice.

Styles: CB2, C63 and LCC4/2
Class: 300 - Sizes: 2" to 12"
Pressure Class Range: 150 to 300

Design and Manufacturing Standards
Valve Design: ASME B16.34/API 623
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Face to Face Dimensions: ASME B16.10
Tested in Accordance With: API 598
Recommended Spare Parts*



Typical Bill of Materials (See page 107 for available materials)			
Component	CB2	C63	LCC4/2
Body	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
Disc 2” through 4”	ASTM A276-410/A182-F6a	ASTM A217-WC6/HF	ASTM A276-316/A182-F316
Disc 6” and larger	ASTM A216-WCB/13% Chrome Faced		ASTM A352-LCC/316 SS Faced
Stem	ASTM A276-410		ASTM A276-316
Bonnet	ASTM A216-WCB	ASTM A217-WC6	ASTM A352-LCC
*Bonnet Gasket	Spiral Wound 316 Stainless Steel/Graphite		
Bonnet Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-7M
Bonnet Studs	ASTM 193-B7	ASTM A193-B16	ASTM A320-L7M
Back Seat Bushing	ASTM A276-410		ASTM A276-316
*Packing	Graphite w/Braided Carbon Fiber End Rings		
Gland	ASTM A276-410		ASTM A276-316
Gland Flange	ASTM A276-WCB	ASTM A217-WC6	ASTM A352-LCC
Gland Bolt Pins	Carbon Steel-Commercial		
Gland Nuts	ASTM A194-2H	ASTM A194-7	ASTM A194-2HM
Gland Bolts	ASTM A193-B7	ASTM A193-B16	ASTM A193-B7M
Seat Ring	Integral or ASTM A105/HF	Integral or ASTM A182 - F11/HF	Integral or ASTM A350-LF2/HF
Split Ring	N/A		N/A
Nameplate	Stainless Steel 304		
Nameplate Rivets	Stainless Steel-Commercial		
Disc Nut	ASTM A276-410		ASTM A276-316
Yoke Bush	ASTM A439-D2C		
Handwheel Washer	Carbon Steel-Commercial		
Handwheel Nut	Carbon Steel-Commercial		
Handwheel	ASTM A536 (60-40-18)		
Spacer Ring	ASTM A276-410		ASTM A276-316

Note: Material is subject to change without notice.

ASME CLASS 300								
SIZE	A	B		C		D	WEIGHT (RF)	
	RF	77	77A	77	77A		77	77A
NPS	in	in	in	in	in	in	lb	lb
DN	mm	mm	mm	mm	mm	mm	kg	kg
2	5.25	15.0	15.7	10.0	8.0	6.50	68.3	68.0
50	133.35	381.0	398.8	254.0	203.2	165.1	31.0	30.9
2 ½	5.75	16.9	17.3	10.0	10.0	7.50	97.0	88.0
65	146.05	429.3	439.4	254.0	254.0	190.5	44.1	40.0
3	6.25	16.9	18.6	12.0	10.0	8.25	108.0	128.0
80	158.75	429.3	472.4	304.8	254.0	209.6	49.1	58.2
4	7.00	21.7	22.9	14.0	14.0	10.00	198.0	190.0
100	177.80	551.2	581.7	355.6	355.6	254.0	90.0	86.4
6	8.75	28.0	27.7	17.0	18.0	12.50	392.0	331.0
150	222.25	711.2	703.6	431.8	457.2	317.5	178.2	150.5
8	11.00	30.7	31.9	24.0	24.0	15.00	760.0	875.0
200	279.40	779.8	810.3	609.6	609.6	381.0	345.5	397.7
10	12.25	37.5	38.4	24.0	24.0	17.50	934.0	1162.0
250	311.15	952.5	975.4	609.6	609.6	444.5	424.5	528.2
12	14.00	41.6	42.0	27.0	27.0	20.50	1288.0	1340.0
300	355.60	1056.6	1066.8	685.8	685.8	520.7	585.5	609.1

Note: Dimensions: Inches/Millimeters - Weights: Pounds/Kilograms. Larger sizes available on request.
Dimensions are subject to change without notice.

VIII. How to Order All Newmans NEWCO Products

Figure Number

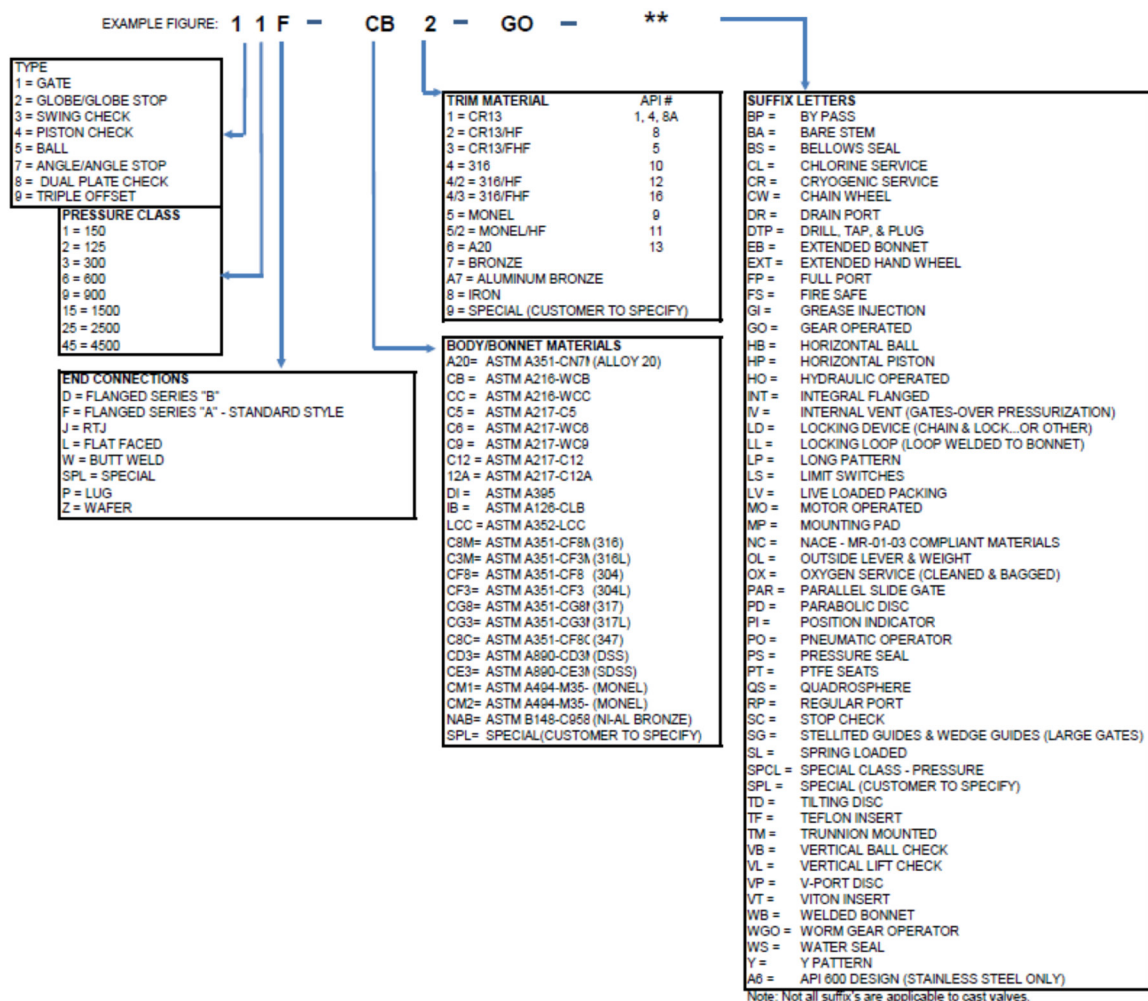
The figure number shown below identifies specific valve configuration details of Newmans NEWCO valves such as valve type, pressure class, end connections, body/bonnet and trim materials, and special features.

Please specify end connections, body materials and trims not listed below.

When placing an order, please refer to the respective product section of the catalog for size availability. A detailed description must be included with any special orders.

NEWCO CAST FIGURE NUMBERING SYSTEM

REV. 17 8-8-24





**When you need a valve,
contact us first.**

Corporate Office

Call 24/7: (832)-944-5930

Email: sales@newmansvalves.com

More at www.newmansvalves.com