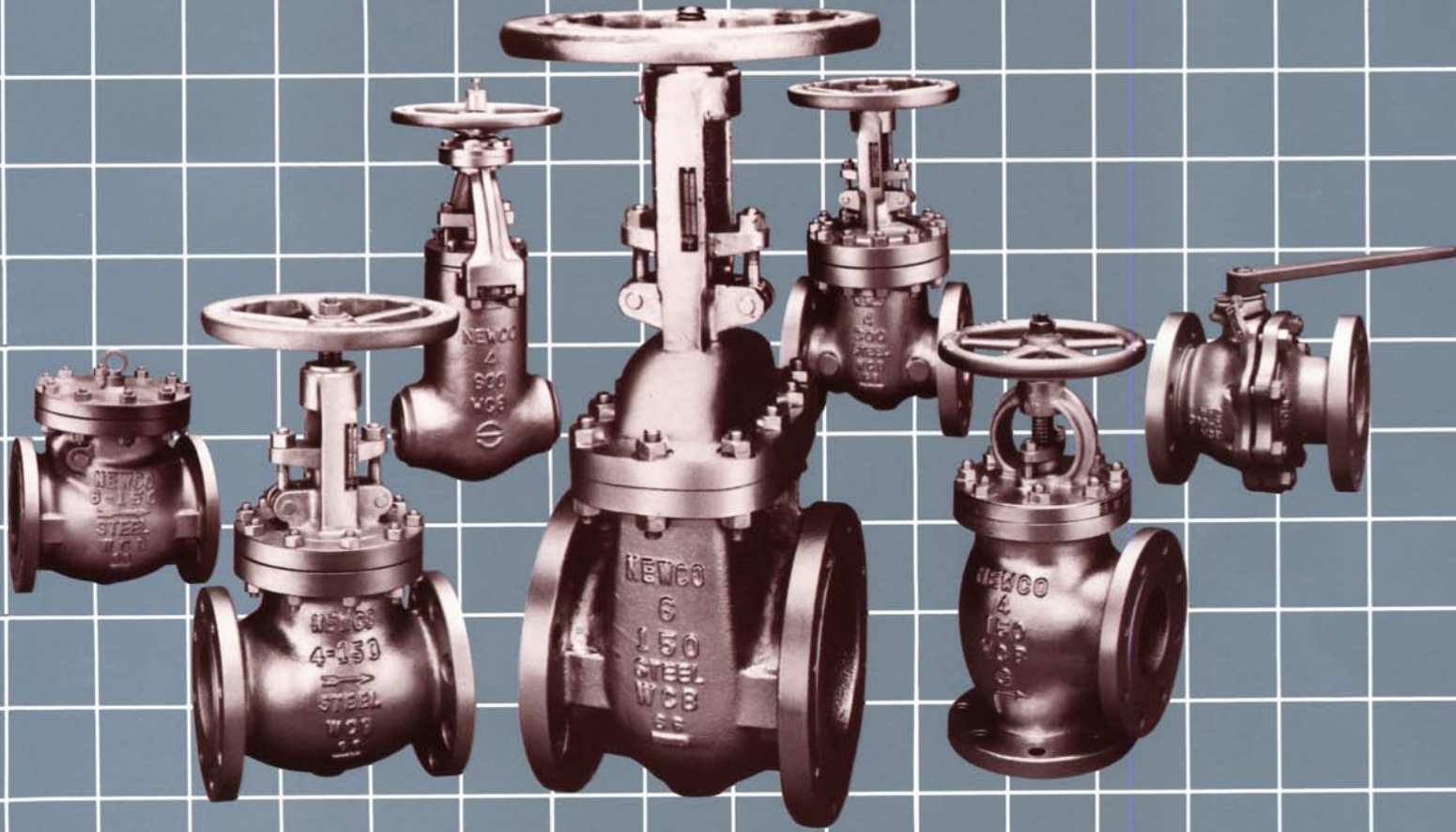


Newco

CAST STEEL VALVES



Newco Valves

GENERAL PURPOSE

MARINE

PRESSURE SEAL

SPECIALTY VALVES



NEWMANS



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A FIFTY-YEAR COMMITMENT TO EXCELLENCE

Our growth during the last fifty years in the valve industry is just a prelude to our commitment to the future. Our success has been simple. Good people selling quality products from large inventories at competitive prices.

Newco has become a leader in the valve industry by anticipating market needs with international sourcing of product and large advance purchasing. Newman's regional warehouses are stocked with well-balanced inventories of Newco

industrial valves, representing the best value in today's market.

Our number one corporate philosophy is to provide our customers with the highest quality valve obtainable. These efforts involve technical staffs in the United States, Europe and the Far East that are responsible for basic product design and all quality assurance standards. Uniquely, the Newco product line is fully traceable.

NEWCO'S COMMITMENT TO QUALITY

- Design and manufacturing systems reviewed and modified to conform to Newco quality standards prior to production.
- Newco producers control their own casting and forging facilities to insure both quality and delivery of critical components.
- Newco producers maintain quality control staffs independent from production and with direct communication with Newman's technical staff.
- Random radiographic casting evaluation to insure that casting quality is routinely monitored.
- Formal, documented manufacturing quality assurance programs audited annually.
- Semi-annual audits of manufacturing processes and personnel to insure that any changes are properly evaluated with respect to product quality. These audits are conducted by Newman's Far East, European, and United States staff.
- Individual product test and inspection to ANSI and API Standards monitored by Newman's technical staff.
- Visual, dimensional, hydrostatic and chemistry sampling of Newco products after receipt into Newman's warehouses to insure compliance with quality standards set forth in purchase contracts.



TERMS & CONDITIONS

QUOTATIONS

Goods quoted FOB our warehouses are subject to prior sale. Prices quoted are valid only for the duration indicated in the quotation. Quoted prices supersede all previous prices, quotations or contracts and are subject to change without notice.

TAXES

Any sales or use tax which may be imposed or any excise or occupational tax measured or required, whether or not the law imposing such tax is now in effect, shall be in addition to the quoted price and shall be paid by the Buyer. If any tax is required to be paid by Newman's, the Buyer shall reimburse Newman's upon presentation of invoice.

ORDERS

Orders for standard valves should state the exact size and figure number desired. Orders for special items or modifications of standard items must be confirmed in writing and accompanied with detailed prints and/or specifications.

INSPECTION

When orders are accepted subject to the Buyer's inspection, the goods must be inspected and accepted prior to shipment.

DESIGN CHANGES

We reserve the right to institute changes in materials, design and specifications without notice.

DELIVERY

Delivery of material to a common carrier shall be considered delivery thereof to the Buyer, and shall be at the Buyer's risk thereafter. Claims for loss or any damage to material in transit shall be filed by the Buyer direct with the carrier. All claims for shortages, corrections or deductions must be made within 10 days after receipt of goods.

CANCELLATIONS & RETURNS

Orders placed with us cannot be cancelled without our prior consent. Requests to return merchandise must be submitted to us in writing and have our written approval before any returned goods will be accepted. A cancellation charge will be applicable unless otherwise agreed upon. Special items or modification of standard items are not returnable. We assume no responsibility for goods returned without prior agreement.

FORCE MAJEURE

We are not responsible for delays in delivery or defaults in completing a contract due to strikes, work stoppages, fires, floods, accident, inability to obtain materials, fuel, transportation or other causes beyond our control.

SPARE PARTS

Spare parts are available for all Newco valves. When ordering, please state size and figure number of valves and name or identification number of part desired.

LIMITED WARRANTY

Newman's warrants to the original purchaser, for a period of one year from and after the date of delivery to the original customer, that its products will be free from defects in workmanship and materials, not caused or resulting from improper usage or application, improper installation, improper maintenance, repair modification or alterations.

In the event the original purchaser shall determine that a product purchased from Newman's shall be defective in workmanship or materials, the customer shall notify the Newman's Warranty Representative by telephone (713) 675-8631 within 24 hours from such determination, followed by written notice to such effect within 7 days therefrom, addressed to:

Newmans Inc.
1300 Gazin Street
Houston, Texas 77020

In the event Newman's shall determine that the product is defective based upon such examination of the product which Newman's may deem appropriate, Newman's shall thereupon, at its sole option, (a) cause the defective product to be repaired, (b) replaced with a substantially identical product, or (c) accept the return of a defective product and refund the purchasing price to the original purchaser. Newman's shall bear all normal surface transportation costs to the original purchaser but shall in no event bear any installation, re-installation, engineering or other costs incurred in connection with repair or replacement.

Unless Newman's shall have provided engineering and/or suitability of application or installation services for a purchaser, for which a separate charge shall have been specifically identified and made, the selection, suitability, installation and fitness of all products sold by Newman's shall be deemed to have been determined exclusively by and within the sole discretion of the purchaser. Accordingly, Newman's disclaims any obligation, warranty or guarantee in any manner relating to or resulting from the selection, application, suitability, fitness or installation of its products.

The foregoing constitutes the sole obligation of Newman's with respect to defective products purchased from it and in no manner shall Newman's assume or be liable for any other expenses, incidental or consequential damages, losses, lost profits, downtime or otherwise, whether directly or indirectly suffered, or in any other manner relating to or as the result of any defect or failure of any product that it may sell.

Except as otherwise provided herein, NEWMAN'S MAKES NO WARRANTIES OR REPRESENTATIONS, WHETHER EXPRESS OR IMPLIED, OF ANY KIND WHATSOEVER WITH RESPECT TO GOODS AND PRODUCTS SOLD BY IT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO PERSON IS AUTHORIZED TO GRANT OR EXTEND ANY WARRANTY OR REPRESENTATION ON BEHALF OF NEWMAN'S OTHER THAN AS SET FORTH HEREIN.



NEWCO FIGURE NUMBERS

Type	Pressure Class	End Connections	Trim Material
1 = Gate, OS&Y	1 = 150	F = Flanged	1 = CR13
2 = Globe, OS&Y	2 = 125	W = Butt Weld	2 = CR13/HF**
3 = Swing Check	3 = 300	J = RTJ	3 = HF/HF**
4 = Lift Check	4 = 400	S = Socket Weld	4 = 316
5 = Ball	5 = 250	T = Threaded	5 = NI CU (Monel***)
6 = Gate, NRS	6 = 600	B = Wafer	6 = Alloy 20
7 = Angle, OS&Y	8 = 800	X = Special	7 = Bronze
8 = Plug	9 = 900	(Customer to specify)	8 = Iron
9 = Butterfly	15 = 1500		9 = Special (Customer to specify)
	25 = 2500		
	45 = 4500		

- *SUFFIX LETTERS**
- PS = Pressure Seal Bonnet
 - SO = Safe-O-Seal Bonnet
 - WB = Welded Bonnet
 - UB = Union Bonnet
 - HP = Horizontal Piston Check
 - HB = Horizontal Ball Check
 - VB = Vertical Ball Check
 - TD = Tilting Disc Check
 - FP = Full Port
 - RP = Regular Port
 - TF = Teflon* Insert
 - VT = Viton* Insert
 - SC = Stop-Check
 - NR = Non-Return
 - SG = Solid Wedge, Gate
 - N1 = Material to NACE MR-01-75
 - HL = High Lift
 - FS = Firesafe
 - PT = PTFE Seats
 - GO = Gear Operator
 - MO = Motor Operator
 - PO = Pneumatic Operator
 - HO = Hydraulic Operator
 - CR = Cryogenic Service
 - OL = Outside Weight & Lever
 - VP = V-Port Disc
 - BP = By-Pass
 - OX = Oxygen Service
 - CL = Chlorine Service
 - GI = Grease Injection
 - BS = Bellows Seal
 - VG = Venturi Gate
 - ST = Socket Weld x Threaded
 - SL = Special Lining

FIG. 11F-CB2*

BODY/BONNET MATERIAL

- CB = ASTM A216, WCB = Cast Carbon Steel
- C5 = ASTM A217, C5 = Cast Alloy Steel (5% Chrome, 1/2% Moly)
- C6 = ASTM A217, WC6 = Cast Alloy Steel (1 1/4% Chrome, 1/2% Moly)
- C9 = ASTM A217, WC9 = Cast Alloy Steel (2 1/4% Chrome, 1% Moly)
- C12 = ASTM A217, C12 = Cast Alloy Steel (9% Chrome, 1% Moly)
- LCB = ASTM A352, LCB = Cast Low Temperature Carbon Steel
- LC3 = ASTM A352, LC3 = Cast Low Temperature 3 1/2% Nickel Steel
- CF8 = ASTM A351, CF8 = Cast 304 Stainless Steel
- C8M = ASTM A351, CF8M = Cast 316 Stainless Steel
- A20 = ASTM A351, CN7M = Cast Alloy 20
- MO = ASTM A296, M35 = Cast NI CU (Monel***)
- FS = ASTM A105 = Forged Carbon Steel
- F5 = ASTM A182, F5 = Forged Alloy Steel (5% Chrome, 1/2% Moly)
- LF-2 = ASTM A350, LF2 = Forged Low Temperature Carbon Steel
- F11 = ASTM A182, F11 = Forged Alloy Steel (1 1/4% Chrome, 1/2% Moly)
- F22 = ASTM A182, F22 = Forged Alloy Steel (2 1/4% Chrome, 1% Moly)
- F8M = ASTM A182, F316 = Forged 316 Stainless Steel
- F8 = ASTM A182, F304 = Forged 304 Stainless Steel
- F8C = ASTM A182, F321 = Forged 321 Stainless Steel
- DI = ASTM A395 = Cast Ductile Iron
- IB = ASTM A126, CLB = Cast Iron
- BR = ASTM B61 = Bronze
- SPL = Special (Customer to specify)

* = Viton and Teflon are registered trademarks of DuPont Company.
 ** HF = Hardfaced - AWS 5.13 Class C₀C_RA
 *** Monel is a registered trademark of International Nickel Company.

Please order by size, figure number (which specifies type), pressure class, end connections, materials and special features, as shown above.

For End Connections, Body Materials and Trims not listed, please specify.



GATE VALVE FEATURES

CAST STEEL BOLTED BONNET

Gate valves are straight-through flow valves which provide positive shutoff with minimal pressure drop and flow turbulence. The barrier to flow is a wedge sliding at right angles to the direction of flow.

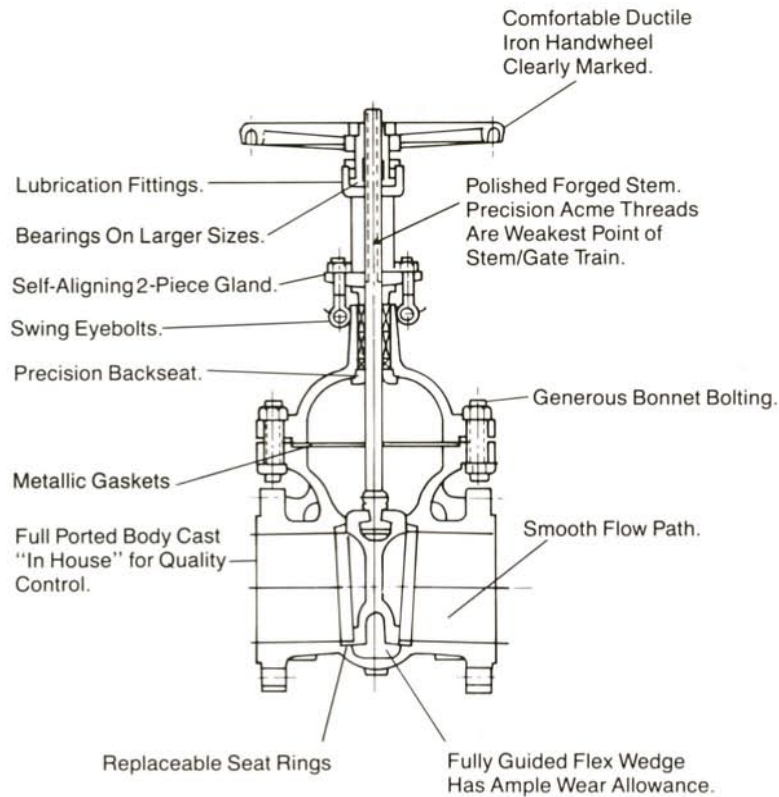
Gate valves may be installed without consideration for the direction of flow. They are not recommended for use in a partially open, throttling position as erosion, noise and excessive wear can occur. Gate valve installations should always be made with consideration for the potential of bonnet over-pressurization caused by fluids which may become entrapped in the bonnet of a closed valve. Where this possibility exists, it is the user's responsibility to insure that proper venting is installed.

Newco cast steel bolted bonnet gate valves are of the out-

side screw, rising stem design commonly called OS&Y. This type of design places the stem threads external to the valve so they are not contaminated by the flowing media and are accessible for lubrication. Also, the open/closed position of the valve is easily distinguished by the stem position.

Newco cast steel bolted bonnet gate valves comply with the design and testing requirements of ANSI B16.34, API 600 and API 598. Installation dimensions comply with ANSI B16.10.

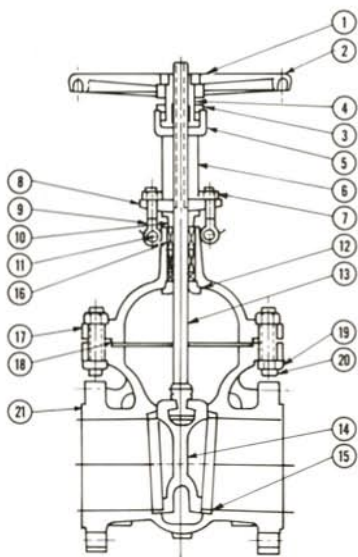
All Newco cast steel bolted bonnet gate valves have the following features engineered to provide convenience, durability and maintainability.





GATE VALVE MATERIALS

CAST STEEL BOLTED BONNET



	Part Name	Material
1	Handwheel Nut	Carbon Steel
2	Handwheel	Ductile Iron A536
3	Yoke Nut	Carbon Steel
4	Stem Nut	Aust. Ductile Iron - A439-D2
5	Grease Fitting	Carbon Steel
6	Yoke	ASTM A216 Gr WCB
7	Eyebolt Nut	Carbon Steel
8	Gland Flange	Carbon Steel
9	Eyebolt	Carbon Steel
10	Gland	13 CR Stainless
11	Eyebolt Pin	Carbon Steel
Trim Parts		
12	Backseat-Bushing	(See Page 37 for
13	Stem	Trim Materials)
14	Wedge	
15	Seat Ring	
16 to 21 — See below		

	Part Name	Carbon Steel	LCB	LC3	WC6	WC9
16	Packing	Commercial	Commercial	Commercial	Commercial	Commercial
17	Bonnet	A216 GR WCB	A352 GR LCB	A352 GR LC3	A217 GR WC6	A217 GR WC9
18	Bonnet Gasket					
	Class 150 + 300	Corr. Mild Steel	RPTFE/316	RPTFE	Corr. 304 SS	Cor. 304 SS
	Class 600 & up	Steel ring joint	RPTFE/316	304 SS ring joint	5% Cr ring joint	5% Cr ring joint
19	Bonnet stud nuts	A194 Gr 2H	A194 Gr 7M	A194 Gr 7M	A194 Gr 2H	A194 Gr 2H
20	Bonnet Studs	A193 Gr B7	A320 Gr L7M	A320 Gr L7M	A193 Gr B7	A193 Gr B7
21	Body	A216 Gr WCB	A352 Gr LCB	A352 Gr LC3	A217 Gr WC6	A217 Gr WC9

	Part Name	C5	C12
16	Packing	Commercial	Commercial
17	Bonnet	A217 Gr C5	A217 Gr C12
18	Bonnet Gasket		
	Class 150 + 300	Corr. 304 SS	Corr. 304 SS
	Class 600 & up	5% Cr ring joint	410 SS ring joint
19	Bonnet stud nuts	A194 Gr 2H	A194 Gr 2H
20	Bonnet Studs	A193 Gr B7	A193 Gr B7
21	Body	A217 Gr C5	A217 Gr C12

Construction and materials may vary between sizes and pressure classes and are subject to change without notice.

This is not a complete list of all available materials. See Page 36 for additional body materials.

See Page 37 for details of trim materials.

Specifications are ASTM unless otherwise noted.



GATE VALVES

CAST STEEL BOLTED BONNET - Class 150 & 300

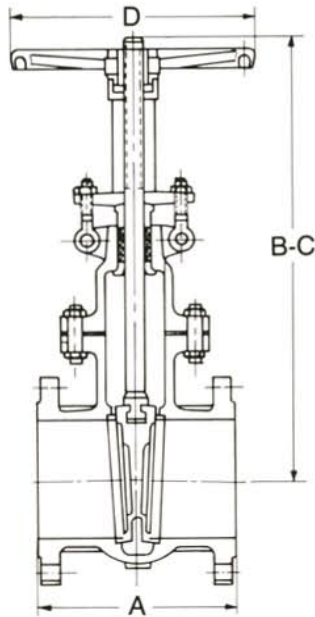


Fig. 11F-CB

Class 150 - Fig. 11F-CB

- Corrugated soft iron gasket
- Integral yoke - NPS 12 & smaller
- Thrust bearings - NPS 14 & larger
- Lantern ring optional

Class 300 - Fig. 13F-CB

- Corrugated soft iron gasket
- Integral yoke - NPS 10 & smaller
- Thrust bearings - NPS 12 & larger
- Lantern ring optional

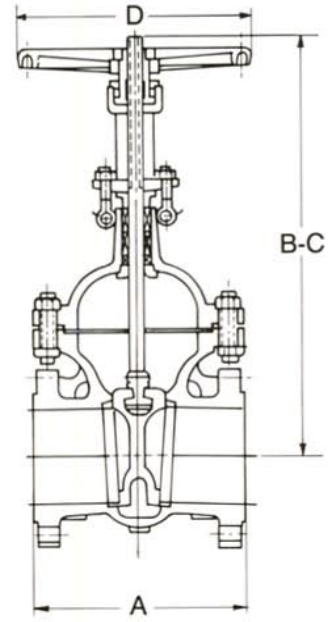


Fig. 13F-CB

CLASS 150 DIMENSIONS

		2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A Face to Face RF	IN	7.0	7.5	8.0	9.0	10.0	10.5	11.5	13.0	14.0	15.0	16.0	17.0	18.0	20.0
	MM	178	191	203	229	254	267	292	330	356	381	406	432	457	508
A End to End BW	IN	8.5	9.5	11.12	12.0	15.0	15.87	16.5	18.0	19.75	22.5	24.0	26.0	28.0	32.0
	MM	216	241	283	305	381	403	419	457	502	572	610	660	711	813
B Valve Open	IN	15.5	16.9	18.6	23.3	28.0	31.5	39.3	47.0	54.9	61.2	68.9	76.9	83.5	101.4
	MM	394	429	472	592	711	800	998	1194	1394	1554	1750	1953	2121	2576
C Valve Closed	IN	13.0	13.9	15.2	18.9	22.5	24.9	30.5	36.3	41.9	47.0	52.8	58.6	65.1	76.9
	MM	330	353	386	480	572	632	775	922	1064	1194	1341	1488	1654	1953
D Handwheel Dia.	IN	8	8	8	10	13	14	16	18	18	22	24	27	30	30
	MM	203	203	203	254	330	356	406	457	457	559	610	686	762	762

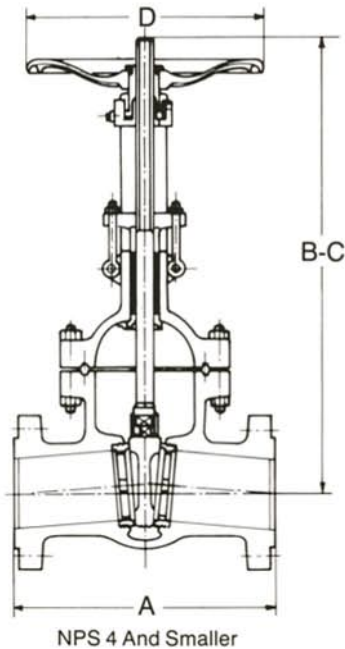
CLASS 300 DIMENSIONS

		2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A Face to Face RF/BW	IN	8.5	9.5	11.12	12.0	15.0	15.87	16.5	18.0	19.75	30.0	33.0	36.0	39.0	45.0
	MM	216	241	283	305	381	403	419	457	502	762	838	914	990	1143
B Valve Open	IN	17.5	18.9	20.5	24.6	29.4	33.3	41.6	49.6	57.4	63.9	71.6	77.9	87.3	102.5
	MM	445	480	521	625	747	846	1057	1260	1458	1623	1819	1974	2217	2604
C Valve Closed	IN	15.0	15.9	17.0	20.2	23.8	26.6	32.8	38.8	44.6	49.7	55.4	60.4	65.8	77.6
	MM	381	404	432	513	605	676	833	986	1133	1262	1407	1534	1671	1971
D Handwheel Dia.	IN	8	10	10	12	15	16	18	20	20	27	29	33	35	43
	MM	203	254	254	305	381	406	457	508	508	686	737	838	889	1092



GATE VALVES

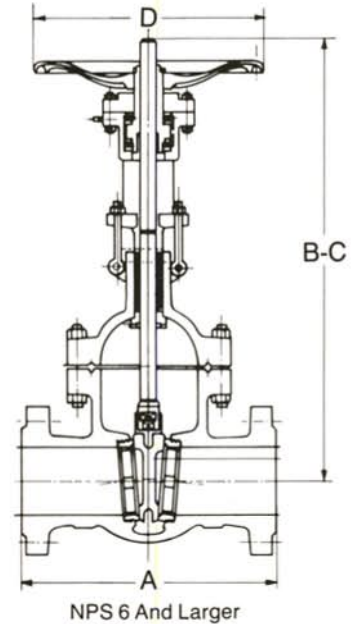
CAST STEEL BOLTED BONNET - Class 600 - 900 - 1500 - 2500



NPS 4 And Smaller

- Ring type gasket
- Integral yoke - NPS 4 and smaller
- Thrust bearings - NPS 6 and larger
- Lantern ring optional

Fig.
16F-CB
19F-CB
115F-CB
125F-CB



NPS 6 And Larger

CLASS 600 DIMENSIONS

		2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A Face to Face RF/BW	IN	11.5	13.0	14.0	17.0	20.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0
	MM	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397
B Valve Open	IN	18.5	22.5	26.0	31.8	36.2	43.5	52.5	62.0	69.6	80.0	84.0	94.0	105.0	126.0
	MM	470	572	660	808	919	1105	1334	1575	1768	2032	2134	2388	2267	3200
C Valve Closed	IN	16.3	19.8	22.8	27.5	30.8	36.6	43.8	51.3	56.6	62.0	69.2	77.5	86.2	103.0
	MM	414	503	579	699	782	930	1113	1303	1438	1575	1758	1969	2190	2616
D Handwheel Dia.	IN	10	10	12	14	16	20	22	27	27	30	35	35	44	44
	MM	254	254	305	356	406	508	559	686	686	762	889	889	1118	1118

CLASS 900 DIMENSIONS

CLASS 1500 DIMENSIONS

CLASS 2500 DIMENSIONS

		3	4	6	8	10	12	14	16			2	2 1/2	3	4	6	8	10	12			2	2 1/2	3	4	6	8	10	12
A Face to Face RF/BW	IN	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5	A Face to Face RF/BW	IN	14.5	16.5	18.5	21.5	27.75	32.75	39.0	44.5	A Face to Face RF/BW	IN	17.75	20.0	22.75	26.5	36.0	40.25	50.0	56.0
	MM	381	457	610	737	838	965	1029	1130		MM	368	419	470	546	705	832	991	1130		MM	451	508	578	673	914	1022	1270	1422
B Valve Open	IN	29.0	32.8	43.6	53.0	62.5	68.5	77.8	90.4	B Valve Open	IN	24.5	28.0	31.3	36.0	47.5	55.0	66.5	72.3	B Valve Open	IN	30.4	30.8	31.5	41.5	53.5	74.5	84.0	93.0
	MM	737	833	1107	1346	1588	1740	1976	2296		MM	622	711	794	915	1207	1397	1689	1835		MM	772	781	800	1054	1354	1825	2058	2279
C Valve Closed	IN	25.5	29.5	37.2	44.5	52.0	57.4	65.5	76.3	C Valve Closed	IN	22.0	25.2	27.9	31.5	41.0	46.8	56.3	60.8	C Valve Closed	IN	27.5	28.0	28.4	37.5	47.3	68.0	76.0	83.0
	MM	648	749	945	1130	1321	1458	1664	1938		MM	559	640	708	800	1041	1188	1429	1543		MM	699	711	721	953	1200	1666	1862	2034
D Handwheel Dia.	IN	14	16	20	24	27	30	35	35	D Handwheel Dia.	IN	12	14	16	18	22	27	35	44	D Handwheel Dia.	IN	16	16	20	24	27	30	35	44
	MM	356	406	508	610	686	762	889	889		MM	305	356	406	457	559	686	889	1118		MM	406	406	508	610	686	762	889	1118



GLOBE & ANGLE VALVE FEATURES

BOLTED BONNET GLOBE & ANGLE VALVES

Globe valves are primarily used in applications where a moderate control or regulation of flow is required. The internal passages within the valve divert this flow through two 90-degree changes of direction which results in pressure drop and turbulence significantly higher than straight-through valves such as gate or ball valves.

Globe valves are marked with flow direction arrows because they are recommended to be installed with flow and pressure under the disc. Dependent upon actual flow conditions, they may, however, be installed in the reverse direction with flow and pressure over the disc.

The amount of force necessary to close a globe valve against pressure is much higher than for gate valves, but the distance the stem must travel from full open to close is much less. When globe valves are equipped with power actuators, they are sometimes purposely installed in the

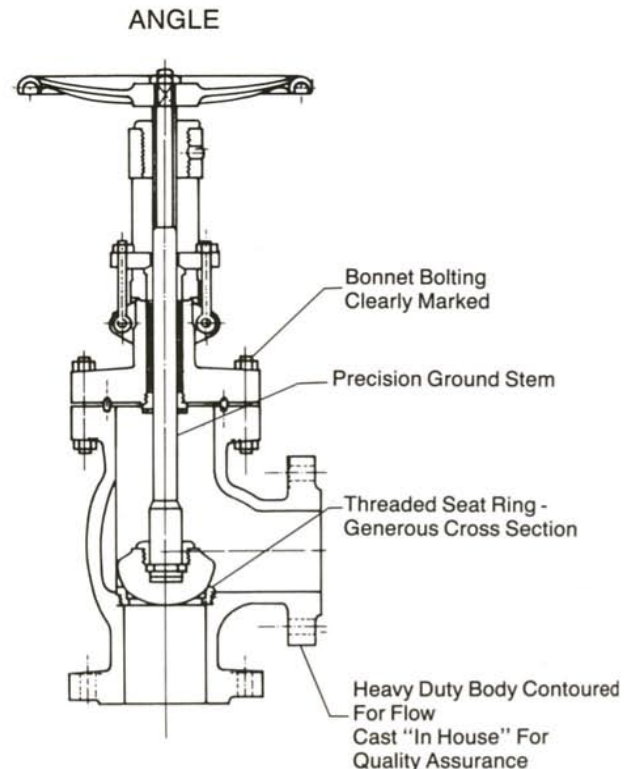
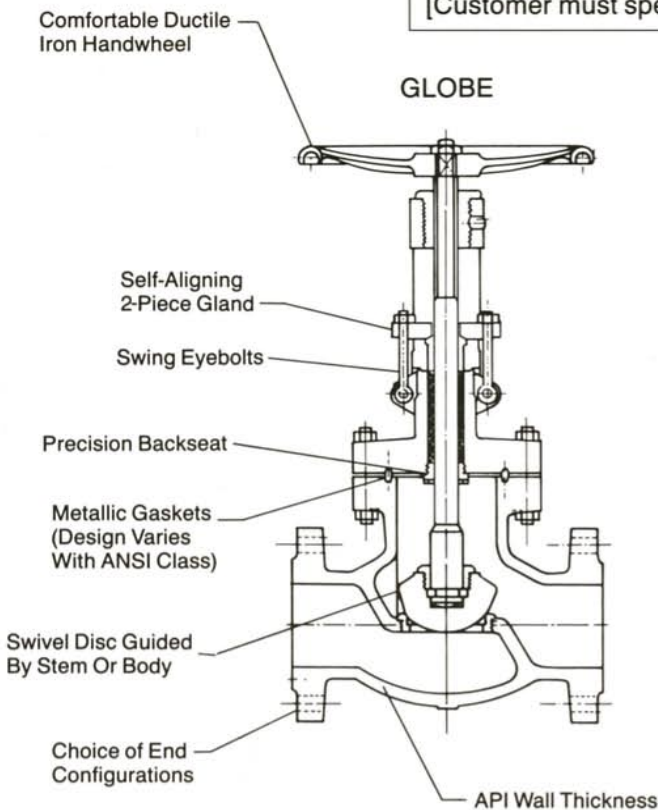
reverse flow direction in order to reduce the size of the actuator.

Angle valves are modified globe valves with the outlet at right angles to the inlet. Pressure drop and turbulence are less since the flow makes only one 90-degree change of direction. The use of an angle valve can save the cost of a fitting when such a change in flow direction is desired.

Newco cast steel bolted bonnet globe and angle valves comply with the design and testing requirements of ANSI B16.34 and API 598. Wall thickness dimensions comply with API 600. Installation dimensions comply with ANSI B16.10.

All Newco cast steel bolted bonnet globe and angle valves have the features shown below. They are engineered to provide convenience, durability and maintainability.

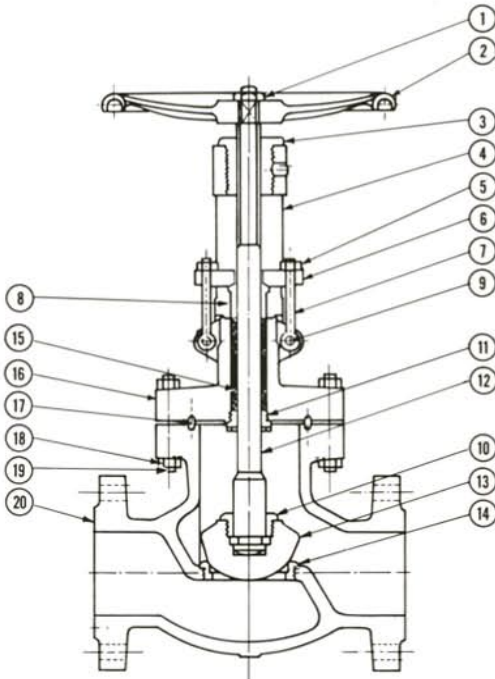
Items shown also available in non-return configurations.
[Customer must specify flow direction (Horizontal/Vertical)]



GLOBE & ANGLE VALVE MATERIALS



CAST STEEL BOLTED BONNET



	Part Name	Material
1	Handwheel Nut	Carbon Steel
2	Handwheel	Malleable Iron
3	Stem Nut	Aust Ductile Iron A439-02
4	Yoke	A216 Gr WCB
5	Eyebolt Nut	Carbon Steel
6	Gland Flange	Carbon Steel
7	Eyebolt	Carbon Steel
8	Gland	13 Cr Stainless
9	Eyebolt Pin	Carbon Steel
Trim Parts		
10	Disc Nut	(See Page 37 for Trim Materials)
11	Backseat-Bushing	
12	Stem	
13	Disc	
14	Seat Ring	
15-20	— See below	

	Part Name	Carbon Steel	LCB	LC3	WC6
15	Packing	Commercial	Commercial	Commercial	Commercial
16	Bonnet	A216 GR WCB	A352 GR LCB	A352 GR LC3	A217 GR WC6
17	Bonnet Gasket				
	Class 150 + 300	Corr. Iron	RPTFE/316	RPTFE	Corr. 304 SS
	Class 600 & up	Steel ring joint	RPTFE/316	304 SS ring joint	5% Cr ring joint
18	Bonnet stud nuts	A194 Gr 2H	A194 Gr 7M	A194 Gr 7M	A194 Gr 2H
19	Bonnet Studs	A193 Gr B7	A320 Gr L7M	A320 Gr L7M	A193 Gr B7
20	Body	A216 Gr WCB	A352 Gr LCB	A352 Gr LC3	A217 Gr WC6
	Part Name	WC9	C5	C12	
15	Packing	Commercial	Commercial	Commercial	Construction and materials may vary between sizes and pressure classes and are subject to change without notice. This is not a complete list of all available materials. See Page 36 for additional body materials. See Page 37 for details of trim materials. Specifications are ASTM unless otherwise noted.
16	Bonnet	A217 Gr WC9	A217 Gr C5	A217 Gr C12	
17	Bonnet Gasket				
	Class 150 + 300	Corr. 304 SS	Corr. 304 SS	Corr. 304 SS	
	Class 600 & up	5% Cr ring joint	5% Cr ring joint	410 SS ring joint	
18	Bonnet stud nuts	A194 Gr 2H	A194 Gr 2H	A194 Gr 2H	
19	Bonnet Studs	A193 Gr B7	A193 Gr B7	A193 Gr B7	
20	Body	A217 Gr WC9	A217 Gr C5	A217 Gr 12	



GLOBE & ANGLE VALVES

CAST STEEL BOLTED BONNET - Class 150 & 300

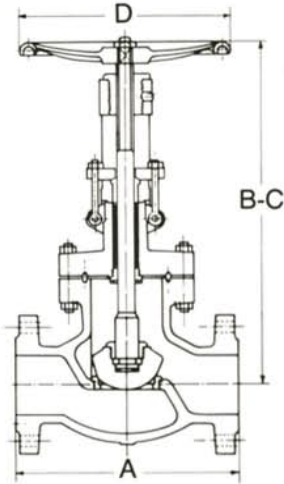


Fig. 21F-CB
23F-CB

Available with hammer blow handwheel
Lantern ring optional
Items shown also available in
non-return configurations.
[Customer must specify flow direction
(Horizontal/Vertical)]

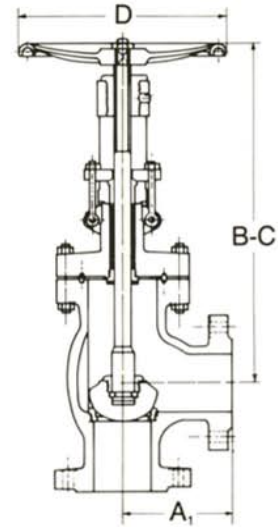


Fig. 71F-CB
73F-CB

CLASS 150 DIMENSIONS

		2	2½	3	4	5	6	8	10	12
A Face to Face RF/BW	IN	8.0	8.5	9.5	11.5	14.0	16.0	19.5	24.5	27.5
	MM	203	216	241	292	356	406	495	622	699
A ₁ Center to Face RF/BW	IN	4.0	4.25	4.75	5.75	7.0	8.0	9.75	12.25	13.75
	MM	102	108	121	146	178	203	248	311	349
B Valve Open	IN	14.7	15.6	16.4	19.7	21.6	22.2	26.3	30.4	34.6
	MM	373	396	417	500	549	564	668	772	879
C Valve Closed	IN	13.5	14.4	14.8	17.6	19.5	20.2	23.6	24.8	27.0
	MM	343	366	376	447	495	513	599	630	686
D Handwheel Dia.	IN	8	10	10	12	14	16	18	22	24
	MM	203	254	254	305	356	406	457	559	610

CLASS 300 DIMENSIONS

		2	2½	3	4	5	6	8	10	12
A Face to Face RF/BW	IN	10.5	11.5	12.5	14.0	15.75	17.5	22.0	24.5	28.0
	MM	267	292	318	356	400	445	559	622	711
A ₁ Center to Face RF/BW	IN	5.25	5.75	6.25	7.00	7.87	8.75	11.0	12.25	14.00
	MM	133	146	159	178	200	222	279	311	356
B Valve Open	IN	16.7	17.5	19.0	22.8	27.2	30.3	35.6	40.2	47.1
	MM	424	445	483	579	691	770	904	1021	1196
C Valve Closed	IN	15.4	16.0	17.3	20.7	25.0	28.1	32.7	34.6	39.5
	MM	391	406	438	526	635	714	831	879	1003
D Handwheel Dia.	IN	10	10	12	14	14	18	24	24	27
	MM	254	254	305	356	356	457	610	610	686



GLOBE & ANGLE VALVES

CAST STEEL BOLTED BONNET - Class 600 - 900 - 1500

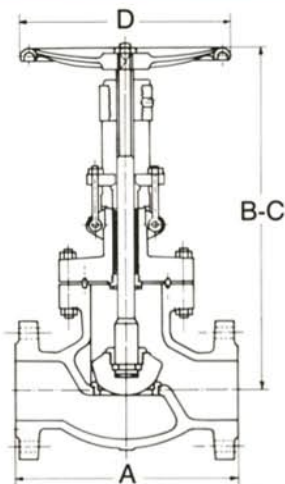


Fig. 26F-CB
29F-CB

Available with hammer blow handwheel
Lantern ring optional
Thrust bearings standard -
NPS 6 & larger
Items shown also available in
non-return configurations
[Customer must specify flow direction
(Horizontal/Vertical)]

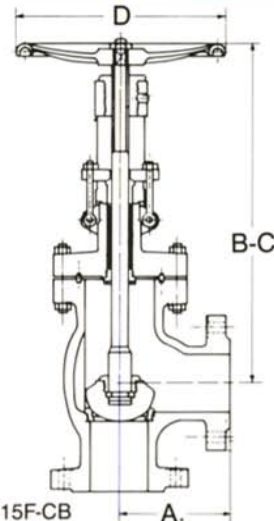


Fig. 715F-CB

CLASS 600 DIMENSIONS

	2	2½	3	4	6	8	10
A Face to Face ^{IN} RF/BW	11.5	13.0	14.0	17.0	22.0	26.0	31.0
MM	292	330	356	432	559	660	787
A ₁ Center to Face ^{IN} RF/BW	5.75	6.5	7.0	8.5	11.0	13.0	15.5
MM	146	165	178	216	279	330	394
B Valve Open ^{IN}	20.0	21.6	25.5	29.5	40.5	54.8	57.0
MM	508	549	572	749	1029	1391	1448
C Valve Closed ^{IN}	19.0	20.3	23.3	27.1	37.8	51.5	53.5
MM	483	521	591	689	959	1308	1359
D Handwheel Dia. ^{IN}	10	10	14	18	24	24	30
MM	254	254	356	457	610	610	762

CLASS 900 DIMENSIONS

	3	4	6	8	10
A Face to Face ^{IN} RF/BW	15.0	18.0	24.0	29.0	33.0
MM	381	457	610	737	838
A ₁ Center to Face ^{IN} RF/BW	7.5	9.0	12.0	14.5	16.5
MM	191	229	305	368	419
B Valve Open ^{IN}	30.0	30.8	35.6	54.5	65.0
MM	762	781	905	1384	1651
C Valve Closed ^{IN}	28.0	28.4	34.3	50.3	59.8
MM	711	721	870	1276	1517
D Handwheel Dia. ^{IN}	16	20	24	29	35
MM	406	508	610	737	889

CLASS 1500 DIMENSIONS

	2	3	4	6	8
A Face to Face ^{IN} RF/BW	14.5	18.5	21.5	27.75	32.75
MM	368	470	546	705	832
A Center to Face ^{IN} RF/BW	7.25	9.25	10.75	13.87	16.37
MM	184	235	273	353	416
B Valve Open ^{IN}	27.5	30.0	38.0	53.5	64.0
MM	699	762	965	1359	1626
C Valve Closed ^{IN}	26.25	27.5	35.5	50.5	61.0
MM	667	699	902	1283	1549
D Handwheel Dia. ^{IN}	14	20	24	30	36
MM	356	508	610	762	914



SWING CHECK VALVE FEATURES

CAST STEEL BOLTED CAP

Check valves are single-direction flow valves used to allow unlimited flow in one direction and to restrain flow in the opposite direction.

Swing check valves are straight-through flow valves which work automatically. The disc is held by an arm which rotates on a pin contained in the upper portion of the valve. The disc swings away from the seat upon exertion of fluid pressure on the upstream side. When the flow direction reverses, the reversal pressure and the weight of the disc close the disc against the seat, stopping backflow.

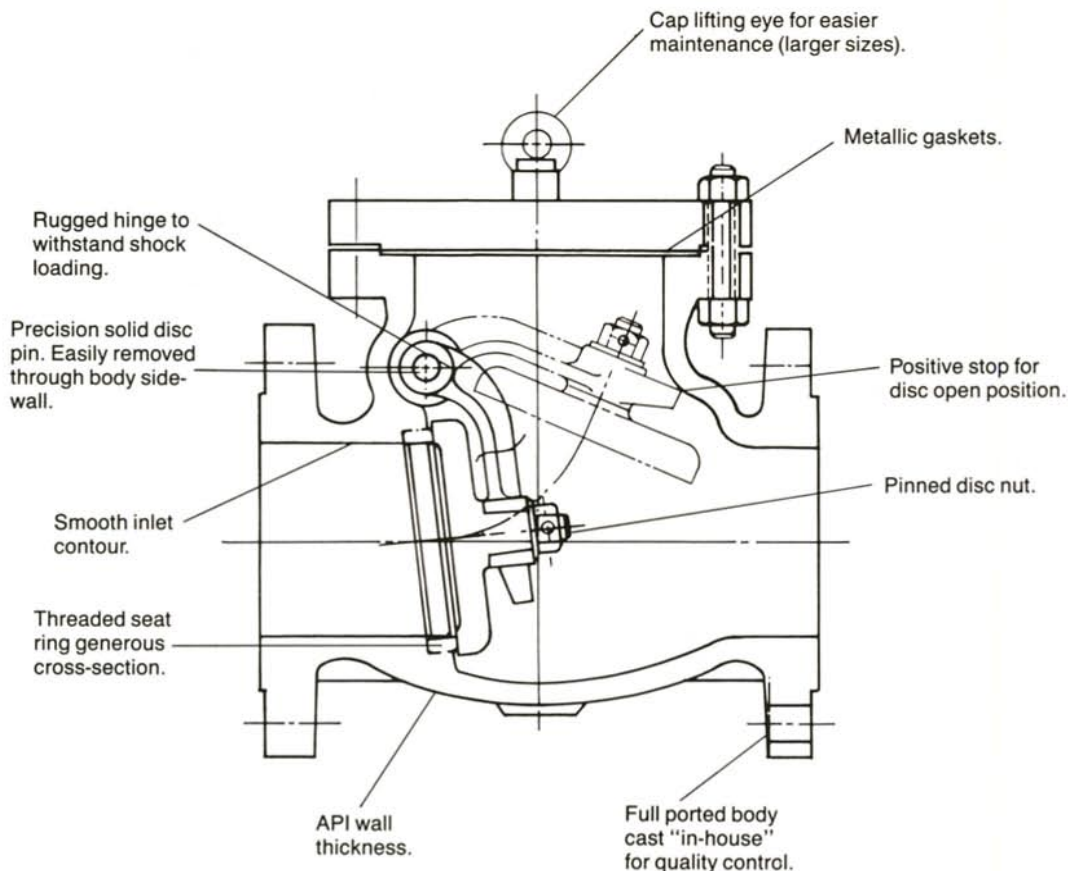
Swing check valves are best suited for moderate velocity applications. Either too low or too high a line velocity can seriously damage the valve's internal parts. Valve damage

can also be caused by rapid and frequent flow reversals, pulsation or excessive turbulence.

Swing check valves are normally designed for installation in horizontal lines. They may also be used in vertical lines where the flow is upward under the disc.

Newco cast steel bolted cap swing check valves comply with the design and testing requirements of ANSI B16.34 and API 598. Wall thickness dimensions comply with API 600. Installation dimensions comply with ANSI B16.10.

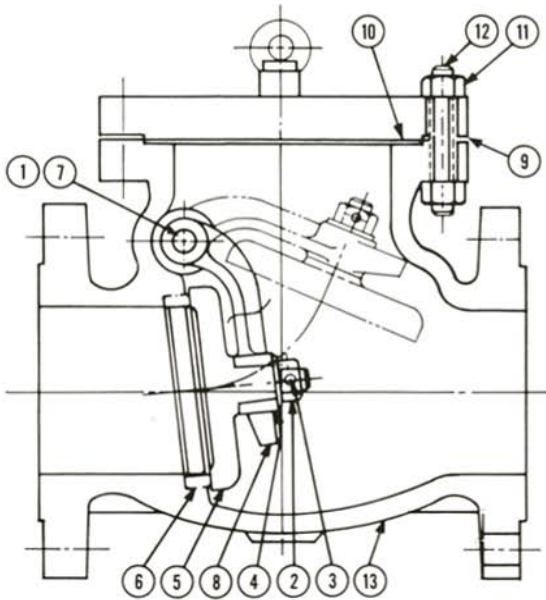
All Newco cast steel bolted cap swing check valves have the features shown below. They are engineered to provide convenience, durability and maintainability.



SWING CHECK VALVE MATERIALS



CAST STEEL BOLTED CAP



Trim Parts	
Part Name	Material
1	Hinge Pin
2	Disc Nut
3	Disc Nut Pin (See Page 37 for Materials)
4	Disc Washer
5	Disc
6	Seat Ring
7 to 13 — See below	

Part Name	Carbon Steel	LCB	LC3	WC6	WC9
7	Pipe Plugs A108 Gr 1018	A276 Gr 304	A276 Gr 304	A582 Gr 416	A582 Gr 416
8	Hinge A216 Gr WCB	A351 Gr CF8M	A351 Gr CF8M	A351 Gr CF8M	A351 Gr CF8M
9	Cap A216 Gr WCB	A352 Gr LCB	A352 Gr LC3	A217 Gr WC6	A217 Gr WC9
10	Cap Gasket				
	Class 150 Corr. Mild Steel	PTFE/316	PTFE	Corr. 304 SS	Corr. 304 SS
	Class 600 & up Steel ring joint	PTFE/316	304 SS ring joint	5% Cr ring joint	5% Cr ring joint
11	Cap stud nuts A194 Gr 2H	A194 Gr 7M	A194 Gr 7M	A194 Gr 2H	A194 Gr 2H
12	Cap Studs A193 Gr B7	A320 Gr L7M	A320 Gr L7M	A193 Gr B7	A193 Gr B7
13	Body A216 Gr WCB	A352 Gr LCB	A352 Gr LC3	A217 Gr WC6	A217 Gr WC9

Part Name	C5	C12
7	Pipe Plugs A582 Gr 416	A582 Gr 416
8	Hinge A351 Gr CF8M	A351 Gr CF8M
9	Cap A217 Gr C5	A217 Gr C12
10	Cap Gasket	
	Class 150 + 300 Corr. 304 SS	Corr. 304 SS
	Class 600 & up 5% Cr ring joint	410 SS ring joint
11	Cap stud nuts A194 Gr 2H	A194 Gr 2H
12	Cap Studs A193 Gr B7	A193 Gr B7
13	Body A217 Gr C5	A217 Gr C12

Construction and materials may vary between sizes and pressure classes and are subject to change without notice.

This is not a complete list of all available materials. See Page 36 for additional body materials. See Page 37 for details of trim materials. Specifications are ASTM unless otherwise noted.



SWING CHECK VALVES

CAST STEEL BOLTED CAP - Class 150 & 300

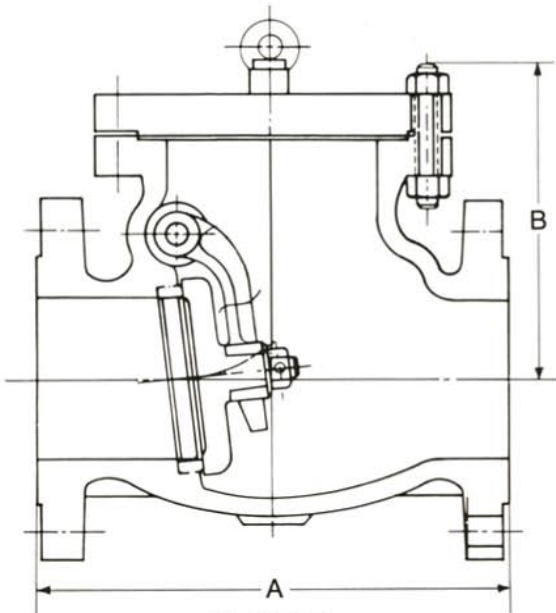


Fig. 31F-CB

Supplied with cap lifting eye, NPS - 5 and larger

Swing check valves can be supplied with the following accessories:

- Outside weight & lever
- Slam retarders
- Assisting springs
- Position switches/ indicators

[Customer must specify flow direction (Horizontal/Vertical)]

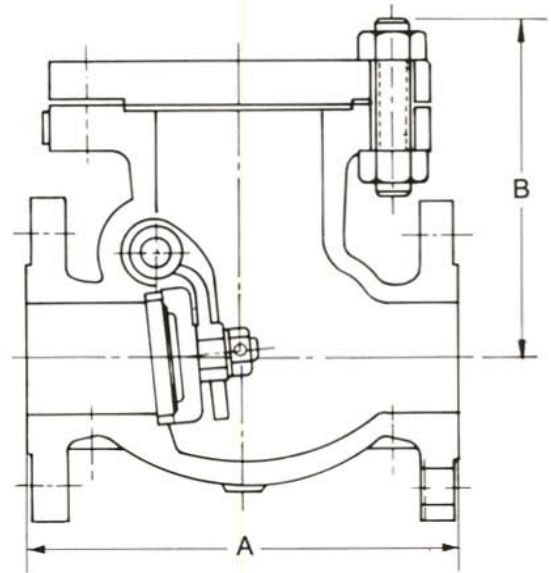


Fig. 33F-CB

CLASS 150 DIMENSIONS

	2	2½	3	4	5	6	8	10	12	14	16	18	20	24	
A Face to Face	IN	8.0	8.5	9.5	11.5	13.0	14.0	19.5	24.5	27.5	31.0	34.0	38.5	38.5	51.0
	RF/BW MM	203	216	241	292	330	356	495	622	699	787	864	978	978	1295
B Center to Top	IN	6.2	7.0	7.2	8.5	10.0	12.3	14.3	16.5	19.3	21.0	24.0	26.0	28.0	31.0
	MM	157	178	183	216	254	312	363	419	490	533	610	660	711	787

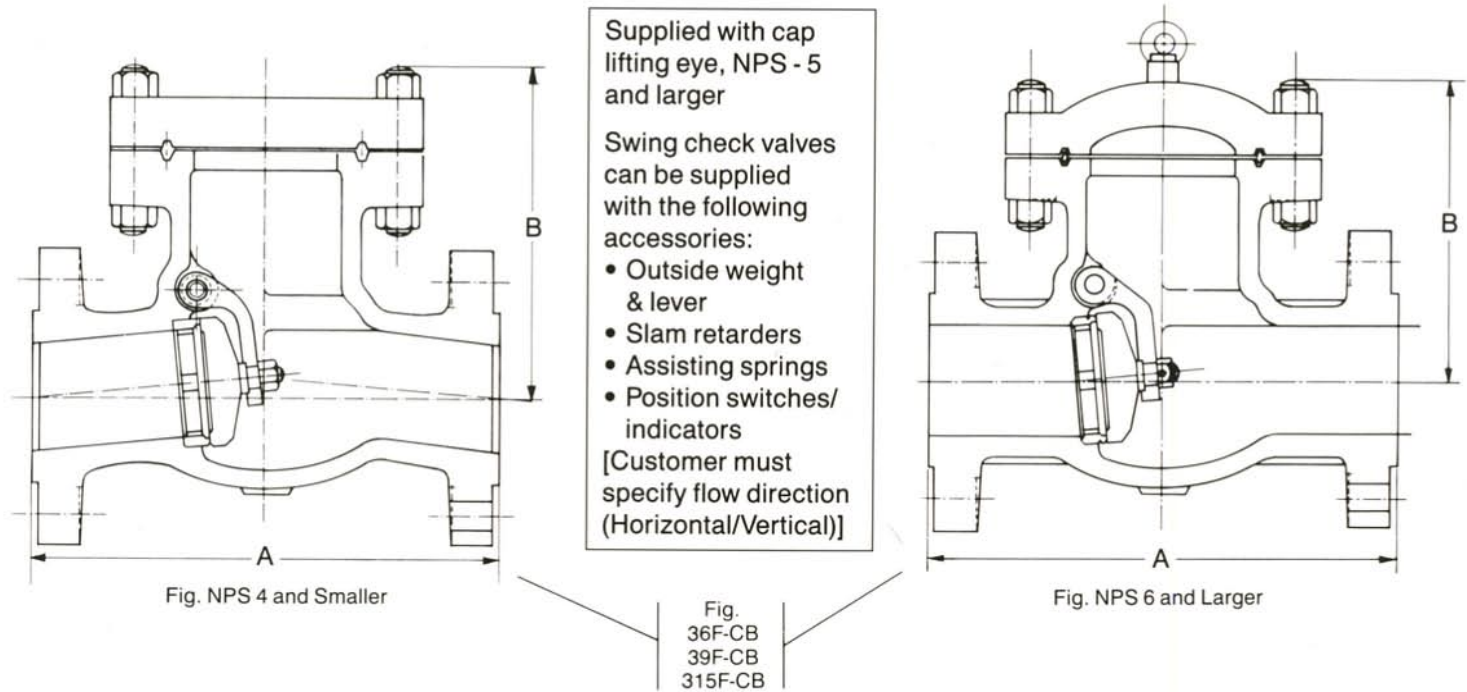
CLASS 300 DIMENSIONS

	2	2½	3	4	5	6	8	10	12	14	16	18	20	24	
A Face to Face	IN	10.5	11.5	12.5	14.0	15.75	17.5	21.0	24.5	28.0	33.0	34.0	38.5	40.0	53.0
	RF/BW MM	267	292	318	356	400	445	533	622	711	838	864	978	1015	1346
B Center to Top	IN	7.4	8.3	8.7	9.7	13.2	13.8	15.7	18.6	21.7	23.0	25.1	28.5	30.1	33.5
	MM	188	211	221	246	335	351	399	472	551	584	638	724	765	851



SWING CHECK VALVES

CAST STEEL BOLTED CAP - Class 600 - 900 - 1500



CLASS 600 DIMENSIONS

	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	
A Face to Face ^{RF/BW}	IN	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0
	MM	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
B Center to Top	IN	8.0	9.0	9.3	11.3	13.0	15.0	18.0	23.0	25.0	27.0	28.5	32.5	35.0
	MM	203	229	236	287	330	381	457	584	635	686	724	826	889

CLASS 900 DIMENSIONS

	3	4	6	8	10	12	14	16	
A Face to Face ^{RF/BW}	IN	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5
	MM	381	457	610	737	838	965	1029	1130
B Center to Top	IN	11.5	12.5	14.5	17.0	21.5	26.0	27.0	28.5
	MM	292	318	368	432	546	660	686	724

CLASS 1500 DIMENSIONS

	2	2 1/2	3	4	6	8	10	12	
A Face to Face ^{RF/BW}	IN	14.5	16.5	18.5	21.5	27.75	32.75	39.0	44.5
	MM	368	419	470	546	705	832	991	1130
B Center to Top	IN	10.0	13.0	13.5	15.0	21.0	23.0	26.5	40.5
	MM	254	330	343	381	533	584	673	1029



TILTING DISC CHECK VALVE FEATURES

CAST STEEL BOLTED BODY

Check valves are single direction flow valves used to allow unlimited flow in one direction and to restrain flow in the opposite direction.

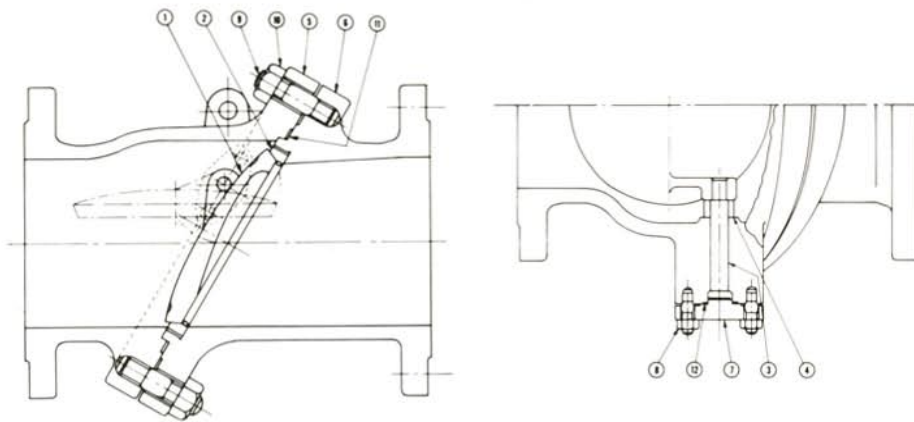
Tilting disc check valves are straight-through flow valves which work automatically. The disc pivots on support pins located close to the center of gravity of the disc. This, together with the contoured shape of the disc, provides rapid closing while minimizing slamming and vibration.

Tilting disc check valves are best suited for moderate velocity applications. Either too low or too high a line velocity can damage the valve's internal parts. Valve damage can also be caused by rapid and frequent flow reversals, pulsation or excessive turbulence.

Tilting disc check valves are designed for installation in horizontal lines. They may also be used in vertical lines where the flow is upward under the disc.

Newco cast steel bolted body tilting disc check valves comply with the design and testing requirements of ANSI B16.34 and API 598. Wall thickness dimensions comply with API 600. Installation dimensions comply with ANSI B16.10.

All Newco bolted body tilting disc check valves are engineered to provide convenience, durability and maintainability.



Trim Parts	
Part Name	Material
1	Disc
2	Seat (See Page 37 for Materials)
3	Pivot Pin
4	Spacer
5-13 — See below	

Part Name	Carbon Steel	LCB	LC3	WC6
5 Body	A216-Gr WCB	A352-Gr LCB	A352-Gr LC3	A217-Gr WC6
6 Body	A216-Gr WCB	A352-Gr LCB	A352-Gr LC3	A217-Gr WC6
7 Cap	AISI 1025	A276-304	A276-304	A582-416
8 Stud	A193-B7	A320-L7M	A320-L7M	A193-B7
9 Stud	A193-B7	A320-L7M	A320-L7M	A193-B7
10 Nut	A194-2H	A194-7M	A194-7M	A194-2H
11 Gasket	Spiral Wound	RPTFE/316	RPTFE/316	Spiral Wound
12 Gasket	Commercial	RPTFE/316	RPTFE/316	Commercial

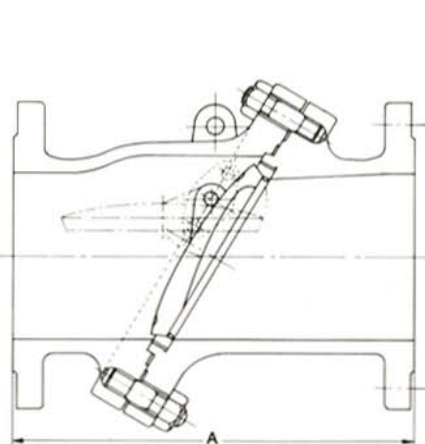
Part Name	WC9	C5	C12
5 Body	A217-Gr WC9	A217-Gr C5	A217-Gr C12
6 Body	A219-Gr WC9	A217-Gr C5	A217-Gr C12
7 Cap	A582-416	A582-416	A582-416
8 Stud	A193-B7	A193-B7	A193-B7
9 Stud	A193-B7	A193-B7	A193-B7
10 Nut	A194-2H	A194-2H	A194-2H
11 Gasket	Spiral Wound	Spiral Wound	Spiral Wound
12 Gasket	Commercial	Commercial	Commercial

Construction and materials may vary between sizes and pressure classes and are subject to change without notice. This is not a complete list of all available materials. See Page 36 for additional body materials. See Page 37 for details of trim materials. Specifications are ASTM unless otherwise noted.

TILTING DISC CHECK VALVES



CAST STEEL BOLTED BODY - Class 150 - 300 - 600 - 900 - 1500



Tilting disc check valves can be supplied with the following accessories:

- Yoke & handwheel
- Speed control cylinders
- Positive closing cylinders
- Position switches/indicators

[Customer must specify flow direction (Horizontal/Vertical)]

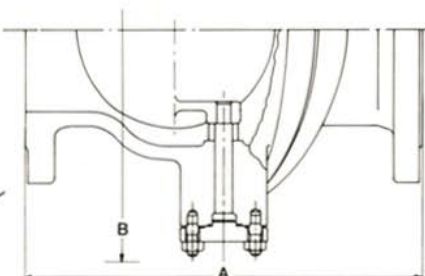


Fig.
31F-CB-TD
33F-CB-TD
36F-CB-TD
39F-CB-TD
315F-CB-TD

CLASS 150 DIMENSIONS

	2	2½	3	4	5	6	8	10	12	14	16	18	20	24	
A Face to Face RF/BW	IN	8.0	8.5	9.5	11.5	13.0	14.0	19.5	24.5	27.5	31.0	30.0	33.0	32.5	38.0
	MM	203	216	241	292	330	356	495	622	699	787	762	838	826	965
B Width	IN	7.5	8.3	9.5	11.8	12.9	15.0	18.3	21.8	25.0	28.2	31.5	34.3	36.6	48.5
	MM	191	211	241	300	328	381	465	554	635	717	800	871	930	1232

CLASS 300 DIMENSIONS

	2	2½	3	4	5	6	8	10	12	14	16	18	20	24	
A Face to Face RF/BW	IN	10.5	11.5	12.5	14.0	15.75	17.5	21.0	24.5	28.0	30.0	33.0	36.0	39.0	45.0
	MM	267	292	318	356	400	445	533	622	711	762	838	914	991	1143
B Width	IN	8.3	8.6	9.8	12.5	14.5	15.5	19.3	23.6	26.5	30.3	32.9	36.5	38.9	50.6
	MM	211	218	249	318	368	394	490	599	673	770	836	927	988	1285

CLASS 600 DIMENSIONS

		2	2½	3	4	5	6	8	10	
A Face to Face RF/BW	IN		11.5	13.0	14.0	17.0	20.0	22.0	26.0	31.0
	MM		292	330	356	432	508	559	660	787
B Width	IN		8.8	9.5	11.5	13.0	15.3	16.5	21.8	24.8
	MM		224	241	292	330	389	419	554	630

CLASS 900 DIMENSIONS

		3	4	5	6
A Face to Face RF/BW	IN	15.0	18.0	22.0	24.0
	MM	381	457	559	610
B Width	IN	13	15.7	18.5	21.5
	MM	330	400	470	545

CLASS 1500 DIMENSIONS

		2	2½	3	4	5	6
Face to Face RF/BW	IN	14.5	16.5	18.5	21.5	26.5	27.75
	MM	368	419	470	546	673	705
Width	IN	11.8	13	14.2	17	20	23
	MM	300	330	360	430	500	580



GATE VALVE FEATURES

CAST STEEL PRESSURE SEAL BONNET

Pressure seal bonnet gate valves have the same application features as bolted bonnet valves shown on Page 4. The major difference is in the bonnet design.

The pressure seal bonnet joint eliminates the body/bonnet flanges reducing weight and simplifying the application of exterior insulation. Contrary to bolted bonnet valves, internal pressure applied to a pressure seal valve forces the sealing elements into tighter contact — the higher the internal pressure, the tighter the seal.

Gate valves may be installed without consideration for the direction of flow. They are not recommended for use in a partially open, throttling position because erosion, noise and excessive wear can occur. Gate valve installations should always be made with consideration for the potential

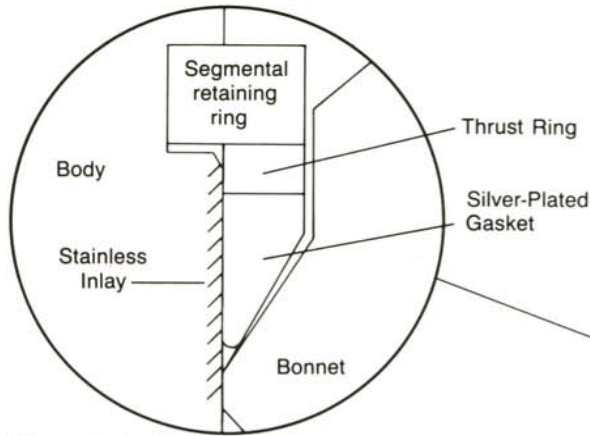
of bonnet over-pressurization caused by fluids which may become entrapped in the bonnet of a closed valve. Where this possibility exists, it is the user's responsibility to insure that proper venting is installed.

Newco cast steel pressure seal valves comply with the design and test requirements of ANSI B16.34 and the installation dimensions of ANSI B16.10.

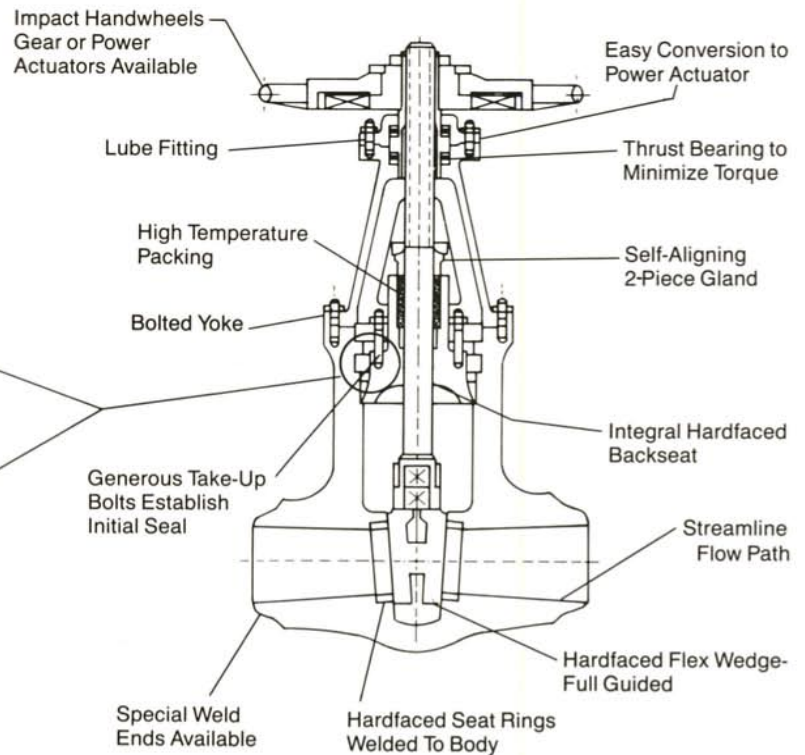
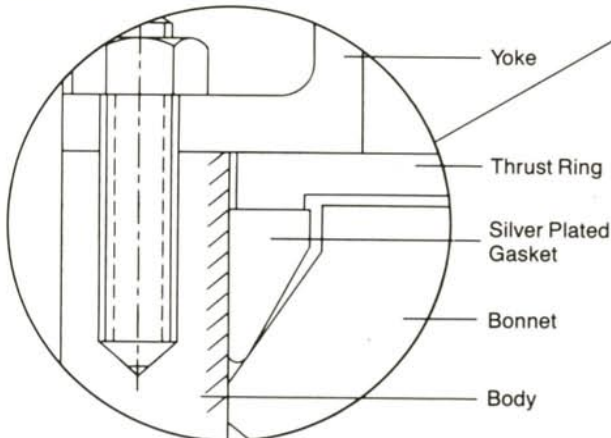
A forged-body, seal-welded version, the "Safe-O-Seal," is available for cyclic critical service. This innovative, patented seal design is described on Page 28.

All Newco pressure seal gate valves have the features shown below. They are engineered to provide convenience, durability and maintainability.

Class 900-2500



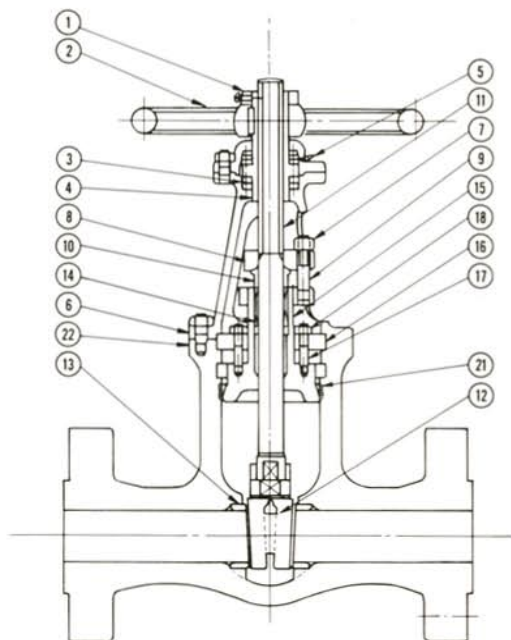
Class 600





GATE VALVE MATERIALS

CAST STEEL PRESSURE SEAL BONNET



	Part Name	Material
1	Handwheel Nut	Carbon Steel
2	Handwheel	Ductile Iron A536
3	Bearings	Steel
4	Stem Nut	Aust Ductile Iron A459-D2
5	Grease Fitting	Carbon Steel
6	Yoke	A216 Gr WCB
7	Gland Flange Nut	Carbon Steel
8	Gland Flange	Carbon Steel
9	Gland Stud	Alloy Steel
10	Gland	A276-416
Trim Parts		
11	Stem	
12	Wedge	(See Page 37 for Trim Materials)
13	Seat Ring	
14-22 — See below		

	Part Name	Carbon Steel	LCB	LC3	WC6	WC9
14	Packing	Commercial	Commercial	Commercial	Commercial	Commercial
15	Bonnet	A105	A350-LF1	A350-LF3	A182-F11	A182-F22
16	Bonnet Retainer	AISI 1035	A350-LF1	A350-LF3	AISI 1035	AISI 1035
17	Retainer Stud	A193-B7	A320-L7	A320-L7	A193-B7	A193-B7
18	Retainer Nut	A194-2H	A194-4	A320-B8	A194-2H	A194-2H
19	Gasket	AISI 1015	A276-316	A276-316	AISI 1015	AISI 1015
20	Thrust Ring	A276-420	A276-316	A276-316	A276-420	A276-420
21	Segment Ring	A276-420	A276-316	A276-316	A276-420	A276-420
22	Body	A216 Gr WCB	A352 Gr LCB	A352 Gr LC3	A217 Gr WC6	A217 Gr WC9
	Part Name	C5	C12	CF8M	CN7M	CF8C
14	Packing	Commercial	Commercial	Commercial	Commercial	Commercial
15	Bonnet	A182-F5	A182-F9	A276-316	B473	A182-F347
16	Bonnet Retainer	AISI 1035	AISI 1035	A276-316	AISI 1035	AISI 1035
17	Retainer Stud	A193-B7	A193-B7	A193-B8	A193-B8	A193-B8
18	Retainer Nut	A194-2H	A194-2H	A194-GR8	A194-GR8	A194-GR8
19	Gasket	AISI 1015	AISI 1015	A276-316	A276-316	A276-316
20	Thrust Ring	A276-420	A276-420	A276-316	A276-316	A276-316
21	Segment Ring	A276-420	A276-420	A276-316	A276-316	A276-316
22	Body	A217 Gr C5	A217 Gr C12	A351-CF8M	A351-CN7M	A351-CF8C

NOTE: Construction and materials may vary between sizes and pressure classes and are subject to change without notice. This is not a complete list of all available materials. See Page 36 for additional body materials. See Page 37 for details of trim materials. Specifications are ASTM unless otherwise noted.



CAST STEEL PRESSURE SEAL BONNET - Class 600 & 900

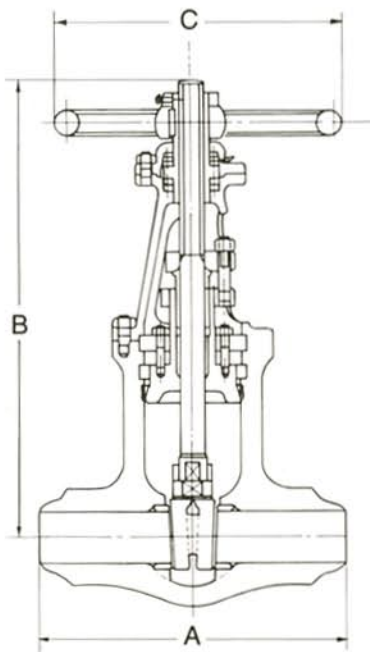


Fig. 16W-CB-PS
19W-CB-PS

Flanged ends are to ANSI B16.10 long pattern.
Weld ends are to ANSI B16.10 short pattern.
NPS 12 and larger Class 600 and NPS 10 and larger Class 900 are furnished with hammer blow handwheel.

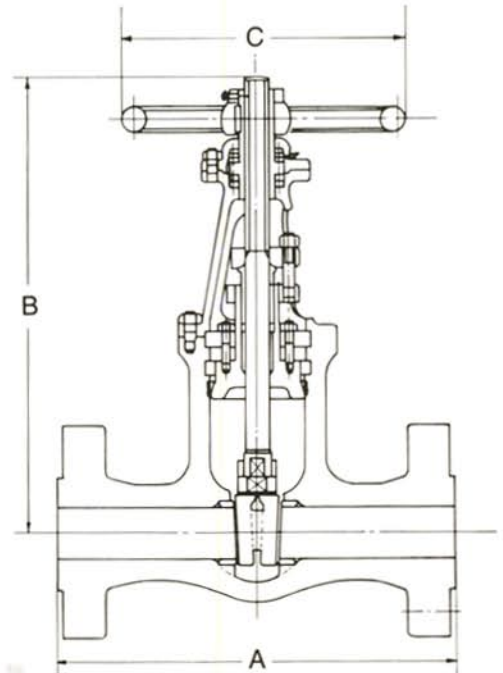


Fig. 16F-CB-PS
19F-CB-PS

CLASS 600 DIMENSIONS

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
A End to End BW	IN	7.0	8.5	10.0	12.0	15.0	18.0	23.0	28.0	32.0	35.0	39.0	43.0	47.0	55.0
	MM	178	216	254	305	381	457	584	711	813	889	991	1092	1194	1397
A Face to Face RF	IN	11.5	13.0	14.0	17.0	20.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0
	MM	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397
B Valve Open	IN	19.5	21.5	24.8	31.0	35.0	38.0	49.0	60.0	72.0	89.0	102.0	106.0	117.0	126.0
	MM	495	546	632	787	889	965	1245	1524	1829	2261	2591	2692	2972	3200
C Handwheel Dia.	IN	9	10	11	14	18	20	22	22	25	28	28	30	36	36
	MM	229	254	279	356	457	508	559	559	635	711	711	762	914	914

CLASS 900 DIMENSIONS

		3	4	5	6	8	10	12	14	16	18	20
A End to End BW	IN	12.0	14.0	17.0	20.0	26.0	31.0	36.0	39.0	43.0	48.0	52.0
	MM	305	356	432	508	660	787	914	991	1092	1219	1321
A Face to Face RF	IN	15.0	18.0	22.0	24.0	29.0	33.0	38.0	40.5	44.5	48.0	52.0
	MM	381	457	559	610	737	838	965	1029	1130	1219	1321
B Valve Open	IN	25.0	32.5	37.0	41.0	53.0	63.0	77.5	90.5	103.0	107.5	118.0
	MM	635	826	940	1041	1346	1600	1969	2299	2616	2731	2997
C Handwheel Dia.	IN	10	12	14	18	20	24	30	32	32	36	36
	MM	254	305	356	457	508	610	762	813	813	914	914



GATE VALVES

CAST STEEL PRESSURE SEAL BONNET - Class 1500 & 2500

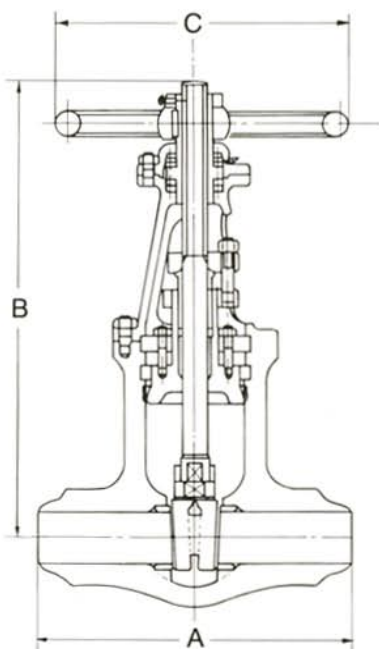


Fig. 115W-CB-PS
125W-CB-PS

Flanged ends are to ANSI B16.10 long pattern.
Weld ends are to ANSI B16.10 short pattern.
NPS 8 and larger Class 1500 are furnished with hammer blow handwheel.
NPS 8 and larger Class 2500 are furnished with gear operator.

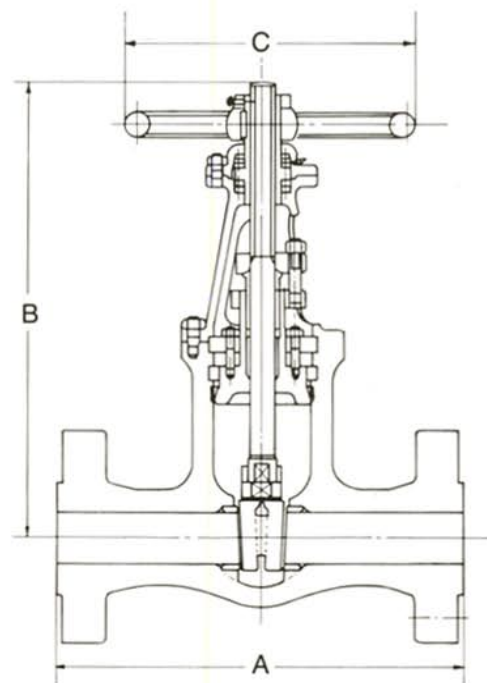


Fig. 115F-CB-PS
125F-CB-PS

CLASS 1500 DIMENSIONS

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
A End to End BW	IN	8.5	10.0	12.0	16.0	19.0	22.0	28.0	34.0	39.0	42.0	47.0	53.0	58.0	64.0
	MM	216	254	305	406	483	559	711	863	990	1067	1194	1346	1473	1626
A Face to Face RF	IN	14.5	16.5	18.5	21.5	26.5	27.75	32.75	39.0	44.5	49.5	54.5	60.5	65.5	76.5
	MM	368	419	470	546	673	705	832	991	1130	1258	1382	1537	1664	1943
B Valve Open	IN	21.7	22.8	24.3	37.7	36.9	45.3	55.0	65.3	72.5	74.5	90.4	100.4	110.5	116.8
	MM	551	579	617	958	937	1151	1397	1659	1842	1892	2296	2550	2807	2267
C Handwheel Dia.	IN	10	12	14	16	22	25	28	32	32	36	36	36	42	42
	MM	254	305	356	406	559	635	711	813	813	914	914	914	1067	1067

CLASS 2500 DIMENSIONS

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
A End to End BW	IN	11.0	13.0	14.5	18.0	21.0	24.0	30.0	36.0	41.0	44.0	49.0	55.0	60.0	72.0
	MM	279	330	368	457	533	610	762	914	1041	1118	1245	1397	1524	1829
B Valve Open	IN	19.5	22.4	24.5	28.4	35.5	44.8	56.5	59.5	70.8	79.3	82.8	86.5	91.8	100.5
	MM	495	569	622	721	902	1138	1435	1511	1798	2014	2103	2197	2332	2553
C Handwheel Dia.	IN	14	16	18	25	25	28	28	32	32	36	36	42	42	42
	MM	356	406	457	635	635	711	711	813	813	914	914	1067	1067	1067



GLOBE & ANGLE VALVE FEATURES

CAST STEEL PRESSURE SEAL BONNET

Pressure seal bonnet globe and angle valves have the same application features as bolted bonnet valves shown on Page 8. The major difference is in the bonnet retention design.

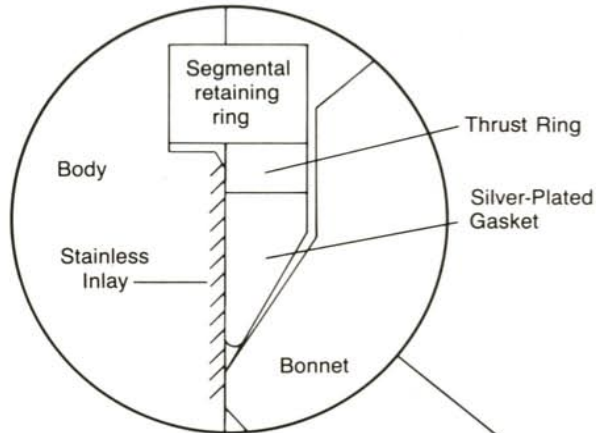
The pressure seal bonnet joint eliminates the body/bonnet flanges, reducing weight and simplifying the application of exterior insulation. Contrary to bolted bonnet valves, internal pressure applied to a pressure seal valve forces the sealing elements into tighter contact – the higher the internal pressure, the tighter the seal.

Newco cast steel pressure seal valves comply with the design and test requirements of ANSI B16.34.

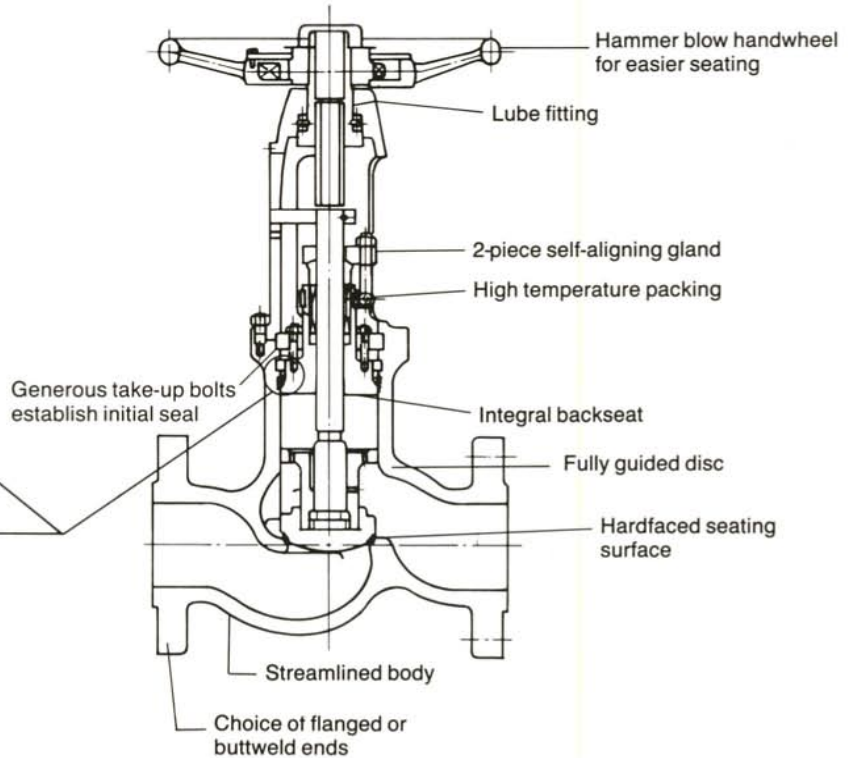
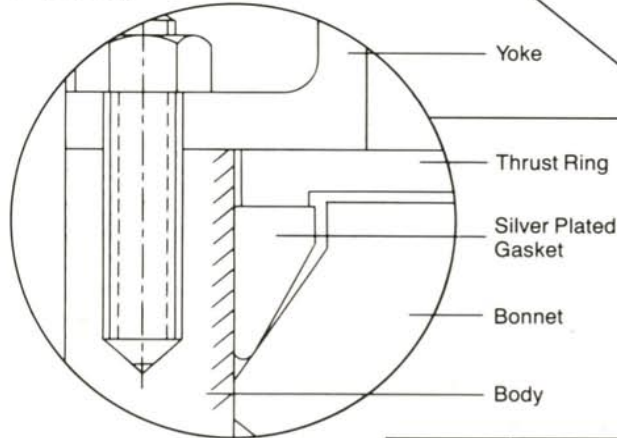
A forged-body, seal-welded version, the “Safe-O-Seal,” is available for cyclic critical service. This innovative, patented seal design is described on Page 28.

All Newco pressure seal globe and angle valves have the features shown below. They are engineered to provide convenience, durability and maintainability.

Class 900-2500



Class 600

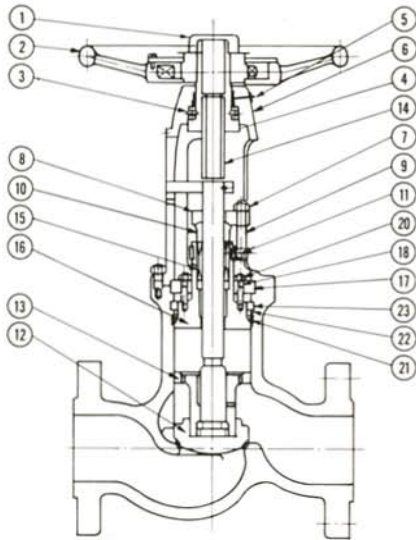


Items shown also available in non-return configurations.

GLOBE & ANGLE VALVE MATERIALS



CAST STEEL PRESSURE SEAL BONNET



Part Name	Material
1 Handwheel Nut	Carbon Steel
2 Handwheel	Malleable Iron
3 Bearings	Steel
4 Stem Nut	Aust Ductile Iron - A439-D2
5 Grease Fitting	Stainless Steel
6 Yoke	Carbon Steel A216-Gr WCB
7 Eyebolt Nut	Carbon Steel
8 Gland Flange	Carbon Steel
9 Eyebolt	Carbon Steel
10 Gland	A276-416
11 Eyebolt Pin	A193-B7
Trim Parts	
12 Disc	
13 Disc Guide	(See Page 37 for Trim
14 Stem	Materials)
15 to 23	— See below

Part Name	Carbon Steel	LCB	LC3	WC6	WC9
15 Packing	Commercial	Commercial	Commercial	Commercial	Commercial
16 Bonnet	A105	A350-LF1	A350-LF3	A182-F11	A182-F22
17 Bonnet Retainer	AISI 1035	A350-LF1	A350-LF3	AISI 1035	AISI 1035
18 Retainer Stud	A193-B7	A320-L7	A320-L7	A193-B7	A193-B7
19 Retainer Nut	A194-2H	A194-4	A320-B8	A194-2H	A194-2H
20 Gasket	AISI 1015	A276-316	A276-316	AISI 1015	AISI 1015
21 Thrust Ring	A276-420	A276-316	A276-316	A276-420	A276-420
22 Segment Ring	A276-420	A276-316	A276-316	A276-420	A276-420
23 Body	A216 Gr WCB	A352 Gr LCB	A352 Gr LC3	A217 Gr WC6	A217 Gr WC9

Part Name	C5	C12	CF8M	CN7M	CF8C
15 Packing	Commercial	Commercial	Commercial	Commercial	Commercial
16 Bonnet	A182-F5	A182-F9	A276-316	B473	A182-F347
17 Bonnet Retainer	AISI 1035	AISI 1035	A276-316	AISI 1035	AISI 1035
18 Retainer Stud	A193-B7	A193-B7	A193-B8	A193-B8	A193-B8
19 Retainer Nut	A194-2H	A194-2H	A194-Gr8	A194-Gr8	A194-Gr8
20 Gasket	AISI 1015	AISI 1015	A276-316	A276-316	A276-316
21 Thrust Ring	A276-420	A276-420	A276-316	A276-316	A276-316
22 Segment Ring	A276-420	A276-420	A276-316	A276-316	A276-316
23 Body	A217 Gr C5	A217 Gr C12	A351-CF8M	A351-CN7M	A351-CF8C

NOTE: Construction and materials may vary between sizes and pressure classes and are subject to change without notice. This is not a complete list of all available materials. See Page 36 for additional body materials. See Page 37 for details of trim materials. Specifications are ASTM unless otherwise noted.



GLOBE & ANGLE VALVES

CAST STEEL PRESSURE SEAL BONNET - Class 600 & 900

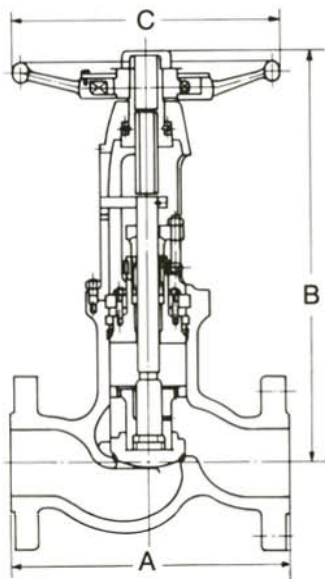


Fig. 26F-CB-PS
29F-CB-PS

Thrust bearings NPS 6 and larger.

Items shown also available in non-return configurations.
[Customer must specify flow direction (Horizontal/Vertical)]

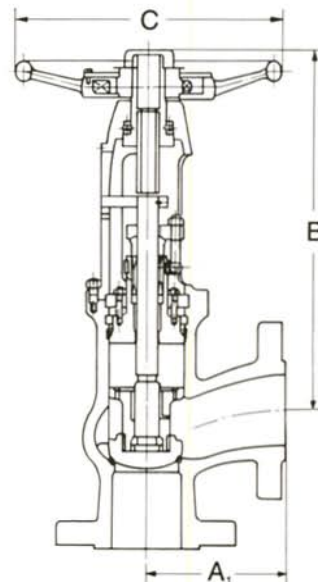


Fig. 76F-CB-PS
79F-CB-PS

CLASS 600 DIMENSIONS

		2½	3	4	5	6	8	10	12	14	16
A End to End RF/BW	IN	13.0	14.0	17.0	20.0	22.0	26.0	31.0	33.0	35.0	39.0
	MM	330	356	432	508	559	660	787	838	889	991
A ₁ Center to Face RF/BW	IN	6.5	7.0	8.5	10.0	11.0	13.0	15.5	16.5	17.5	19.5
	MM	165	178	216	254	279	330	394	419	445	495
B Valve Open	IN	16.3	16.8	20.0	24.9	28.5	34.5	39.8	43.5	47.0	53.0
	MM	411	424	508	630	724	876	1008	1105	1194	1346
C Handwheel Dia.	IN	12	12	14	16	16	20	26	30	30	32
	MM	305	305	356	406	406	508	660	762	762	813

CLASS 900 DIMENSIONS

		3	4	5	6	8	10	12	14	16
A End to End RF/BW	IN	15.0	18.0	22.0	24.0	29.0	33.0	38.0	40.5	52.0
	MM	381	457	559	610	737	838	965	1029	1321
A ₁ Center to Face RF/BW	IN	7.5	9.0	11.0	12.0	14.5	16.5	19.0	20.25	26.0
	MM	191	229	279	305	368	419	483	514	660
B Valve Open	IN	22.5	26.3	30.5	37.0	46.0	54.8	64.8	71.3	78.0
	MM	512	667	775	940	1168	1391	1645	1810	1981
C Handwheel Dia.	IN	16	16	20	20	28	28	36	36	42
	MM	406	406	508	508	711	711	914	914	1067



GLOBE & ANGLE VALVES

CAST STEEL PRESSURE SEAL BONNET - Class 1500 & 2500

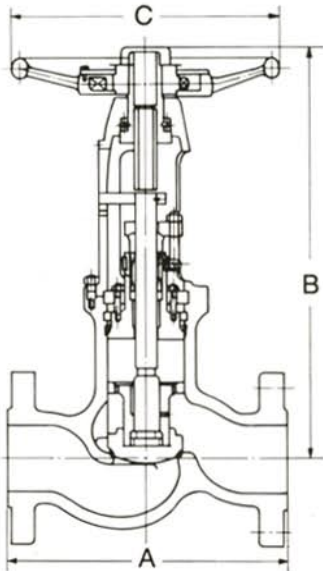


Fig. 215F-CB-PS
225F-CB-PS

Thrust bearings NPS 6 and larger.
Items shown also available in non-return configurations.
[Customer must specify flow direction (Horizontal/Vertical)]

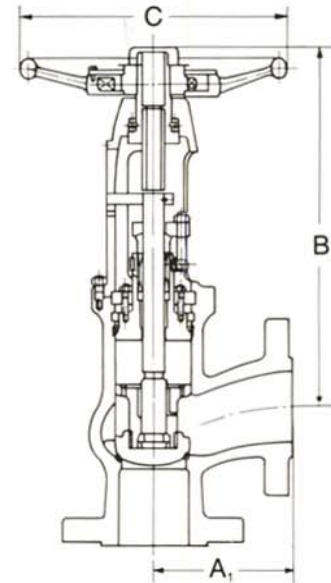


Fig. 715F-CB-PS
725F-CB-PS

CLASS 1500 DIMENSIONS

		3	4	5	6	8	10	12	14	16
A End to End RF/BW	IN	15.0	18.0	22.0	24.0	29.0	33.0	38.0	40.5	52.0
	MM	381	457	559	610	737	838	965	1029	1321
A ₁ Center to Face RF/BW	IN	7.5	9.0	11.0	12.0	14.5	16.5	19.0	20.25	26.0
	MM	191	229	279	305	368	419	483	514	660
B Valve Open	IN	22.5	26.3	30.5	37.0	46.0	54.8	64.8	71.3	78.0
	MM	512	667	775	940	1168	1391	1645	1810	1981
C Handwheel Dia.	IN	16	16	20	20	28	28	36	36	42
	MM	406	406	508	508	711	711	914	914	1067

CLASS 2500 DIMENSIONS

		2 1/2	3	4	5	6	8	10	12
A End to End BW	IN	13.0	15.0	18.0	22.0	24.0	29.0	33.0	38.0
	MM	330	381	457	559	610	737	838	965
A Face to Face RF	IN	20.0	22.75	26.5	31.25	36.0	40.25	50.0	56.0
	MM	508	578	673	794	914	1022	1270	1422
A ₁ Center to End BW	IN	6.5	7.5	9.0	11.0	12.0	14.5	16.5	19.0
	MM	165	191	229	279	305	368	419	483
A ₁ Center to End RF	IN	10.0	11.38	13.25	15.63	18.0	20.13	25.0	28.0
	MM	254	289	337	397	457	511	635	711
B Valve Open	IN	20.0	22.5	25.5	28.3	37.8	47.5	55.5	72.5
	MM	508	572	648	718	959	1207	1410	1841
C Handwheel Dia.	IN	14	16	16	20	28	28	36	48
	MM	356	406	406	508	711	711	914	1219



LIFT CHECK VALVE FEATURES

CAST STEEL PRESSURE SEAL BONNET

Lift check valves are used to prevent flow reversal in piping systems. The flow configuration through lift check valves is similar to that of globe valves resulting in higher pressure loss and more turbulent flow than experienced with straight-through flow.

Lift check valves must be installed in horizontal lines. They are best suited for moderate velocity applications. Either too low or too high a velocity can seriously damage the valve's internals. Valve damage can also be caused by rapid and frequent flow reversals, pulsation or excessive turbulence.

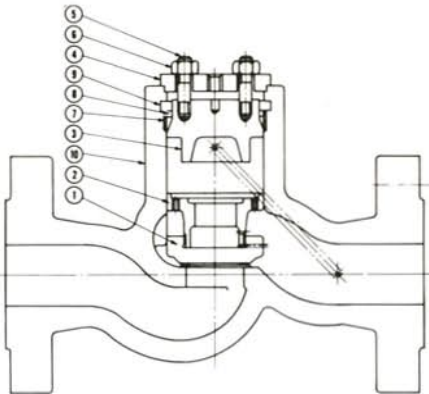
The pressure seal bonnet is designed for high temperature, high pressure service. This type of body/bonnet joint eliminates heavy flanges reducing weight and simplifying the

application of exterior insulation. Contrary to bolted bonnet valves, internal pressure applied to a pressure seal valve forces the sealing elements into tighter contact – the higher the internal pressure, the tighter the seal.

Newco cast steel pressure seal valves comply with the design and test requirements of ANSI B16.34.

A forged body, seal welded version, the "Safe-O-Seal," is available for cyclic critical service. This innovative, patented seal design is described on Page 28.

All Newco pressure seal lift check valves have the features shown below. They are engineered to provide convenience, durability and maintainability.



	Trim Parts	Material
1	Disc	(See Page 37 for
2	Disc Guide	Trim Materials)
3 to 10	— See below	

	Part Name	Carbon Steel	LCB	LC3	WC6	WC9
3	Cap	A105	A350-LF1	A350-LF3	A182-F11	A182-F22
4	Cap Retainer	AISI 1035	A350-LF1	A350-LF3	AISI 1035	AISI 1035
5	Retainer Stud	A193-B7	A320-L7	A320-L7	A193-B7	A193-B7
6	Retainer Nut	A194-2H	A194-4	A320-B8	A194-2H	A194-2H
7	Gasket	AISI 1015	A276-316	A276-316	AISI 1015	AISI 1015
8	Spacer Ring	A276-420	A276-316	A276-316	A276-420	A276-420
9	Segment Ring	A276-420	A276-316	A276-316	A276-420	A276-420
10	Body	A216 Gr WCB	A352 Gr LCB	A352 Gr LC3	A217 Gr WC6	A217 Gr WC9
	Part Name	C5	C12	CF8M	CN7M	CF8C
3	Cap	A182-F5	A182-F9	A276-316	B473	A182-F347
4	Cap Retainer	AISI 1035	AISI 1035	AISI 1035	AISI 1035	AISI 1035
5	Retainer Stud	A193-B7	A193-B7	A193-B8	A193-B8	A193-B8
6	Retainer Nut	A194-2H	A194-2H	A194-Gr8	A194-Gr8	A194-Gr8
7	Gasket	AISI 1015	AISI 1015	A276-316	A276-316	A276-316
8	Thrust Ring	A276-420	A276-420	A276-316	A276-316	A276-316
9	Segment Ring	A276-420	A276-420	A276-316	A276-316	A276-316
10	Body	A217 Gr C5	A217 Gr C12	A351-CF8M	A351-CN7M	A351-CF8C

NOTE: Construction and materials may vary between sizes and pressure classes and are subject to change without notice. This is not a complete list of all available materials. See Page 36 for additional body materials. See Page 37 for details of trim materials. Specifications are ASTM unless otherwise noted.



LIFT CHECK VALVES

CAST STEEL PRESSURE SEAL BONNET - Class 600 - 900 - 1500 - 2500

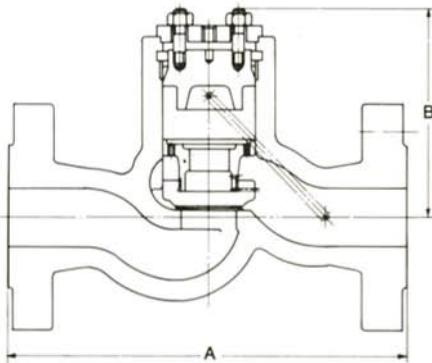


Fig. 415F-CB-PS
46F-CB-PS

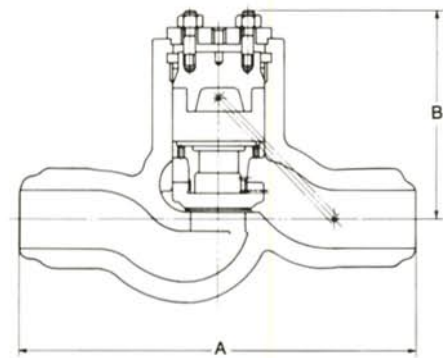


Fig. 425W-CB-PS
49W-CB-PS

CLASS 600 DIMENSIONS

	2 1/2	3	4	5	6	8	10	12	
A Face to Face RF/BW	IN	13.0	14.0	17.0	20.0	22.0	26.0	31.0	33.0
	MM	330	356	432	508	559	660	787	838
B Center to Top	IN	7.0	7.5	9.5	12.0	12.8	17.5	20.5	23.5
	MM	178	191	241	305	324	445	521	597

CLASS 900 DIMENSIONS

	3	4	5	6	8	10	12	
A Face to Face RF/BW	IN	15.0	18.0	22.0	24.0	29.0	33.0	38.0
	MM	381	459	559	610	737	838	965
B Center to Top	IN	11.0	12.0	14.0	15.8	20.0	23.5	26.0
	MM	279	305	356	400	508	597	660

CLASS 1500 DIMENSIONS

	2 1/2	3	4	5	6	8	10	
A End to End BW	IN	10.0	12.0	16.0	19.0	22.0	28.0	34.0
	MM	254	305	406	483	559	711	864
A Face to Face RF	IN	16.5	18.5	21.5	26.5	27.75	32.75	39.0
	MM	419	470	546	673	705	832	991
B Center to Top	IN	9.0	11.0	12.0	14.0	16.0	19.5	22.0
	MM	229	279	305	356	406	495	559

CLASS 2500 DIMENSIONS

	2 1/2	3	4	5	6	8	10	
A End to End BW	IN	13.0	14.5	18.0	21.0	24.0	30.0	36.0
	MM	330	368	457	533	610	762	914
A Face to Face RF	IN	20.0	22.75	26.5	31.25	36.0	40.25	50.0
	MM	508	579	673	794	1022	1270	1422
B Center to Top	IN	9.5	11.5	11.5	11.5	13.5	17.5	19.5
	MM	235	292	292	292	343	445	495



“SAFE-O-SEAL” FORGED STEEL VALVES

SEAL WELDED SEGMENTAL RING BONNET

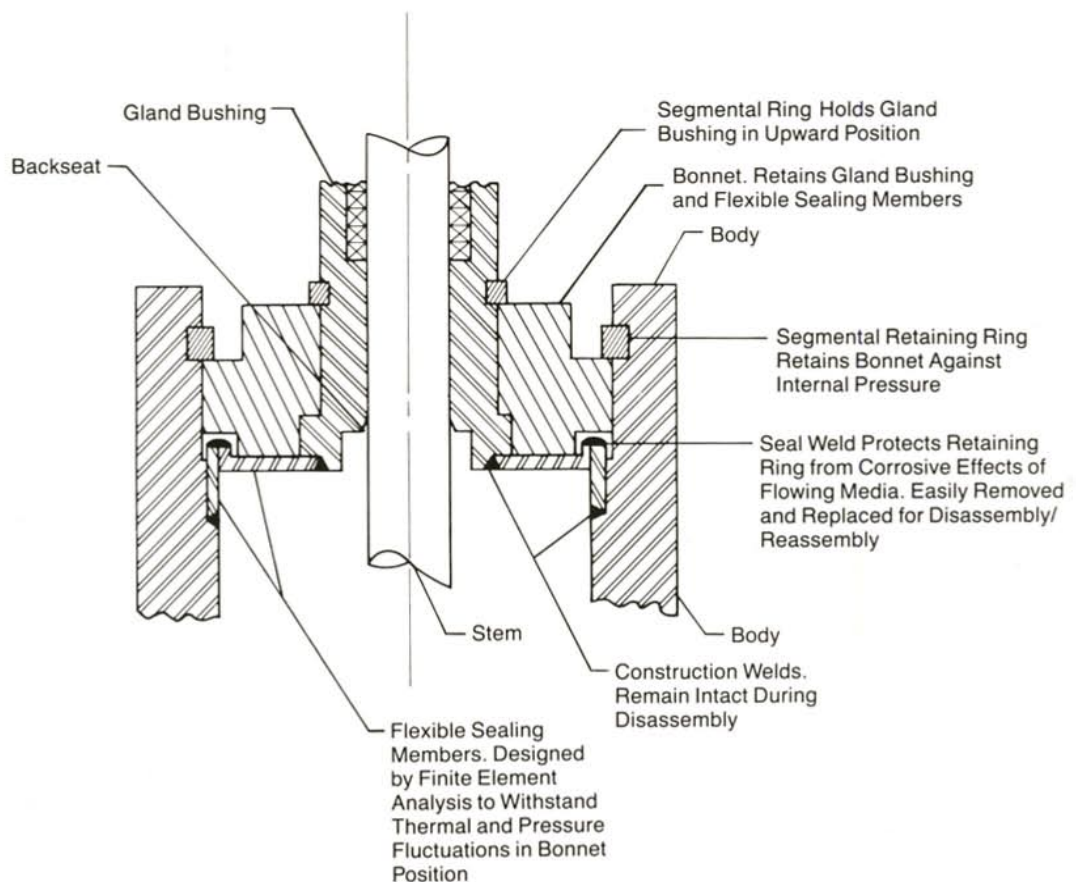
For high-pressure, high-temperature critical cyclic service, Newman's offers a complete line of forged “Safe-O-Seal” valves from 2 to 24 NPS in Class 600, 900, 1500 and 2500.

These valves feature the inherent advantages of forged bodies:

- Uniformity of structure
- Increased toughness
- Increased impact resistance
- Improved resistance to fatigue cracking
- Controlled grain flow

Combined and compatible with these features is the unique, patented “Safe-O-Seal” bonnet configuration. This design provides a seal welded barrier between the bonnet retention members and the flowing media. There are no sealing surfaces which could be damaged by corrosion, oxidation or in disassembly.

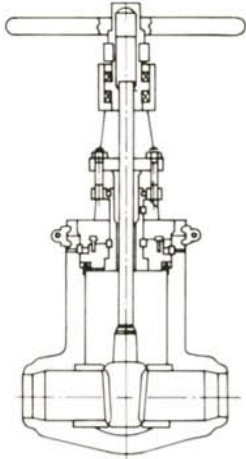
The simple, yet positive, sealing effect of this bonnet design is shown below. The effectiveness of this design in cyclic service and the relative simplicity of disassembly/reassembly have been verified by independent steam testing to military specifications.



“SAFE-O-SEAL” FORGED STEEL VALVES



SEAL WELDED SEGMENTAL RING BONNET



Gate Valves:

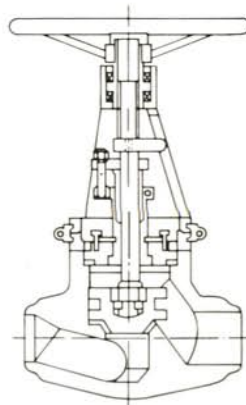
NPS 2-24 Class 600, 900, 1500, 2500.

Materials:

Carbon steel, alloy steels, stainless steels,
low temperature steels

Features:

Flanged or buttweld ends
Fully guided flex or split wedge
Welded seat rings
Thrust bearings
Qualified to MIL-V-18110E



Globe Valves:

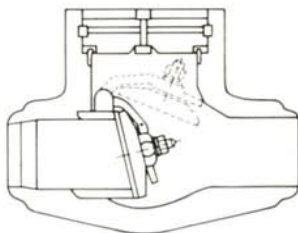
NPS 2-16 Class 600, 900, 1500, 2500

Materials:

Carbon steel, alloy steels, stainless steels,
low temperature steels

Features:

Flanged or buttweld ends
Fully guided disc
Integral hardfaced seat
Qualified to MIL-V-22052D



Swing Check Valves:

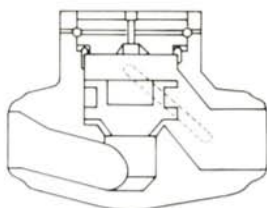
NPS 2-24 Class 600, 900, 1500, 2500

Materials:

Carbon steel, alloy steels, stainless steels,
low temperature steels

Features:

Flanged or buttweld ends
Internal hinge pin (no sidewall penetration)
Welded seat rings



Lift Check Valves:

NPS 2-24 Class 600, 900, 1500, 2500

Materials:

Carbon steel, alloy steels, stainless steels,
low temperature steels

Features:

Flanged or buttweld ends
Fully guided disc
Integral hardfaced seat
External equalizer



MARINE GATE VALVE FEATURES / MATERIALS

CAST STEEL BOLTED BONNET

NEWCO marine valves have been specifically designed for high reliability operation in the confined, corrosive atmosphere prevalent in the marine industry. Manufactured and tested under the strict supervision of Newman's, they meet the critical standards demanded by such agencies as the American Bureau of Shipping, U.S. Coast Guard and the U.S. Navy.

Complete documentation including shock and vibration

test reports, Level II military drawings, provisioning and technical documentation and Level I material certification is available.

NEWCO cast steel gate valves are available in non-rising stem (NRS) and outside screw and yoke (OS&Y) as noted. Optional trims (Brass, Stainless Steel, Ni-Cu), and special features such as clean-out plates and indicators are also available.

PARTS	MATERIALS	ASTM SPEC.
Body	Carbon steel	A216 Gr. WCB
Bonnet	Carbon steel	A216 Gr. WCB
Stuffing Box	Carbon steel	A216 Gr. WCB
Wedge 2"-6"	Bronze	B62
Wedge 8"-24"	Carbon steel	A216 Gr. WCB
Wedgeface ring	Bronze	B62
Seat ring	Bronze	B62
Stem	Brass	B124 Type 377
Wedge bushing	Bronze	B62
Back-seat bushing	Bronze	B62
Gland	Bronze	B62
Gland bolt	Carbon steel	A307 Gr. A
Gland bolt nut	Carbon steel	A307
Bonnet stud bolt	Alloy steel	A193-B7
Bonnet stud bolt nut	Carbon steel	A194-Gr8
Bonnet gasket	Commercial	Commercial
Stem packing	Commercial	Commercial
Handwheel	Malleable iron	A48
Handwheel nut	Brass	B16

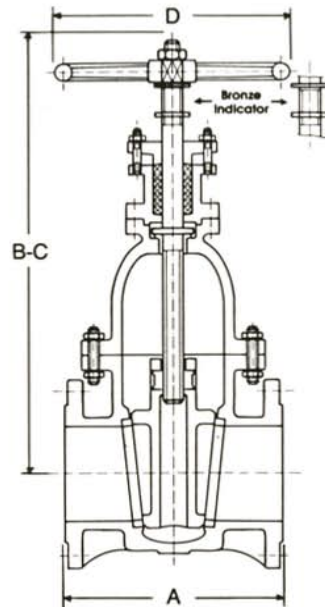
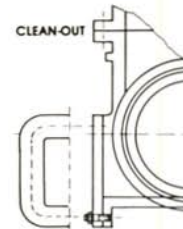


Fig. 61F-CB7



CLASS 150 DIMENSIONS

	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	
A — Face to Face RF	IN	7.0	7.5	8.0	9.0	10.0	10.5	11.5	13.0	14.0	15.0	16.0	17.0	18.0	20.0
	MM	178	191	203	229	254	267	292	330	356	381	406	432	457	508
B — Valve Open OS&Y	IN	15.25	17.5	20.25	23.5	28.25	32.5	41.25	50.0	58.0	64.5	71.0	80.0	88.0	105.5
	MM	387	444	514	597	717	825	1048	1270	1473	1638	1803	2032	2235	2680
B — Valve Height NRS	IN	11.87	13.87	15.63	17.63	20.5	22.63	27.5	33.0	37.63	41.0	45.0	51.25	56.0	66.5
	MM	301	352	397	448	521	575	698	838	956	1041	1143	1302	1422	1689
C — Valve Closed OS&Y	IN	12.75	14.5	16.5	19.0	22.75	26.0	32.5	39.5	45.5	50.25	55.5	62.5	68.0	81.75
	MM	324	368	419	483	578	660	825	1003	1156	1276	1410	1587	1727	2076
D — Dia. Handwheel NRS	IN	5.0	6.0	7.0	8.0	9.0	10.0	12.0	16.0	18.0	20.0	22.0	22.0	24.0	28.0
	MM	127	152	178	203	229	254	305	406	457	508	559	559	610	711
D — Dia. Handwheel OS&Y	IN	8.0	8.0	9.0	10.0	12.0	12.0	14.0	16.0	18.0	22.0	25.0	25.0	28.0	32.0
	MM	203	203	229	254	305	305	356	406	457	559	635	635	711	813

MARINE GLOBE & ANGLE VALVES FEATURES / MATERIALS

CAST STEEL BOLTED BONNET

NEWCO marine valves have been specifically designed for high reliability operation in the confined, corrosive atmosphere prevalent in the marine industry. Manufactured and tested under the strict supervision of Newman's, they meet the critical standards demanded by such agencies as the American Bureau of Shipping, U.S. Coast Guard and the U.S. Navy.

Complete documentation including shock and vibration test reports, Level II Military drawings, provisioning and technical documentation and Level I material certification is available.

Items shown also available in non-return configurations.
[Customer must specify flow direction (Horizontal/Vertical)]

PARTS	MATERIALS	ASTM SPEC.
Body	Carbon steel	A216 Gr. WCB
Bonnet	Carbon steel	A216 Gr. WCB
Yoke	Carbon steel	A216 Gr. WCB
Disc	Bronze	B62
Disc nut	Bronze	B62
Seat ring	Bronze	B62
Stem	Brass	B124 Type 377
Yoke sleeve	Brass	B124 Type 377
Back-seat bushing	Bronze	B62
Gland	Bronze	B62
Gland bolt	Brass	B16
Gland bolt nut	Brass	B16
Bonnet stud bolt	Carbon steel	A307 Gr. A
Bonnet stud bolt nut	Carbon steel	A307
Bonnet gasket	Commercial	Commercial
Stem packing	Commercial	Commercial
Handwheel	Malleable iron	A48
Handwheel nut	Brass	B16

Fig. 21F-CB7

GLOBE

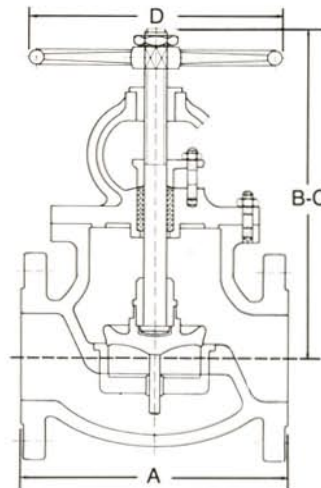
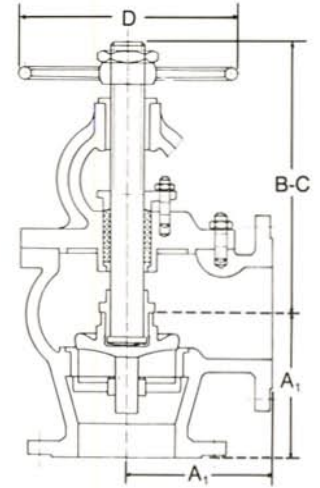


Fig. 71F-CB7

ANGLE



CLASS 150 DIMENSIONS

	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
A — Face to Face RF/BW ^{IN}	8.0	8.5	9.5	11.5	14.0	16.0	19.5	24.5	27.5	31.0	36.0
MM	203	216	241	292	356	406	495	622	699	787	914
A ₁ — Center to Face RF/BW ^{IN}	4.0	4.25	4.75	5.75	7.0	8.0	9.75	12.25	13.75	15.5	18.0
MM	102	108	121	146	178	203	248	311	349	394	457
B — Valve Open ^{IN}	11.0	12.25	12.75	14.5	16.25	18.5	22.25	25.25	28.75	33.5	36.0
MM	279	311	324	368	413	470	565	641	730	851	914
C — Valve Closed ^{IN}	10.25	11.25	11.5	13.25	14.5	16.5	19.5	22.0	25.0	29.0	31.0
MM	260	286	292	336	368	419	495	559	635	737	787
D — Dia. Handwheel ^{IN}	6.0	8.0	8.0	10.0	11.0	12.0	14.0	16.0	18.0	22.0	24.0
MM	152	203	203	254	279	305	356	406	457	559	610



MARINE CHECK VALVES FEATURES / MATERIALS

CAST STEEL BOLTED CAP

NEWCO marine valves have been specifically designed for high reliability operation in the confined, corrosive atmosphere prevalent in the marine industry. Manufactured and tested under the strict supervision of Newman's, they meet the critical standards demanded by such agencies as the American Bureau of Shipping, U.S. Coast Guard and the U.S. Navy.

Complete documentation including shock and vibration test reports, Level II Military drawings, provisioning and technical documentation and Level I material certification is available.

PARTS	MATERIALS	ASTM SPEC.
Body	Carbon steel	A216 Gr. WCB
Cap	Carbon steel	A216 Gr. WCB
Disc	Bronze	B62
Disc nut	Bronze	B62
Seat ring	Bronze	B62
Hinge	Bronze	B62
Hinge Pin	Brass	B124 Type 377
Side Plug	Carbon steel	A105
Cap stud bolt	Carbon steel	A307 Gr. A
Cap stud bolt nut	Carbon steel	A307
Gasket	Commercial	Commercial

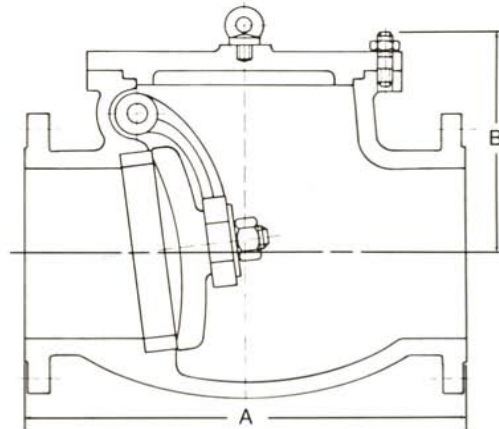


Fig. 31F-CB7

CLASS 150 DIMENSIONS

		2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
A — Face to Face RF	IN	8.0	8.5	9.5	11.5	13.0	14.0	19.5	24.5	27.5	31.0	34.0
	MM	203	216	241	292	330	356	495	622	698	787	863
B — Center to Top	IN	5.25	6.0	6.5	7.25	8.5	9.5	11.0	13.5	15.0	17.5	19.5
	MM	133	152	165	184	216	241	279	343	381	444	495



ACCESSORIES

BY-PASSES & DRAINS

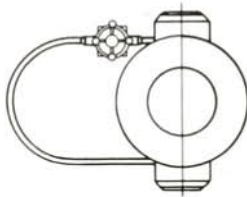
By-Passes

By-passes serve two purposes. They are used in steam service 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.

Newco cast steel valves can be furnished with all welded by-passes when specified. The standard by-pass configura-

tion is the single valve by-pass attached to the side of the main valve with the stems of both valves parallel as shown below. Piping and the OS&Y globe by-pass valve have a pressure-temperature rating and corrosion resistance equal to or exceeding that of the main valve.

When other by-pass configurations are required, a sketch or drawing must accompany the order.

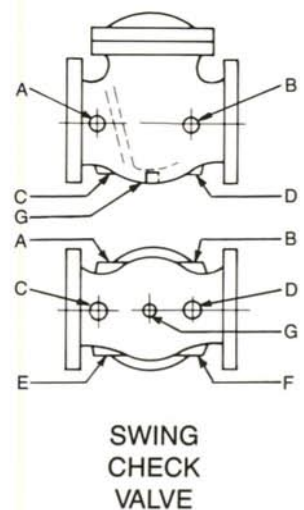
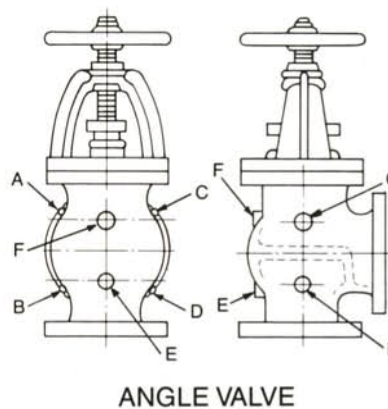
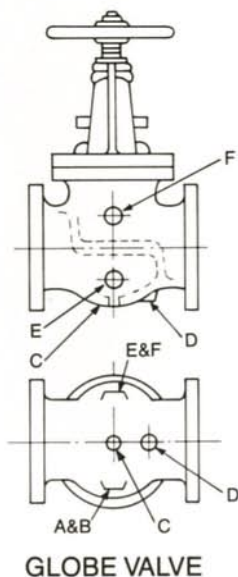
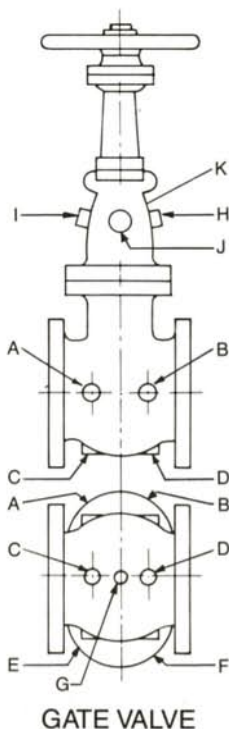


VALVE SIZE	NPS 2-4	NPS 5-8	NPS 10 & Larger
Drain and by-pass size	NPS 1/2	NPS 3/4	NPS 1

Drains

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) spe-

cified. Other types of drains, including welded or threaded nipples with or without shut-off valves, can also be furnished when specified.





PNEUMATIC/HYDRAULIC ACTUATORS

Gear Actuators

Auxiliary gearing is often desirable to facilitate the operation of large size valves required to close against high pressure.

Newco cast steel valves can be supplied with fully mounted and tested totally enclosed bevel or worm gear actuators. Gear actuators may also be ordered separately for field installation.

Inquiries or orders for valves with gear actuators should include the following information:

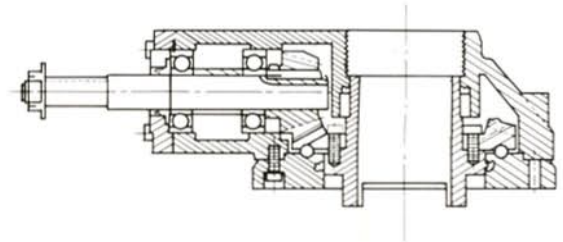
- Size and figure number of valve
- Service media, pressure and temperature
- Maximum pressure against which valve must close
- Any handwheel torque or rim pull limitation
- Desired orientation of handwheel to stem, if any
- Desired orientation of handwheel to pipe run, if any
- Limitations, if any, on the type or brand of actuator

Pneumatic and Hydraulic Actuators

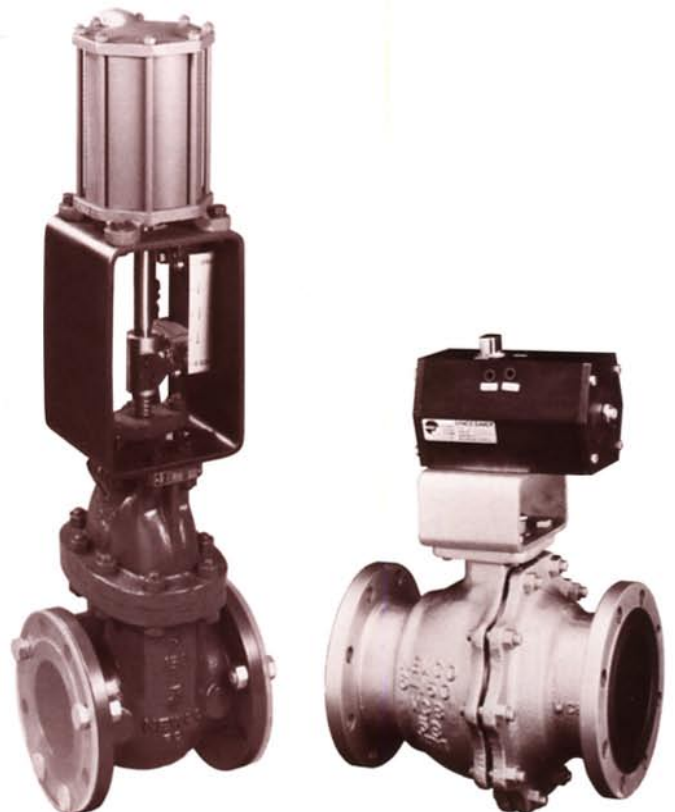
Pneumatic and hydraulic actuators offer a convenient manner of automatic valve operation. They provide a simple, positive means to position a valve from a remote location. In addition, they can be supplied with a mechanical "failsafe" feature. Newman's can adapt valves to satisfy the most complex applications.

Inquiries or orders for pneumatic or hydraulic actuators should include the following information:

- Size and figure number of valve
- Service media, pressure and temperature
- Maximum pressure against which valve must close
- Pressure and volume of available pneumatic or hydraulic source
- Fail safe requirements, if any
- Control circuitry requirements (electrical or pneumatic)
- Position switch or other desired accessories



Newco Bevel Gear Actuator



ACCESSORIES ACTUATORS

Newco Valves



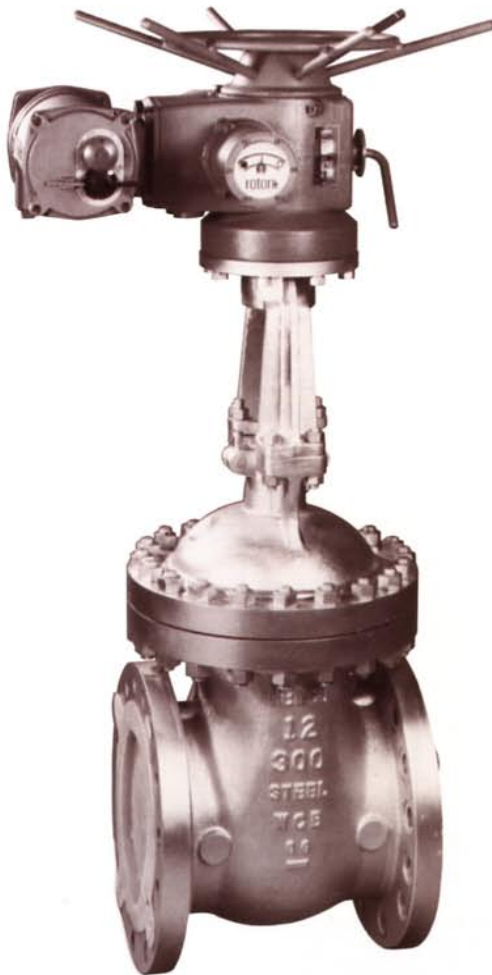
ELECTRIC MOTOR ACTUATORS

Newman's maintains a trained technical staff experienced in the selection, mounting and testing of electric motor actuators.

In addition, our facilities and inventory are tailored to provide a rapid service in the supply of fully mounted and tested valve/actuator assemblies and accessories.

Inquiries or orders for electric motor actuated valves should include the following information:

- Size and figure number of valve
- Service media, pressure and temperature
- Maximum pressure against which valve must close
- Desired stem speed or closing time
- Frequency of operation
- Electric power available (voltage, frequency, phase)
- Nema type of electrical enclosure
- Reversing controller specifications
- Control station specifications
- Accessories (dial position indicator, etc.)
- Acceptable actuator manufacturers





BODY/BONNET MATERIALS

BODY/BONNET MATERIALS

Newco cast steel valves are available 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.

Newco Material Designation	Common Description	ASTM Specification	Body/Bonnet Material Service Recommendation	Trim			
				Standard			Optional
				Gates	Globes	Checks	
CB	Carbon Steel	A216 WCB	Non-corrosive water oil & gases at temperatures between -20°F & +800°F.	2	2	2	1,3,4,5,6,7
LCB	Low Temp Carbon	A352 LCB	Low temperature service between -50°F & +650°F.	4	4	4	1,2,3,7
LC3	3½% Nickel	A352 LC3	Low temperature service between -150°F & +650°F.	4	4	4	1,2,3,7
WC6	1¼% Chrome ½% Moly	A217 WC6	Non-corrosive service, water, oil & gases at temperatures between -20°F & +1100°F.	3	3	3	1,2,4,5,6,7
WC9	2¼% Chrome 1% Moly	A217 WC9	Non-corrosive service, water, oil & gases at temperatures between -20°F & +1100°F.	3	3	3	1,2,4,5,6,7
C5	5% Chrome ½% Moly	A217 C5	Corrosive, non-corrosive or erosive service at temperatures between -20°F & +1200°F.	3	3	3	1,2,4,5,6,7
A20	Alloy 20	A351 CN7M	Corrosive service at temperatures between -20°F & +300°F.	6	6	6	2,3
C12	9% Chrome 1% Moly	A217 C12	Corrosive, non-corrosive or erosive service at temperatures between -20°F & +1200°F.	3	3	3	1,2,4,5,6,7
C8M	Cast 316	A351 CF8M	Corrosive, cryogenic or high temperature service between -425°F & +1200°F.	4	4	4	2,3,5,7

SOUR GAS SERVICE MATERIALS

Newco cast steel valves may be furnished with body and trim materials in compliance with NACE MR-01-75 specifications. The standard valve is WCB with double tempered trim 2 and Class II bolting. Other materials, trim and bolting

are available. To order the configuration you require, please specify the appropriate figure number and suffix designation as shown on Page 3.



BODY/BONNET MATERIALS

TRIM MATERIALS

Newco cast steel valves are available with a wide range of trim materials. Those which are most commonly used are shown in the table below. For availability of trims not shown, please contact Newmans or your local distributor.

Newco Trim No.	Seat Ring Facing*	Wedge or Disc Facing*	Stem	Other Trim Parts	Service Recommendation
1	CR 13	CR 13	F6a	F6a	Non-corrosive applications. Steam, gas & general service to 700°F. Oil & oil vapor to 900°F.
2	Hardfaced	CR 13	F6a	F6a	Steam, gas, oil & general service to 1000°F. Standard trim for gate valves.
3	Hardfaced	Hardfaced	F6a	F6a	Premium trim for service to 1200°F. Excellent for high pressure water and steam service.
4	316 SS	316 SS	316 SS	316 SS	Corrosive service to 850°F. Low temperature service standard for 316 SS valves.
5	NI CU	NI CU	NI CU	NI CU	Corrosive services to 750°F.
6	Alloy 20	Alloy 20	Alloy 20	Alloy 20	Corrosive services to 500°F.
7	Bronze	Bronze	Brass	Bronze	Water, gas or low pressure steam to 450°F.
X	Special	Special	Special	Special	Customer to specify.

* Standard trim designates face material only. If trim parts are to be solid (316 for example), specify as special trim.

Trim parts are defined as follows:

Gate Valves: Gate and seat ring seating surfaces, stem, backseat surface

Globe/Angle Valves: Disc and seat ring seating surfaces, stem, backseat bushing

Swing Check Valves: Disc and seat ring seating surfaces, hinge pin

Lift Check Valves: Disc and seat ring seating surfaces

Tilting Disc Check Valves: Disc and seat ring seating surfaces, pivot pins, spacer

Soft Seat Trim:

Gate valves are available with PTFE seat inserts or soft inserts in the body seat rings.

Globe and angle valves have the soft insert in the disc.

In all cases, the valves are designed to have a secondary metal-to-metal back-up seat in addition to the soft insert.

Soft seats may be ordered by specifying the appropriate figure number suffix as noted on Page 3.



PRESSURE TEMPERATURE RATINGS

ANSI B16.34

CLASS 150

TEMPERATURE °F	WCB*	WC6	WC9	C5	C12
-20 to 100	285	290	290	290	290
200	260	260	260	260	260
300	230	230	230	230	230
400	200	200	200	200	200
500	170	170	170	170	170
600	140	140	140	140	140
650	125	125	125	125	125
700	110	110	110	110	110
750	95	95	95	95	95
800	80	80	80	80	80
850	65	65	65	65	65
900	50	50	50	50	50
950	35	35	35	35	35
1000	20	20	20	20	20
1050	—	20**	20**	20**	20**
1100	—	20**	20**	20**	20**
1150	—	—	—	20**	20**
1200	—	—	—	20**	20**

CLASS 300

TEMPERATURE °F	WCB*	WC6	WC9	C5	C12
-20 to 100	740	750	750	750	750
200	675	710	715	750	750
300	655	675	675	730	730
400	635	660	650	705	705
500	600	640	640	665	665
600	550	605	605	605	605
650	535	590	590	590	590
700	535	570	570	570	570
750	505	530	530	530	530
800	410	510	510	500	510
850	270	485	485	440	485
900	170	450	450	355	450
950	105	380	380	260	370
1000	50	225	270	190	290
1050	—	140	200	140	190
1100	—	95	115	105	115
1150	—	—	—	70	75
1200	—	—	—	45	50

CLASS 600

TEMPERATURE °F	WCB*	WC6	WC9	C5	C12
-20 to 100	1480	1500	1500	1500	1500
200	1350	1425	1430	1500	1500
300	1315	1345	1355	1455	1455
400	1270	1315	1295	1410	1410
500	1200	1285	1280	1330	1330
600	1095	1210	1210	1210	1210
650	1075	1175	1175	1175	1175
700	1065	1135	1135	1135	1135
750	1010	1065	1065	1065	1065
800	825	1015	1015	995	1015
850	535	975	975	880	975
900	345	900	900	705	900
950	205	755	755	520	740
1000	105	445	535	385	585
1050	—	275	400	280	380
1100	—	190	225	205	225
1150	—	—	—	140	150
1200	—	—	—	90	105

CLASS 900

TEMPERATURE °F	WCB*	WC6	WC9	C5	C12
-20 to 100	2220	2250	2250	2250	2250
200	2025	2135	2150	2250	2250
300	1970	2020	2030	2185	2185
400	1900	1975	1945	2115	2115
500	1795	1925	1920	1995	1995
600	1640	1815	1815	1815	1815
650	1610	1765	1765	1765	1765
700	1600	1705	1705	1705	1705
750	1510	1595	1595	1595	1595
800	1235	1525	1525	1490	1525
850	805	1460	1460	1315	1460
900	515	1350	1350	1060	1350
950	310	1130	1130	780	1110
1000	155	670	805	575	875
1050	—	410	595	420	565
1100	—	290	340	310	340
1150	—	—	—	205	225
1200	—	—	—	135	155

CLASS 1500

TEMPERATURE °F	WCB*	WC6	WC9	C5	C12
-20 to 100	3705	3750	3750	3750	3750
200	3375	3560	3580	3750	3750
300	3280	3365	3385	3640	3640
400	3170	3290	3240	3530	3530
500	2995	3210	3200	3225	3225
600	2735	3025	3025	3025	3025
650	2685	2940	2940	2940	2940
700	2665	2840	2840	2840	2840
750	2520	2660	2660	2660	2660
800	2060	2540	2540	2485	2540
850	1340	2435	2435	2195	2435
900	860	2245	2245	1765	2245
950	515	1885	1885	1305	1850
1000	260	1115	1340	960	1460
1050	—	685	995	705	945
1100	—	480	565	515	565
1150	—	—	—	345	380
1200	—	—	—	225	260

CLASS 2500

TEMPERATURE °F	WCB*	WC6	WC9	C5	C12
-20 to 100	6170	6250	6250	6250	6250
200	5625	5930	5965	6250	6250
300	5470	5605	5640	6070	6070
400	5280	5485	5400	5880	5880
500	4990	5350	5330	5540	5540
600	4560	5040	5040	5040	5040
650	4475	4905	4905	4905	4905
700	4440	4730	4730	4730	4730
750	4200	4430	4430	4430	4430
800	3430	4230	4230	4145	4230
850	2230	4060	4060	3660	4060
900	1430	3745	3745	2945	3745
950	860	3145	3145	2170	3085
1000	430	1860	2230	1600	2430
1050	—	1145	1660	1170	1570
1100	—	800	945	860	945
1150	—	—	—	570	630
1200	—	—	—	370	430

* 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 ANSI B16.34 standard class valves.

Special class weld end valves to ANSI B16.34 are available on special order.



BUTT WELDING ENDS

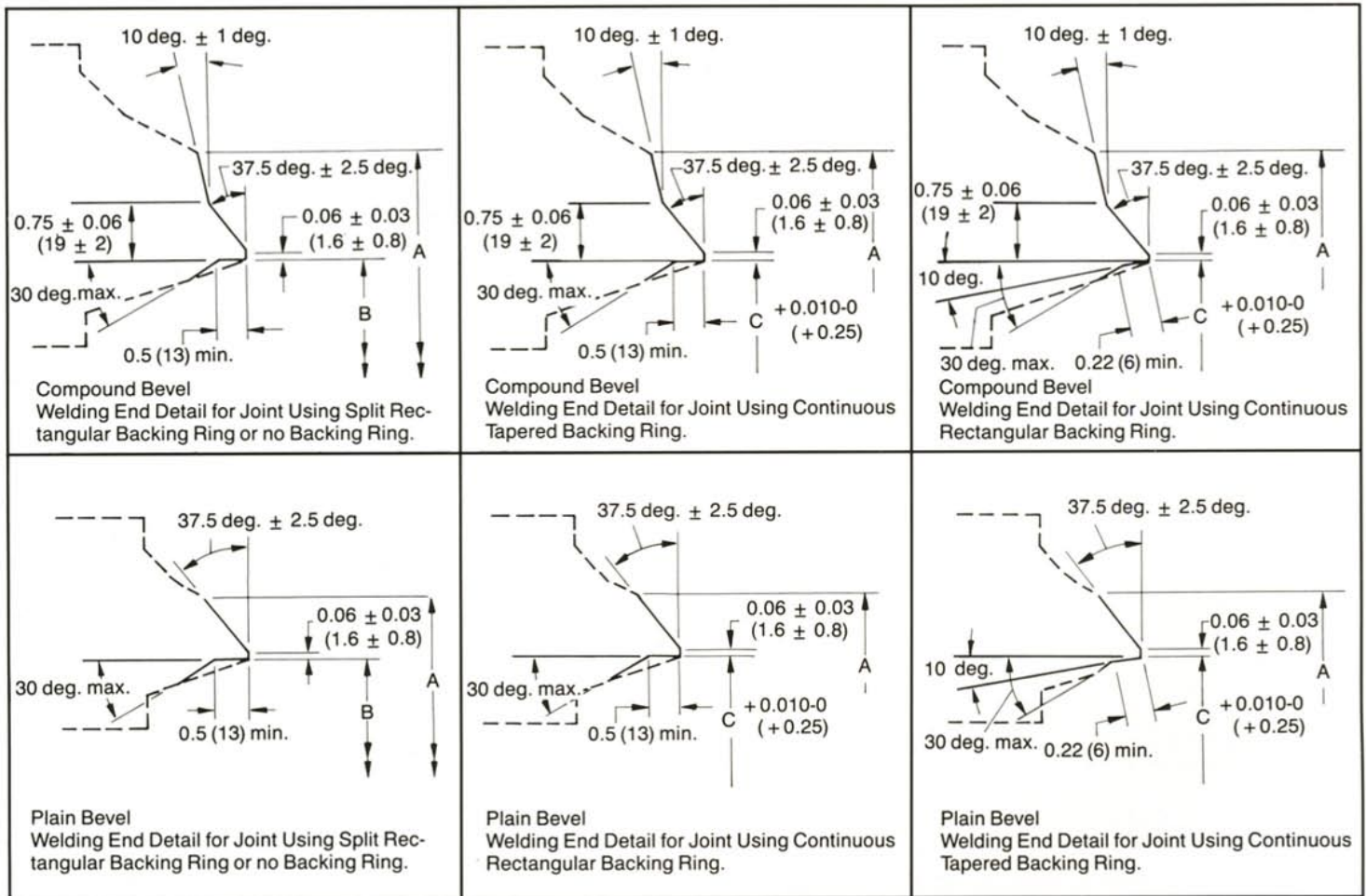
ANSI B16.25

Butt welding ends to ANSI B16.25 are regularly furnished on most Newco steel valves. Other configurations can be supplied when specified.

Inquiries and orders for butt welding end valves must

specify the size and schedule of the connecting pipe and the type of backing ring to be used.

ANSI B16.25 contours normally supplied are as shown below. Compound bevels are furnished for wall thickness greater than 0.875 inch.



- B = Nominal Inside Diameter of Pipe
- t = Nominal Pipe Wall Thickness
- C = B + 0.25t - 0.041
- A = Outside Diameter (From Chart)

Nominal Pipe size	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
A-inches	3.59	4.62	5.68	6.78	8.78	10.94	12.97	14.25	16.25	18.28	20.31	24.38



VALVE WEIGHTS

BOLTED BONNET GATE

CLASS 150 BOLTED BONNET GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	47	56	71	112	170	197	289	450	640	860	1190	1390	1785	2580
	Kg	21	25	32	50	77	89	131	204	290	390	540	631	811	1172
BW	Lb	40	47	59	92	155	181	259	426	585	700	970	1140	1520	1960
	Kg	18	21	26	41	70	82	117	195	265	318	440	518	709	890

CLASS 300 BOLTED BONNET GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	75	85	113	176	240	297	521	750	1072	1720	2450	3000	3900	6000
	Kg	34	38	51	80	109	135	236	340	487	781	1113	1363	1772	2727
BW	Lb	50	78	90	132	190	230	430	620	835	1523	2020	2500	3400	4700
	Kg	22	35	40	60	86	104	195	281	379	692	918	1136	1545	2136

CLASS 600 BOLTED BONNET GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	97	132	176	320	520	680	1150	1715	2440	3310	4270	6020	7080	9200
	Kg	44	60	80	145	236	309	522	779	1109	1504	1940	2736	3218	4181
BW	Lb	79	120	152	270	430	580	1020	1430	1950	2820	3570	4460	5780	7900
	Kg	35	54	69	127	195	263	463	650	886	1281	1622	2027	2627	3590

CLASS 900 BOLTED BONNET GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	—	—	255	453	655	913	1705	2387	3600	4900	5860	—	—	—
	Kg	—	—	115	205	297	415	775	1085	1636	2227	2663	—	—	—
BW	Lb	—	—	213	396	550	807	1465	1724	2790	4150	5000	—	—	—
	Kg	—	—	96	180	250	366	665	783	1268	1886	2272	—	—	—

CLASS 1500 BOLTED BONNET GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	220	279	381	627	—	1496	2730	4450	7250	—	—	—	—	—
	Kg	100	126	173	285	—	680	1240	2022	3295	—	—	—	—	—
BW	Lb	195	225	310	535	—	1330	2040	3557	5214	—	—	—	—	—
	Kg	88	102	140	243	—	604	927	1616	2370	—	—	—	—	—

CLASS 2500 BOLTED BONNET GATE VALVES

		2	2½	3	4	6	8	10	12
RF	Lb	291	419	620	986	2342	4277	6967	11376
	Kg	132	190	281	447	1062	1940	3160	5160
BW	Lb	208	300	497	717	2090	2734	5093	8621
	Kg	94	136	225	325	948	1240	2310	3910



BOLTED BONNET GLOBE

CLASS 150 BOLTED BONNET GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	50	68	90	140	185	240	420	580	850	—	—	—	—	—
	Kg	23	31	41	64	84	109	191	264	386	—	—	—	—	—
BW	Lb	42	56	75	120	155	200	370	500	750	—	—	—	—	—
	Kg	19	25	34	55	70	91	168	227	341	—	—	—	—	—

CLASS 300 BOLTED BONNET GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	80	105	135	225	285	390	725	1200	1700	—	—	—	—	—
	Kg	36	48	61	102	130	177	330	545	773	—	—	—	—	—
BW	Lb	70	85	110	185	240	325	630	1070	1475	—	—	—	—	—
	Kg	32	39	50	84	109	148	286	486	670	—	—	—	—	—

CLASS 600 BOLTED BONNET GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	91	142	176	315	490	700	1310	1900	2350	—	—	—	—	—
	Kg	41	64	80	143	222	318	595	863	1113	—	—	—	—	—
BW	Lb	78	132	145	235	460	620	1190	1625	2128	—	—	—	—	—
	Kg	35	60	65	106	209	281	540	738	967	—	—	—	—	—

CLASS 900 BOLTED BONNET GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	—	—	253	475	—	1145	1815	3080	—	—	—	—	—	—
	Kg	—	—	115	215	—	520	825	1400	—	—	—	—	—	—
BW	Lb	—	—	210	415	—	980	1550	2740	—	—	—	—	—	—
	Kg	—	—	95	188	—	445	704	1245	—	—	—	—	—	—

CLASS 1500 BOLTED BONNET GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	208	—	405	675	—	1740	2080	—	—	—	—	—	—	—
	Kg	94	—	184	306	—	790	945	—	—	—	—	—	—	—
BW	Lb	155	—	370	600	—	1490	1650	—	—	—	—	—	—	—
	Kg	70	—	168	272	—	677	750	—	—	—	—	—	—	—

CLASS 2500 BOLTED BONNET GLOBE VALVES

		2	2½	3	4	6	8	10	12
RF	Lb	331	488	719	1145	2712	4968	7871	12953
	Kg	150	221	326	519	1230	2253	3570	5875
BW	Lb	247	413	594	878	2007	3936	5997	10208
	Kg	112	187	269	398	910	1785	2720	4630



VALVE WEIGHTS

BOLTED CAP SWING CHECK

CLASS 150 BOLTED CAP SWING CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	40	50	71	102	135	180	325	475	675	875	1100	1450	2250	4500
	Kg	18	23	32	46	61	82	148	216	307	398	500	659	1036	2045
BW	Lb	30	44	60	85	125	150	250	350	525	675	860	1250	2050	4250
	Kg	14	20	27	39	57	68	114	159	239	307	391	568	932	1932

CLASS 300 BOLTED CAP SWING CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	65	90	110	160	250	330	510	775	1250	1450	1900	2400	2900	4850
	Kg	30	41	50	73	114	150	232	352	568	659	864	1091	1318	2205
BW	Lb	55	75	95	140	220	395	450	700	1170	1300	1775	2250	2650	4480
	Kg	25	34	43	64	100	180	205	318	532	591	807	1023	1205	2036

CLASS 600 BOLTED CAP SWING CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	77	101	141	255	—	460	860	1290	1730	2190	2525	3040	3840	5150
	Kg	35	45	64	115	—	209	390	586	786	995	1147	1381	1745	2340
BW	Lb	66	87	117	220	—	398	750	1070	1460	1630	1825	2350	2610	3920
	Kg	30	39	53	100	—	180	340	486	663	740	829	1068	1186	178

CLASS 900 BOLTED CAP SWING CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	—	—	195	350	—	660	1220	1910	3090	4550	5800	—	—	—
	Kg	—	—	88	159	—	300	554	686	1404	2068	2636	—	—	—
BW	Lb	—	—	157	385	—	560	980	1470	2280	3800	4940	—	—	—
	Kg	—	—	71	175	—	254	45	668	1036	1727	2245	—	—	—

CLASS 1500 BOLTED CAP SWING CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	185	—	310	515	—	1290	2150	3710	5280	—	—	—	—	—
	Kg	84	—	140	234	—	586	997	1686	2400	—	—	—	—	—
BW	Lb	147	—	253	400	—	1125	1460	2825	4915	—	—	—	—	—
	Kg	66	—	115	181	—	511	663	1248	2234	—	—	—	—	—

CLASS 2500 BOLTED CAP SWING CHECK VALVES

		2	2½	3	4	6	8	10	12
RF	Lb	247	355	525	836	1989	3635	5920	9668
	Kg	112	161	238	379	902	1649	2685	4385
BW	Lb	164	344	400	569	1301	2609	4046	1237
	Kg	74	156	181	258	590	1183	1835	3140



VALVE WEIGHTS

BOLTED BODY TILTING DISC CHECK

CLASS 150 BOLTED BODY TILTING DISC CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	35	50	65	85	120	155	265	480	655	960	1150	1470	1890	2920
	Kg	15	22	29	38	54	70	120	218	297	436	522	668	859	1327
BW	Lb	20	38	48	60	90	125	215	400	535	825	965	1250	1640	2270
	Kg	9	17	21	27	40	56	97	181	243	375	438	568	745	1031

CLASS 300 BOLTED BODY TILTING DISC CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	55	85	95	130	210	235	390	650	930	1160	1650	2100	2590	3950
	Kg	25	38	43	59	95	106	177	295	422	527	750	945	1177	1795
BW	Lb	40	58	65	85	145	170	270	500	735	980	1250	1600	1800	2700
	Kg	18	26	29	38	65	77	122	227	334	445	568	727	818	1227

CLASS 600 BOLTED BODY TILTING DISC CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	80	130	150	230	350	480	760	1100	—	—	—	—	—	—
	Kg	36	99	68	104	159	218	345	500	—	—	—	—	—	—
BW	Lb	72	90	115	165	295	435	690	810	—	—	—	—	—	—
	Kg	32	40	52	75	134	197	313	368	—	—	—	—	—	—

CLASS 900 BOLTED BODY TILTING DISC CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	—	—	180	280	450	620	—	—	—	—	—	—	—	—
	Kg	—	—	81	127	204	281	—	—	—	—	—	—	—	—
BW	Lb	—	—	110	170	290	480	—	—	—	—	—	—	—	—
	Kg	—	—	50	77	131	218	—	—	—	—	—	—	—	—

CLASS 1500 BOLTED BODY TILTING DISC CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	180	230	230	450	550	980	—	—	—	—	—	—	—	—
	Kg	81	104	104	204	250	445	—	—	—	—	—	—	—	—
BW	Lb	160	175	175	295	395	810	—	—	—	—	—	—	—	—
	Kg	72	79	79	134	179	368	—	—	—	—	—	—	—	—



VALVE WEIGHTS

PRESSURE SEAL GATE

CLASS 600 PRESSURE SEAL GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	65	70	120	210	310	435	820	1220	1770	2400	3250	—	—	—
	Kg	30	32	55	95	141	198	373	555	805	1091	1477	—	—	—
BW	Lb	45	50	85	150	200	305	630	940	1450	2010	2650	3500	5400	7200
	Kg	20	22	38	68	90	138	286	472	659	913	1204	1590	2454	3272

CLASS 900 PRESSURE SEAL GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	—	—	155	255	420	640	1175	1720	2520	3150	4580	—	—	—
	Kg	—	—	70	116	191	291	534	782	1145	1432	2082	—	—	—
BW	Lb	—	—	110	190	300	480	850	1310	1920	2400	3600	4650	5800	—
	Kg	—	—	50	86	136	218	386	595	872	1090	1636	2113	2636	—

CLASS 1500 PRESSURE SEAL GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	145	175	220	365	630	895	1430	2580	4050	4400	—	—	—	—
	Kg	66	80	100	166	286	407	650	1173	1840	2000	—	—	—	—
BW	Lb	65	95	140	265	410	615	1100	2000	2850	3350	4540	5700	7250	10000
	Kg	29	43	63	120	186	279	500	909	1295	1522	2063	2590	3295	4545

CLASS 2500 PRESSURE SEAL GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	150	180	295	480	950	1560	2000	3000	5450	—	—	—	—	—
	Kg	68	82	134	218	432	709	909	1364	2477	—	—	—	—	—
BW	Lb	90	115	190	300	620	880	1330	2280	3800	4520	7000	7800	9000	11500
	Kg	41	52	86	136	282	400	605	1036	1727	2055	3182	3545	4090	5227



PRESSURE SEAL GLOBE

CLASS 600 PRESSURE SEAL GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	—	106	135	248	425	535	900	1530	2170	2640	3550	—	—	—
	Kg	—	48	61	112	193	243	490	695	986	1200	1613	—	—	—
BW	Lb	—	84	103	188	315	405	710	1250	1850	2250	2950	—	—	—
	Kg	—	38	46	85	143	184	322	568	840	1022	1340	—	—	—

CLASS 900 PRESSURE SEAL GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	—	—	220	314	610	800	1550	2425	3700	4600	5460	—	—	—
	Kg	—	—	100	142	277	363	704	1102	1681	2090	2481	—	—	—
BW	Lb	—	—	175	248	490	642	1225	2020	3100	3850	4480	—	—	—
	Kg	—	—	79	112	222	291	556	918	1409	1750	2036	—	—	—

CLASS 1500 PRESSURE SEAL GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	—	167	260	385	790	960	1800	3150	4910	5900	—	—	—	—
	Kg	—	75	118	175	359	432	810	1429	2210	2655	—	—	—	—
BW	Lb	—	90	180	285	570	680	1470	2570	3710	4850	—	—	—	—
	Kg	—	40	81	129	259	309	668	1168	1686	2204	—	—	—	—

CLASS 2500 PRESSURE SEAL GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	—	158	270	442	890	1586	2370	3160	5050	—	—	—	—	—
	Kg	—	72	122	200	404	714	1067	1422	1542	—	—	—	—	—
BW	Lb	—	95	165	260	560	900	1700	2440	3400	—	—	—	—	—
	Kg	—	43	74	115	254	405	765	1098	1542	—	—	—	—	—



VALVE WEIGHTS

PRESSURE SEAL LIFT CHECK

CLASS 600 PRESSURE SEAL LIFT CHECK VALVES

	2	2½	3	4	5	6	8	10	12	14	16	18	20	24	
RF	Lb	—	81	107	200	360	450	800	1275	1880	2650	3800	—	—	—
	Kg	—	37	49	91	164	205	634	580	855	1205	1727	—	—	—
BW	Lb	—	59	75	140	250	320	610	1000	1575	2250	3200	4100	6050	7600
	Kg	—	27	34	64	114	145	277	455	716	1023	1455	1864	2750	3455

CLASS 900 PRESSURE SEAL LIFT CHECK VALVES

	2	2½	3	4	5	6	8	10	12	14	16	18	20	24	
RF	Lb	—	—	153	235	425	555	1150	1675	2380	3500	4700	—	—	—
	Kg	—	—	70	107	193	252	523	761	1082	1591	2137	—	—	—
BW	Lb	—	—	108	170	300	400	780	1260	1780	2750	3710	4930	6680	8280
	Kg	—	—	49	77	136	181	354	572	809	1250	1686	2240	3036	3760

CLASS 1500 PRESSURE SEAL LIFT CHECK VALVES

	2	2½	3	4	5	6	8	10	12	14	16	18	20	24	
RF	Lb	—	142	188	280	530	710	1170	2170	3300	4350	—	—	—	—
	Kg	—	64	85	127	240	322	531	986	1500	1977	—	—	—	—
BW	Lb	—	65	108	180	310	430	840	1590	2100	3300	4700	—	—	—
	Kg	—	29	49	81	140	195	381	722	954	1500	2136	—	—	—

CLASS 2500 PRESSURE SEAL LIFT CHECK VALVES

	2	2½	3	4	5	6	8	10	12	14	16	18	20	24	
RF	Lb	—	133	213	397	650	1156	1690	2340	4070	—	—	—	—	—
	Kg	—	60	96	180	295	252	768	1063	1850	—	—	—	—	—
BW	Lb	—	70	108	215	320	470	1020	1620	2420	—	—	—	—	—
	Kg	—	31	49	97	145	213	463	736	1100	—	—	—	—	—



MARINE VALVE WEIGHTS

MARINE GATE VALVES

CLASS 150 MARINE GATE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
NRS-RF	Lb	38	60	73	110	145	189	297	462	682	869	1195	1490	1840	2200
	Kg	17	27	33	50	66	86	135	210	310	395	543	677	836	1000
OS&Y-RF	Lb	42	55	73	110	158	189	319	484	671	1122	1474	1760	2145	2860
	Kg	19	25	33	50	72	86	145	220	305	510	670	800	975	1300

MARINE GLOBE VALVES

CLASS 150 MARINE GLOBE VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	46	62	77	123	167	230	360	560	725	1220	1570	—	—	—
	Kg	21	28	35	56	76	104	164	254	329	554	714	—	—	—

MARINE CHECK VALVES

CLASS 150 MARINE CHECK VALVES

		2	2½	3	4	5	6	8	10	12	14	16	18	20	24
RF	Lb	40	48	59	95	132	187	330	480	690	860	990	—	—	—
	Kg	18	21	27	43	60	85	150	218	314	391	450	—	—	—



TESTING

Each Newco cast steel valve is subjected to an extensive inspection before leaving the plant. Every valve is given a pressure test as described below:

- Shell Test:** Each valve is hydrostatically tested at a minimum of 1.5 times the 100°F rated pressure for the applicable pressure class in accordance with ANSI B16.34 and API 598.
- Seat Closure Test:** All valve seats are hydrostatically tested at a minimum of 1.1 times the 100°F rated pressure for the applicable pressure class, or at a minimum of 80 PSI air in accordance with ANSI B16.34 and API 598.
- Backseat Test:** All valves having backseats are tested for leakage through the backseat with the valve fully open. Test pressure is 1.1 times the 100°F rated pressure.

NEWCO valves can be provided with one or more of the following optional NDE testing examinations:

- Radiographic
- Magnetic particle
- Ultrasonic
- Dye penetrant

Complete material certification and test certification can be supplied upon request for every Newco cast steel valve.

Newco

CAST STEEL VALVES

Newmans —USA

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