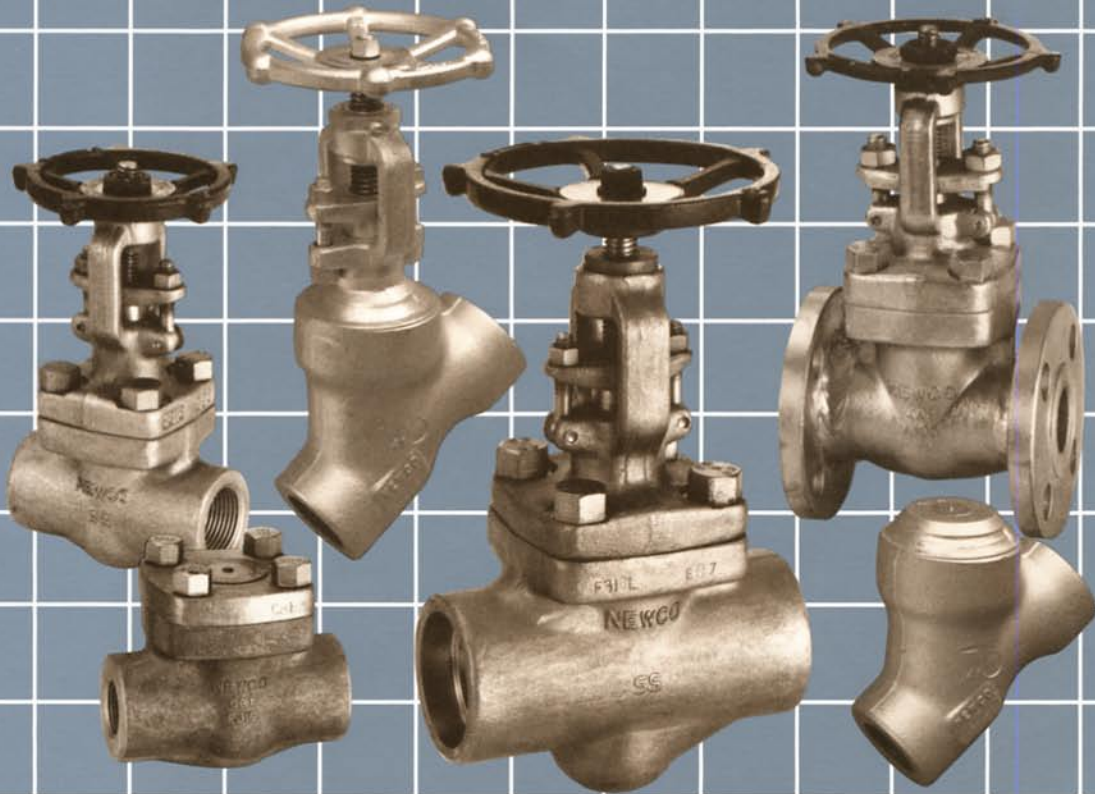


# NEWCO

## FORGED STEEL VALVES



Newco Valves



Newmans



## A FIFTY-YEAR COMMITMENT TO EXCELLENCE

The growth of Newmans for the past six decades has been a prelude of our commitment to the future of the valve industry. The formula for 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 due to Newmans' ability to anticipate and supply market needs through international sources and large advance purchases. Our regional warehouses are stocked with

well-balanced inventories of Newco industrial valves representing the best value in today's market.

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

## COMMITMENT TO NEWCO QUALITY

- Design and manufacturing systems are reviewed and modified prior to production to conform to Newco quality standards.
- Newco facilities control their own casting and forging facilities to insure both quality and delivery of critical components.
- Newco facilities maintain quality control staffs independent from production and under direct control of Newman's technical staffs.
- Formal, documented ISO 9001 manufacturing quality assurance programs are in place.
- Semi-annual audits of manufacturing processes are conducted by Newmans to insure that any changes are properly evaluated with respect to product quality.
- Individual product tests and inspections to ASME and API Standards are monitored by Newmans' technical staffs.



**NEWCO FIGURE NUMBERS**

Type	Pressure Class	End Connections	Trim Material
1 = Gate, OS&Y	1 = 150	F = Flanged	1 = CR13
2 = Globe, OS&Y	3 = 300	W = Butt Weld	2 = CR13/HF**
3 = Swing Check	6 = 600	S = Socket Weld	3 = HF/HF**
4 = Lift Check	8 = 800	T = Threaded	4 = 316
7 = Angle, OS&Y	15 = 1500	X = Special (Customer to specify)	4/2 = HF**/316
	25 = 2500		4/3 = 316/HF**
	45 = 4500		5 = NI CU (Monel***)
			5/2 = HF**/Monel***
			5/3 = Monel***/HF**
			9 = Special (Customer to specify)

**FIG. 18T-FS2-\***

BODY/BONNET MATERIAL

FS	= ASTM A105	= Forged Carbon Steel
F5	= ASTM A182, F5	= Forged Alloy Steel (5% Chrome, ½% Moly)
LF-2	= ASTM A350, LF2	= Forged Low Temperature Carbon Steel
F9	= ASTM A182, F9	= Forged Alloy Steel (9% Chrome, 1% Moly)
F11	= ASTM A182, F11	= Forged Alloy Steel (1¼% Chrome, ½% Moly) (Class 2)
F22	= ASTM A182, F22	= Forged Alloy Steel (2¼% Chrome, 1% Moly) (Class 3)
F91	= ASTM A182, F91	= Forged Alloy Steel (9% Chrome, 1 Moly, Vanadium)
SPL	= Special (Customer to Specify)	

**Note:** Trim Materials Defined on Page 4.

**\* SUFFIX LETTERS**

Y	= Y Pattern
INT	= Integral Flanged
WB	= Welded Bonnet
HP	= Horizontal Piston Check
HB	= Horizontal Ball Check
VB	= Vertical Ball Check
FP	= Full Port
RP	= Regular Port
TF	= Teflon* Insert
VT	= Viton* Insert
N1	= NACE Valve, Class I Bolting
N2	= NACE Valve, Class II Bolting
N3	= NACE Valve, Class III Bolting
MO	= Motor Operator
PO	= Pneumatic Operator
HO	= Hydraulic Operator
CR	= Cryogenic Service
OX	= Oxygen Service
CL	= Chlorine Service
GI	= Grease Injection
BS	= Bellows Seal
ST	= Socket Weld x Threaded
EB	= Extended Body

- \* = Viton and Teflon are registered trademarks of DuPont Company.
- \*\* HF = Hardfaced - AWS 5.13 Class C<sub>0</sub>C<sub>r</sub>A.
- \*\*\* = 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



# MATERIALS SPECIFICATIONS

## MATERIALS

Standard stocked material in A105 with NEWCO No. 2 Trim. (API Trim No. 8)  
Bellow Seal and Extended Body Valves are available upon request.

The charts below list materials available.

F8C, F9, F347, & F347H are available upon request and factory ordered.

### MATERIALS (BODY / BONNET)

NEWCO Material Designation	Common Designation	ASTM Specification	Standard NEWCO Trim	Optional Available Trim
FS	Carbon Steel	A105	2	3, 4, 4/3, 5
LF2	Low Temp Carbon Steel	A350 Grade LF-2	4/3	4
F11	1¼ Chrome ½ Moly	A182 Grade F-11	2	4, 5
F22	2¼ Chrome 1 Moly	A182 Grade F-22	3	4, 5
F5	5 Chrome ½ Moly	A182 Grade F-5	2	4, 5
F91	F91	A182 Grade F91	3	—

### TRIM MATERIALS

NEWCO Trim No.	Seat Ring Facing	Wedge or Disc Facing	Stem	Other Trim Parts	API 602 Trim No.
1	CR13	CR13	F6a	F6a	1
2	Hardfaced	CR13	F6a	F6a	8
3	Hardfaced	Hardfaced	F6a	F6a	5
4	316	316	316	316	10
4/2	Hardfaced	316	316	316	12
4/3	Hardfaced	Hardfaced	316	316	16
5	NICU	NICU	NICU	NICU	9
5/2	Hardfaced	NICU	NICU	NICU	11
5/3	Hardfaced	Hardfaced	NICU	NICU	—
9	SPL	SPL	SPL	SPL	—

## SPECIFICATIONS

NEWCO forged steel valves comply with the following applicable specifications:

ASME	API	MSS
B16.34	598	SP-84
B16.11	602	
B1.20.1		

Note: Bolted bonnet valves are also available in welded bonnet configuration.  
Full Penetrant Welded Flanged Ends available in Class 600.

### SOCKET WELD DIMENSIONS

Tolerances  
Column A Dimensions + 010-000

Valve Size	Socket Dia. A	Min. ANSI B16.11 Socket Depth B
¼	.555	.38
⅜	.690	.38
½	.855	.38
¾	1.065	.50
1	1.330	.50
1¼	1.675	.50
1½	1.915	.50
2	2.406	.62



# GATE VALVES

## BOLTED BONNET CLASS 150-300-600-800-1500

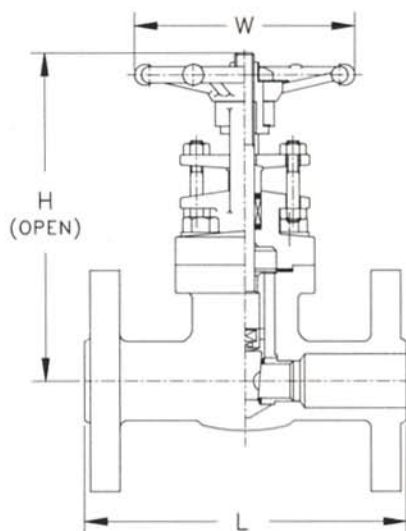


Fig. 11F-FS2-INT Class 150 (Flanged)  
 Fig. 13F-FS2-INT Class 300 (Flanged)  
 Fig. 16F-FS2-INT Class 600 (Flanged)

### FEATURES

- Spiral wound gasket of stainless steel and flexible graphite with controlled compression.
- Flexible graphite packing with braided carbon end rings.

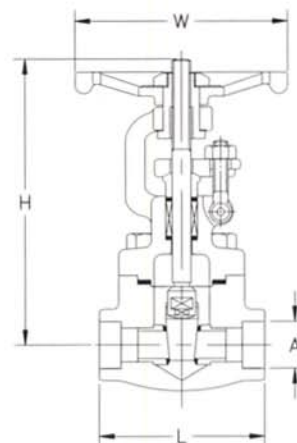


Fig. 18S-FS2 Class 800 (Socket Weld)  
 Fig. 18T-FS2 Class 800 (Threaded)

Fig. 115S-FS2 Class 1500 (Socket Weld)  
 Fig. 115T-FS2 Class 1500 (Threaded)

Also available in Class 2500

### CLASS 150-300-600 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
L - 150 Face to Face	IN	4.25	4.62	5.0	5.5	6.5	7.0
	MM	108	117	127	140	165	178
L - 300 Face to Face	IN	5.5	6.0	6.5	7.0	7.5	8.5
	MM	140	152	165	178	190	216
L - 600 Face to Face	IN	6.5	7.5	8.5	9.0	9.5	11.5
	MM	165	190	216	229	241	292
W - Handwheel Dia.	IN	3.5	3.8	4.3	5.5	5.5	6.7
	MM	89	97	109	140	140	170
H - Height (150)	IN	7.1	7.3	8.2	8.9	9.8	11.6
	MM	179	184	207	227	248	295
H - Height (300)	IN	5.9	6.3	7.3	8.9	9.8	11.2
	MM	150	159	185	227	248	285
H - Height (600)	IN	7.8	8.1	9.3	9.7	11.5	12.8
	MM	197	205	235	247	291	325
WT - CLASS 150	LB	6.8	8.6	12.2	18.0	23.3	32.0
	KG	3.1	3.9	5.5	8.2	10.6	14.5
WT - CLASS 300	LB	7.3	10.8	14.8	21.2	29.5	36.3
	KG	3.3	4.9	6.7	9.6	13.4	16.5
WT - CLASS 600	LB	7.7	11.7	16.0	23.0	31.0	40.9
	KG	3.5	5.3	7.1	10.4	14.0	18.6

For materials and applicable specifications see page 4.

### CLASS 800 DIMENSIONS

NPS		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height (open)	IN	4.7	4.7	5.2	5.8	7.2	8.9	9.2	10.5
	MM	119	119	132	147	183	226	234	267
W - Handwheel Dia.	IN	3.2	3.2	3.2	3.7	4.3	5.5	5.5	6.7
	MM	81	81	81	94	109	140	140	170
L - End to End	IN	2.56	2.56	3.15	3.55	4.33	5.0	5.0	5.28
	MM	65	65	80	90	110	127	127	134
WT	LB	2.0	2.0	4.0	4.6	8.4	11.3	15.5	22.9
	KG	0.9	0.9	1.8	2.1	3.8	5.1	7.0	10.4

### CLASS 1500 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height (open)	IN	7.3	7.5	8.5	9.4	11.0	12.6
	MM	185	190	216	239	279	320
W - Handwheel Dia.	IN	4.3	4.7	5.5	5.5	6.8	7.9
	MM	109	119	140	140	173	200
L - End to End	IN	4.37	4.37	4.72	5.12	5.51	6.38
	MM	111	111	120	130	140	162
WT	LB	8.8	11.9	16.3	21.2	33.3	37.9
	KG	4.0	5.4	7.4	9.6	15.1	17.2



# GLOBE VALVES

## BOLTED BONNET CLASS 150-300-600-800-1500

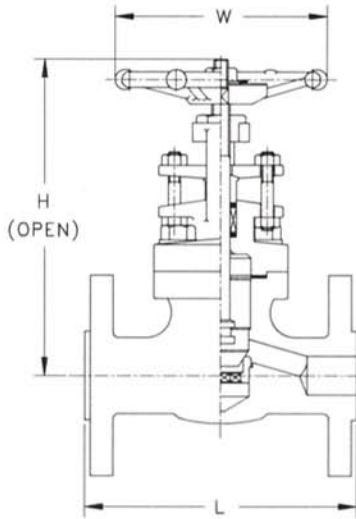


Fig. 21F-FS2-INT Class 150 (Flanged)  
 Fig. 23F-FS2-INT Class 300 (Flanged)  
 Fig. 26F-FS2-INT Class 600 (Flanged)

### FEATURES

- Spiral wound gasket of stainless steel and flexible graphite with controlled compression.
- Flexible graphite packing with braided end rings.

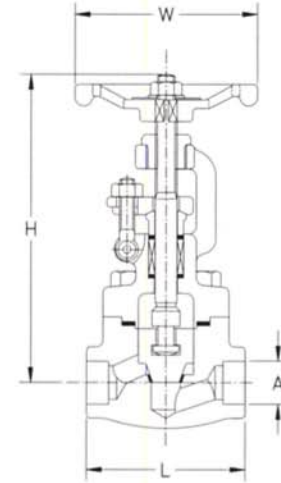


Fig. 28S-FS2 Class 800 (Socket Weld)  
 Fig. 28T-FS2 Class 800 (Threaded)

Fig. 215S-FS2 Class 1500 (Socket Weld)  
 Fig. 215T-FS2 Class 1500 (Threaded)

Also available in Class 2500

### CLASS 150-300-600 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
L - 150 Face to Face	IN	4.25	4.62	5.0	5.5	6.5	8.0
	MM	108	117	127	140	165	203
L - 300 Face to Face	IN	6.0	7.0	8.0	8.5	9.0	10.5
	MM	152	178	203	216	229	267
L - 600 Face to Face	IN	6.5	7.5	8.5	9.0	9.5	11.5
	MM	165	190	216	229	241	292
W - Handwheel Dia.	IN	5.2	5.8	7.2	9.0	9.2	10.5
	MM	132	147	183	229	234	267
H - Height (150)	IN	7.32	7.4	8.1	9.5	11.4	12.1
	MM	186	188	205	240	290	308
H - Height (300)	IN	6.1	6.1	7.3	9.4	11.4	12.1
	MM	155	155	185	240	290	308
H - Height (600)	IN	6.1	6.1	7.3	9.4	11.4	12.1
	MM	155	155	185	240	290	308
WT - CLASS 150	LB	6.8	7.5	17.2	24.3	25.1	35.3
	KG	3.1	3.4	7.8	11.0	11.4	16.0
WT - CLASS 300	LB	7.3	8.0	22.5	30.4	31.3	39.2
	KG	3.3	3.6	10.2	13.8	14.2	17.8
WT - CLASS 600	LB	7.7	8.4	24.3	34.0	32.6	44.1
	KG	3.5	3.8	11.0	15.4	14.8	20.0

For materials and applicable specifications see page 4.

### CLASS 800 DIMENSIONS

NPS		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height (open)	IN	4.9	4.9	5.8	6.1	7.3	8.6	9.5	10.3
	MM	124	124	147	155	185	218	241	262
W - Handwheel Dia.	IN	3.2	3.2	5.2	5.8	7.2	8.9	9.2	10.5
	MM	80	80	132	147	183	226	234	267
L - End to End	IN	2.56	2.56	3.15	3.55	4.33	5.12	6.10	6.77
	MM	65	65	80	90	110	130	155	172
WT	LB	2.2	2.2	4.2	4.6	8.4	12.3	17.2	24.9
	KG	1.0	1.0	1.9	2.1	3.8	5.6	7.8	11.3

### CLASS 1500 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height (open)	IN	7.0	8.2	9.4	10.0	12.0	12.8
	MM	180	210	240	255	306	325
W - Handwheel Dia.	IN	5.0	5.0	6.3	6.3	7.0	9.0
	MM	125	125	160	160	180	230
L - End to End	IN	4.33	4.72	5.12	6.69	8.26	8.26
	MM	110	120	130	170	210	210
WT	LB	7.3	12.0	18.3	24.5	45.0	55.4
	KG	3.3	5.5	8.2	10.9	20.0	25.0

# GLOBE VALVES



## Y PATTERN — WELDED BONNET — CLASS 800-1500-2500

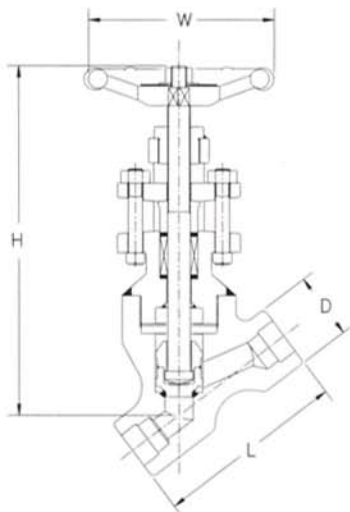


Fig. 28S-FS3 - WB - Y Class 800 (Socket Weld)  
Fig. 28T-FS3 - WB - Y Class 800 (Threaded)

Fig. 215S-FS3 - WB - Y Class 1500 (Socket Weld)  
Fig. 215T-FS3 - WB - Y Class 1500 (Threaded)  
Fig. 215W-FS3 - WB - Y Class 1500 (Buttwelding)

Fig. 225S-FS3 - WB - Y Class 2500 (Socket Weld)  
Fig. 225T-FS3 - WB - Y Class 2500 (Threaded)  
Fig. 225W-FS3 - WB - Y Class 2500 (Buttwelding)

### CLASS 800 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height (open)	IN	5.9	7.1	8.5	12.0	10.8	12.4
	MM	150	180	215	305	275	315
W - Handwheel Dia.	IN	3.2	3.9	4.7	6.8	6.8	6.8
	MM	80	100	120	172	172	172
L - End to End	IN	3.2	3.9	4.3	6.0	6.3	7.5
	MM	80	100	110	150	160	190
D	IN	1.4	1.6	1.9	2.9	2.9	3.4
	MM	36	41	48	74	74	86
WT	LB	5.3	6.6	8.8	23.2	23.2	35.4
	KG	2.4	3.0	4.0	10.5	10.5	16.0

For material and applicable specifications see page 4.

### FEATURES

- Seal welded bonnet eliminates potential leak path.
- Stainless packing gland and stem nut reduce wear and improve corrosion resistance.
- Hardfaced backseat reduces wear.
- Hardfaced disc guides provide protection against side loading.
- Integral hardfaced body seat eliminates potential leak path while providing capability for reseating.
- Tapered hardfaced disc fits into seat for positive shutoff.
- Flexible graphite packing minimizes emissions at all service temperatures.
- In-line inlet port prevents fluid entrapment.

### CLASS 1500 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height (open)	IN	7.1	8.5	8.9	10.8	12.0	14.4
	MM	180	216	226	274	305	366
W - Handwheel Dia.	IN	3.9	5.5	5.5	6.8	6.8	9.0
	MM	99	140	140	173	173	229
L - End to End	IN	3.9	4.3	4.9	5.9	6.3	7.5
	MM	99	109	124	150	160	190
D	IN	1.6	1.9	2.2	2.7	2.7	3.3
	MM	40	49	56	69	69	85
WT	LB	7	12	14	27	29	44
	KG	3.2	5.5	6.2	12.3	13	20

### CLASS 2500 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height (open)	IN	8.7	8.9	10.8	10.8	12.4	14.6
	MM	220	225	275	275	315	370
W - Handwheel Dia.	IN	4.7	5.5	6.8	6.8	6.8	9.1
	MM	120	140	172	172	172	230
L - End to End	IN	4.3	4.9	6.3	6.3	7.5	8.3
	MM	110	125	160	160	190	210
D	IN	1.9	2.2	2.7	2.8	3.3	3.9
	MM	49	56	69	72	83	99
WT	LB	8	13	16	29	32	46
	KG	3.5	6	7.3	13	14.5	21



# GLOBE VALVES

## HIGH TEMPERATURE — Y-PATTERN WELDED BONNET — CLASS 1500-2500-4500

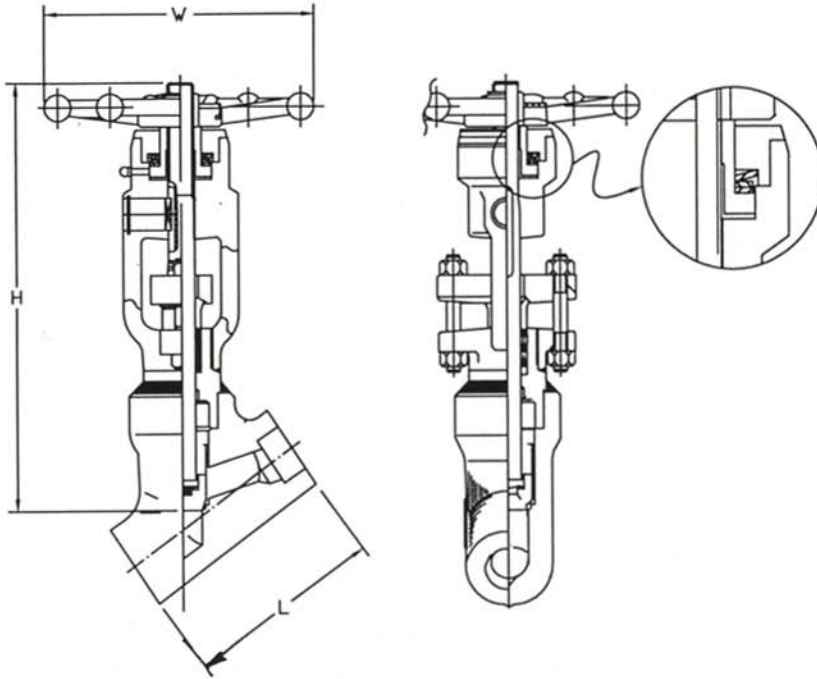


Fig. 215S-F913-WB-Y Class 1500 (Socket Weld)  
 Fig. 225S-F913-WB-Y Class 2500 (Socket Weld)  
 Fig. 245S-F913-WB-Y Class 4500 (Socket Weld)

### CLASS 1500 DIMENSIONS

NPS		1"	1 1/2"	2"
H - Height (open)	IN	11.9	13.8	16.3
	MM	302	350	414
W - Handwheel Dia.	IN	5.5	7.9	10.2
	MM	140	200	260
L - End to End	IN	4.9	6.3	7.5
	MM	125	160	190
WT	LB	14	29	44
	KG	6.2	13	20

### CLASS 4500 DIMENSIONS

NPS		1"	1 1/2"	2"
H - Height (open)	IN	14.5	15.1	17.0
	MM	369	383	433
W - Handwheel Dia.	IN	6.7	7.9	10.2
	MM	170	200	260
L - End to End	IN	7.5	7.5	8.3
	MM	190	190	210
WT	LB	32	46	52
	KG	14.5	21	23.6

### CLASS 2500 DIMENSIONS

NPS		1"	1 1/2"	2"
H - Height (open)	IN	13.5	14.7	16.9
	MM	342	374	430
W - Handwheel Dia.	IN	6.7	7.9	10.2
	MM	168	198	255
L - End to End	IN	6.3	7.5	8.3
	MM	158	188	208
WT	LB	16	32	46
	KG	7.3	14.5	21

### FEATURES

- High-Temperature design allows the valve to be used at full differential pressure, and at temperatures above 800°F.
- Seal welded bonnet eliminates potential leak path.
- Stainless packing gland and stem nut reduce wear and improve corrosion resistance.
- Hardfaced backseat reduces wear.
- Hardfaced disc guides provide protection against side loading.
- Integral hardfaced body seat eliminates potential leak path while providing capability for reseating.
- Tapered hardfaced disc fits into seat for positive shutoff.
- Flexible graphite packing minimizes emissions at all service temperatures.
- In-line port prevents fluid entrapment.



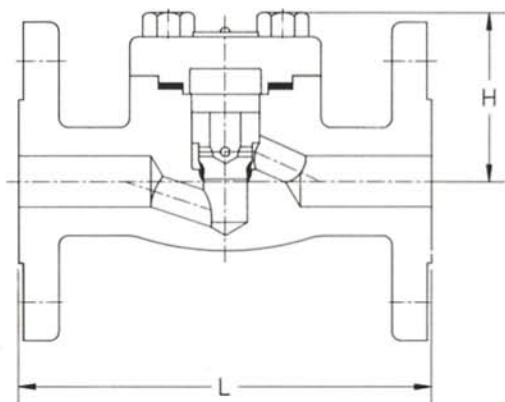


# CHECK VALVES

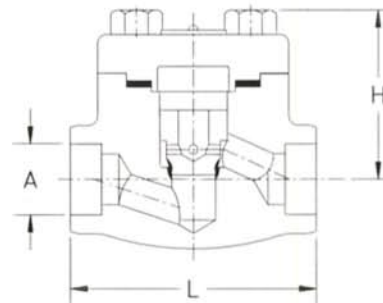
## BOLTED CAP CLASS 150-300-600-800-1500

### FEATURES

- Spiral wound gasket of stainless steel and flexible graphite with controlled compression.
- Fully guided disc in lift checks hardfaced seats
- No sidewall plug on swing checks.
- Lift checks with springs can be purchased upon special request.



Lift Check Fig. Numbers:  
 Fig. 41F-FS2-INT Class 150 (Flanged)  
 Fig. 43F-FS2-INT Class 300 (Flanged)  
 Fig. 46F-FS2 Class 600 (Flanged)



Lift Check Fig. Numbers:  
 Fig. 48S-FS2 Class 800 (Socket Weld)  
 Fig. 48T-FS2 Class 800 (Threaded)

Fig. 415S-FS2 Class 1500 (Socket Weld)  
 Fig. 415T-FS2 Class 1500 (Threaded)

### CLASS 150-300-600 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/2"	2"
L-150 Face to Face	IN	6.00	7.00	8.00	9.00	10.50
	MM	152	178	203	229	267
L-300 Face to Face	IN	6.00	7.00	8.00	9.00	10.50
	MM	152	178	203	229	267
L-600 Face to Face	IN	6.50	7.50	8.50	9.50	11.50
	MM	165	190	216	241	292
H - Height	IN	1.73	2.05	2.60	3.23	3.82
	MM	44	52	66	82	92
WT - 150	LB	5.3	6.6	10.6	18.3	28.7
	KG	2.4	3.0	4.8	8.3	13.0
WT - 300	LB	6.0	8.8	12.3	22.7	31.5
	KG	2.7	4.0	5.6	10.3	14.3
WT - 600	LB	6.4	11.0	13.4	28.6	40.3
	KG	2.9	5.0	6.1	13.0	18.3

For materials and applicable specifications see page 4.

### CLASS 800 DIMENSIONS

NPS		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height	IN	1.7	1.7	1.7	2.0	2.6	2.9	3.2	3.8
	MM	44	44	44	52	66	74	82	97
L - End to End	IN	2.91	2.91	2.91	3.38	4.17	5.12	5.98	6.77
	MM	74	74	74	86	106	130	152	172
WT	LB	2.9	2.9	2.9	2.9	5.1	8.2	10.4	16.3
	KG	1.3	1.3	1.3	1.3	2.3	3.7	4.7	7.4

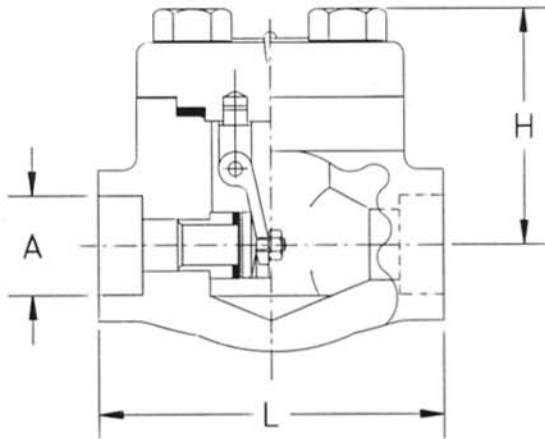
### CLASS 1500 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height	IN	2.8	2.8	3.4	4.1	4.6	5.4
	MM	72	72	85	103	116	135
L - End to End	IN	4.37	4.37	5.12	5.98	6.77	8.66
	MM	111	111	130	152	172	220
WT	LB	6.2	6.2	9.0	12.8	20.1	28.7
	KG	2.8	2.8	4.1	5.8	9.1	13.0



# CHECK VALVES

## BOLTED CAP CLASS 800



Swing Check Fig. Numbers:  
 Fig. 38S-FS2 Class 800 (Socket Weld)  
 Fig. 38T-FS2 Class 800 (Threaded)

## Y PATTERN — WELDED BONNET CLASS 1500-2500

### FEATURES

- Seal welded cap eliminates potential leak path
- Integral hardfaced seats
- Spring loaded piston for positive shut-off
- In-line inlet port prevents fluid entrapment

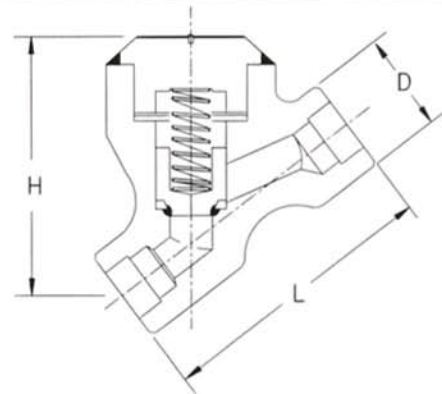


Fig. 415S-FS3 - WB - Y Class 1500 (Socket Weld)  
 Fig. 415T-FS3 - WB - Y Class 1500 (Threaded)  
 Fig. 415W-FS3 - WB - Y Class 1500 (Buttwelding)  
 Fig. 425S-FS3 - WB - Y Class 2500 (Socket Weld)  
 Fig. 425T-FS3 - WB - Y Class 2500 (Threaded)  
 Fig. 425W-FS3 - WB - Y Class 2500 (Buttwelding)

## CLASS 800 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height	IN	1.9	2.2	2.7	2.9	3.9	4.1
	MM	49	56	67	73	95	105
L - End to End	IN	3.15	3.54	4.33	5.00	6.10	6.70
	MM	80	90	110	127	155	170
WT	LB	2.4	4.0	5.1	7.9	13.2	19.6
	KG	1.1	1.8	2.3	3.6	6.0	8.9

For materials and applicable specifications see page 4.

## CLASS 1500 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height	IN	3.0	3.1	3.4	4.5	4.5	5.5
	MM	75	80	85	115	115	140
D	IN	1.6	1.9	2.2	2.7	2.7	3.3
	MM	40	49	56	69	69	85
L - End to End	IN	3.9	4.3	4.9	5.9	6.3	7.5
	MM	100	110	125	150	160	190
WT	LB	5.5	6.6	10.0	13.3	13.3	20.0
	KG	2.5	3.0	4.5	6.0	6.0	9.0

## CLASS 2500 DIMENSIONS

NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H - Height	IN	3.2	3.3	4.5	5.5	5.5	5.9
	MM	80	85	115	140	140	150
D	IN	1.9	2.2	2.7	2.8	3.3	3.9
	MM	49	56	69	72	83	99
L - End to End	IN	4.3	4.9	6.3	6.3	7.5	8.3
	MM	110	125	160	160	190	210
WT	LB	6.6	10.0	13.3	13.3	20.0	26.6
	KG	3.0	4.5	6.0	6.0	9.0	12.0



## PRESSURE / TEMPERATURE RATINGS

### A105\*/LF2\*\*\*\*

Temperature °F	Class 150	Class 300	Class 600	Class 800	Class 1500	Class 2500
-20 to 100	285	740	1480	1975	3705	6170
200	260	675	1350	1800	3375	5625
300	230	655	1315	1750	3280	5470
400	200	635	1270	1690	3170	5280
500	170	600	1200	1595	2995	4990
600	140	550	1095	1460	2735	4560
650	125	535	1075	1430	2685	4475
700	110	535	1065	1420	2665	4440
750	95	505	1010	1345	2520	4200
800	80	410	825	1100	2060	3430
850	65	270	535	715	1340	2230
900	50	170	345	460	860	1430
950	35	105	205	275	515	860
1000	20	50	105	140	260	430
1050	—	—	—	—	—	—
1100	—	—	—	—	—	—
1150	—	—	—	—	—	—
1200	—	—	—	—	—	—

### F22\*\*

Temperature °F	Class 150	Class 300	Class 600	Class 800	Class 1500	Class 2500
-20 to 100	290	750	1500	2000	3750	6250
200	260	750	1500	1910	3750	6250
300	230	730	1455	1805	3640	6070
400	200	705	1410	1730	3530	5880
500	170	665	1330	1705	3325	5540
600	140	605	1210	1615	3025	5040
650	125	590	1175	1570	2940	4905
700	110	570	1135	1515	2840	4730
750	95	530	1065	1420	2660	4430
800	80	510	1015	1355	2540	4230
850	65	485	975	1300	2435	4060
900	50	450	900	1200	2245	3745
950	35	375	755	1005	1885	3145
1000	20	260	520	715	1305	2170
1050	20	175	350	530	875	1455
1100	—	110	220	300	550	915
1150	—	—	—	—	—	—
1200	—	—	—	—	—	—

### F11\*\*

Temperature °F	Class 150	Class 300	Class 600	Class 800	Class 1500	Class 2500
-20 to 100	290	750	1500	2000	3750	6250
200	260	750	1500	1900	3750	6250
300	230	720	1445	1795	3610	6015
400	200	695	1385	1755	3465	5775
500	170	665	1330	1710	3325	5540
600	140	605	1210	1615	3025	5040
650	125	590	1175	1570	2940	4905
700	110	570	1135	1515	2840	4730
750	95	530	1065	1420	2660	4430
800	80	510	1015	1355	2540	4230
850	65	485	975	1300	2435	4060
900	50	450	900	1200	2245	3745
950	35	320	640	1005	1595	2655
1000	20	215	430	595	1080	1800
1050	20	145	290	365	720	1200
1100	20	95	190	255	480	800
1150	—	60	125	140	310	515
1200	—	40	75	95	190	315

### F91

Temperature °F	Class 150	Class 300	Class 600	Class 800	Class 1500	Class 2500	Class 4500
-20 to 100	290	750	1500	2750	3750	6250	11250
200	260	750	1500	2750	3750	6250	11250
300	230	730	1455	2670	3640	6070	10925
400	200	705	1410	2585	3530	5880	10585
500	170	665	1330	2435	3325	5540	9965
600	140	605	1210	2215	3025	5040	9070
650	125	590	1175	2155	2940	4905	8825
700	110	570	1135	2080	2840	4730	8515
750	95	530	1065	1950	2660	4430	7970
800	80	510	1015	1860	2540	4230	7610
850	65	485	975	1785	2435	4060	7305
900	50	450	900	1650	2245	3745	6740
950	35	385	775	1415	1930	3220	5795
1000	20	365	725	1330	1820	3030	5450
1050	20	360	720	1320	1800	3000	5400
1100	20	300	605	1105	1510	2515	4525
1150	20	225	445	815	1115	1855	3345
1200	20	145	290	525	720	1200	2160

### F5

Temperature °F	Class 150	Class 300	Class 600	Class 800	Class 1500	Class 2500
-20 to 100	290	750	1500	2000	3750	6250
200	260	745	1490	2000	3725	6205
300	230	715	1430	1940	3580	5965
400	200	705	1410	1880	3530	5880
500	170	665	1330	1775	3325	5540
600	140	605	1210	1615	3025	5040
650	125	590	1175	1570	2940	4905
700	110	570	1135	1515	2840	4730
750	95	530	1055	1420	2640	4400
800	80	510	1015	1325	2540	4230
850	65	485	965	1170	2415	4030
900	50	370	740	940	1850	3085
950	35	275	550	695	1370	2285
1000	20	200	400	510	995	1655
1050	20	145	290	375	720	1200
1100	20	100	200	275	495	830
1150	20	60	125	185	310	515
1200	15	35	70	120	170	285

Notes: \*Permissible, but not recommended for prolonged usage above 800°F.  
 \*\*Permissible, but not recommended for prolonged usage above 100°F.  
 \*\*\*\*Not to be used over 650°F.



## CORROSION DATA

CORROSIVE MEDIA	Carbon Steel	Stainless Steel 304	Stainless Steel 316	Inconel	Monel
Acetate Solvents, Crude	D	A	A	A	B
Acetate Solvents, Pure	C	A	A	A	A
Acetic Acid, 95%	D	B	A	A	A
Acetic Anhydride, Boiling	D	B	A	A	A
Acetone	B	A	A	A	A
Alcohols	B	A	A	A	A
Amines	B	A	A	A	A
Ammonia, Anhydrous	B	A	A	A	A
Ammonium Hydroxide, Hot	B	A	A	A	D
Ammonium Nitrate	B	A	A	A	C
Aniline Hydrochloride	D	D	C	B	B
Antimony Trichloride	D	D	C	B	B
Asphalt	B	A	A	A	A
Barium Chloride, 5%	C	A	A	A	A
Barium Hydroxide	C	A	A	A	A
Barium Nitrate	C	A	A	B	C
Benzene, Hot	B	A	A	A	A
Benzoic Acid	B	A	A	A	A
Blood	D	A	A	A	A
Bromine, Dry Gas	D	A	A	B	A
Bromine, Moist Gas	D	D	D	D	C
Buttermilk	D	A	A	A	A
Calcium Bisulfite, Hot	D	C	B	D	D
Calcium Chloride, Dilute	C	B	A	A	A
Calcium Hydroxide, 20%, Boiling	D	A	A	A	A
Calcium Hypochloride, <2%	C	C	B	B	C
Carbolic Acid, 90%	C	A	A	A	B
Carbon Dioxide, Dry	C	A	A	A	A
Carbon Disulphide	B	A	A	A	B
Chloroacetic Acid	D	D	C	B	B
Chloric Acid	D	D	C	C	C
Chlorinated Water, Sal.	D	D	C	C	C
Chlorine, Dry Gas	B	B	B	A	A
Chlorine, Moist Gas	D	D	C	D	C
Citric Acid, Dilute	D	A	A	A	A
Citric Acid, Hot, Conc.	D	C	B	B	B
Creosote, Hot	B	A	A	A	A
Cupric Chloride, 5%	D	D	C	D	D
Ethyl Chloride	A	A	A	A	A
Ethylene Glycol	A	A	A	A	A
Ferric Chloride <1%	D	C	B	B	C
Ferric Nitrate, 5%	D	B	A	C	D
Ferric Sulfate, 5%	D	B	A	B	C
Ferrous Sulfate, 10%	C	A	A	B	A
Flourine, Dry Gas	C	C	B	A	A
Flourine, Moist Gas	D	D	D	B	A
Freon, Wet	C	C	C	B	A
Fuel Oil, 140°F	A	A	A	A	B

CORROSIVE MEDIA	Carbon Steel	Stainless Steel 304	Stainless Steel 316	Inconel	Monel
Furfural	B	B	B	B	B
Gasoline Sour	B	A	A	C	C
Gasoline Refined	A	A	A	B	A
Gelatine	D	B	A	A	A
Glucose	B	A	A	A	A
Glycerine	B	A	A	A	A
Hydrofluoric Acid, Boiling	D	D	D	D	B
Hydrofluosilicic Acid	D	D	C	B	A
Hydrogen Chloride, Dry	B	D	C	A	A
Hydrogen Chloride, Moist	D	D	D	D	C
Hydrogen Fluoride, Dry	C	D	C	A	A
Hydrogen Peroxide, Boiling	D	C	B	B	B
Hydrogen Sulfide, Dry	B	A	A	A	A
Hydrogen Sulfide, Moist	C	B	A	A	B
Iodine, Dry	D	D	B	A	A
Kerosene	A	A	A	A	A
Lactic Acid, 5%	D	B	A	A	B
Lactic Acid, 10%	D	B	A	A	B
Lactic Acid, Boiling, 5%	D	C	B	B	C
Lactic Acid, Boiling, 10%	D	D	B	B	C
Lead Acetate, Hot	D	A	A	B	B
Magnesium Chloride, Hot, 5%	D	C	B	A	A
Magnesium Hydroxide	B	A	A	A	A
Magnesium Sulfate	B	A	A	B	A
Magnesium Sulfate, Boiling	C	A	A	C	A
Mercury	B	A	A	A	B
Mercuric Chloride, <2%	D	D	D	D	D
Mercuric Cyanide	D	B	B	B	D
Methyl Chloride, Dry	D	B	B	A	A
Milk	D	A	A	A	B
Molasses	B	A	A	A	A
Naptha	B	A	A	A	A
Nickel Chloride	D	C	B	B	B
Nickel Sulfate, Boiling	D	C	C	B	A
Nitric Acid, 20%	D	A	A	B	D
Nitric Acid, Boiling, Conc.	D	D	D	D	D
Nitrous Acid	D	B	B	B	C
Nitrobenzene	D	B	A	B	B
Oils - Miner.	B	A	A	C	B
Oxalic Acid, Boiling, 10%	C	A	A	A	A
Oxalic Acid, Boiling, 50%	D	D	C	B	B
Oxygen	B	A	A	A	A
Picric Acid	C	A	A	D	D
Potassium Bromide	D	C	B	A	A
Potassium Carbonate	B	A	A	A	A
Potassium Chlorate	B	A	A	A	B
Potassium Chloride	D	A	A	A	A
Potassium Chloride, Hot	D	C	B	B	A

CORROSIVE MEDIA	Carbon Steel	Stainless Steel 304	Stainless Steel 316	Inconel	Monel
Potassium Cyanide	B	B	B	B	B
Potassium Sulfate, Dil.	B	A	A	A	A
Propane, Liquid & Gas	B	A	A	A	A
Pyrogallic Acid	B	A	A	B	A
Rosin, Molten	D	A	A	A	A
Salicylic Acid	D	B	B	B	B
Silver Bromide	D	B	A	C	B
Silver Chloride	D	D	D	C	B
Silver Nitrate	D	A	A	A	C
Sodium Acetate	C	A	A	A	A
Sodium Bisulfate	D	B	B	B	A
Sodium Bromide, Dil.	D	B	B	B	A
Sodium Cyanide	B	B	B	B	A
Sodium Fluoride, 5%	D	B	A	B	A
Sodium Hydroxide, 50%	B	A	A	A	A
Sodium Hyposulfite	D	B	A	B	A
Sodium Nitrate	B	B	A	A	B
Sodium Perborate	C	A	A	A	B
Sodium Peroxide	C	A	A	A	B
Sodium Phosphate, Tribasic	C	A	A	A	A
Sodium Silicate	B	A	A	A	B
Sodium Thiosulfate	D	B	A	B	B
Stannous Chloride, Sat.	D	D	B	B	B
Steam, 212°F	A	A	A	A	A
Steam, 600°F	C	A	A	A	A
Sulfite Liquors	D	C	B	D	D
Sulfur Chloride	D	C	D	B	B
Sulfur Dioxide, Moist	D	B	A	D	D
Sulfuric Acid, Conc.	B	B	B	B	D
Sulfurous Acid, Sat.	D	B	B	D	D
Tannic Acid, 10%	D	A	A	B	A
Tar, Hot	B	A	A	A	B
Tartaric Acid, 120°F	D	B	A	A	A
Toluene	A	A	A	A	A
Trichlorethylene	B	A	A	A	A
Turpentine	B	A	A	A	A
Varnish, Hot	C	A	A	A	A
Vegetable Oils	B	A	A	A	B
Vinegar	D	A	A	A	A
Water, Acid Mine	D	A	A	A	C
Water, Boiler Feed	B	A	A	A	A
Water, Distilled	D	A	A	A	A
Water, Salt Sea	D	C	B	B	A
Whiskey, Boiling	D	A	A	A	C
Wine	D	A	A	A	C
Xylene, Boiling	D	A	A	A	A
Zinc Chloride, 5%	D	C	B	B	B
Zinc Sulfate, Boiling	D	A	A	B	A

A = Substantial resistance - Preferred material of construction.  
 B = Moderate resistance - Satisfactory for use under most conditions.  
 C = Questionable resistance - Use with caution.  
 D = Inadequate resistance - Not recommended.

Newman's doesn't assume any responsibility from the use of a.m. data which is purely theoretical. The user must verify the best conditions of use.



## FLOW COEFFICIENT CHART

### Flow Coefficient $C_v$

The flow characteristic of a valve is identified by means of the  $C_v$  symbol. The  $C_v$  Flow Coefficient is the quantity expressed in U.S. gallons per minute of water at a standard temperature (60°F=15.6°C) which will flow through the valve at the differential pressure of 1 p.s.i.

Valve Description			Size					
Type	Rating	Bore	1/2	3/4	1	1 1/4	1 1/2	2
Gate	800	Full	12.3	23.2	43	57	98	200
Gate	800	Reduced	6	10	26	44	65	103
Gate	1500	Full	12.5	23.7	44	59	100	200
Gate	1500	Reduced	6.2	10.5	26.5	45	65.5	99
Gate	2500	Full	5	12.1	23	42.5	56	97
Globe	800	Full	3.2	5.8	11.5	15.2	20.9	38.3
Globe	800	Reduced	1.5	3.7	6.4	10.4	17.8	21.5
Globe	1500	Full	2.8	6	12	-	20	24
Globe	1500	Reduced	1.7	2.9	5.8	-	15.5	19.8
Y-Pattern Globe	800		4.8	11.1	13.9	-	37	68
Y-Pattern Globe	1500		5.2	11.2	14.8	-	35	68
Y-Pattern Globe	2500		2.9	5.8	12.1	-	27	36
Swing Check	800	Full	5.4	12.2	16.8	25.5	54.3	101
Swing Check	800	Reduced	3.8	6.2	13.3	18.1	27.8	54.5
Lift Check	800	Full	2.8	5.2	11.1	-	17.8	32
Lift Check	800	Reduced	1.2	3.4	6.3	-	15.1	18.2
Lift Check	1500	Full	2.6	5.8	11	-	19	22
Lift Check	1500	Reduced	1.6	2.7	5.3	-	11	19.2

#### FLOW-RATE

$$Q = C_v \sqrt{\frac{\Delta p}{S}}$$

#### PRESSURE DROP

$$\Delta p = S \left(\frac{Q}{C_v}\right)^2$$

For liquids other than water

$\Delta p$  = Pressure drop LB./IN<sup>2</sup> (psig)

Q = Liquid flow in gallons per minute (GPM).

S = Specific gravity of liquid relative to water (60°F).

$C_v$  = Valve flow coefficient



## INSTALLATION & MAINTENANCE

### STORAGE ON SITE

- Do not remove end protectors until ready to install.
- Store valves indoors in a well-protected, dry area. Do not store in contact with the floor. Store on pallets or shelves.

### INSTALLATION

- Remove end protectors when ready to install.
- Check nameplate to make sure of type and class of valve.
- Check internal port area of valve by visual inspection to locate and remove any debris which may be in the valve. (If necessary, use compressed air to blow out debris).
- Install the valve according to the flow indicator on valve body. (Flow arrows will be present on globes and checks. Gates may be installed in any direction unless specially marked with flow arrows due to consideration of end connections).

### MAINTENANCE

- Inspect periodically all critical parts for wear.
  - stem threads
  - packing and packing glands
  - body-bonnet joint and bolting
  - seats
  - end connections
- If leakage on the stem seal occurs, tighten the gland nuts and the packing gland being careful to maintain perpendicular alignment between stem and gland flange. When tightening the gland nuts, alternate tightening with no more than 1/4 turn on each nut until the leak stops.
- When tightening the gland is not enough to stop the leak, it will be necessary to replace the packing.
- Repacking may be done while the valve is in line; however, strict caution is advised to:
  - Remove all line pressure, upstream and downstream
  - The valve must be fully and tightly back-seated prior to any attempt to re-pack.
  - Disassemble with caution in the event all pressures have not been fully relieved.
- For any other repair operation, it is advisable to remove the valve from the line.
- Use trained personnel and proper tools.
- If valve is removed from the line for any repair, pressure test the valve prior to re-installation.

### MANUAL

- On customer's request, the complete *Newman's* "Newco Forged Valve Operation & Maintenance Manual" will be supplied.



## 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 supercede 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:

Newman's  
1300 Gazin St.  
Houston, TX 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, reinstallation, 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.

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## **Newco Valves**



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