Newmans® VALVE

Newco®

Triple Offset Butterfly
Technical Data

Size: 3” thru 60”
Class: 150 thru 600
Design: Flanged, Lug, Wafer & Butt-weld

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Newmans Company Information

Profile

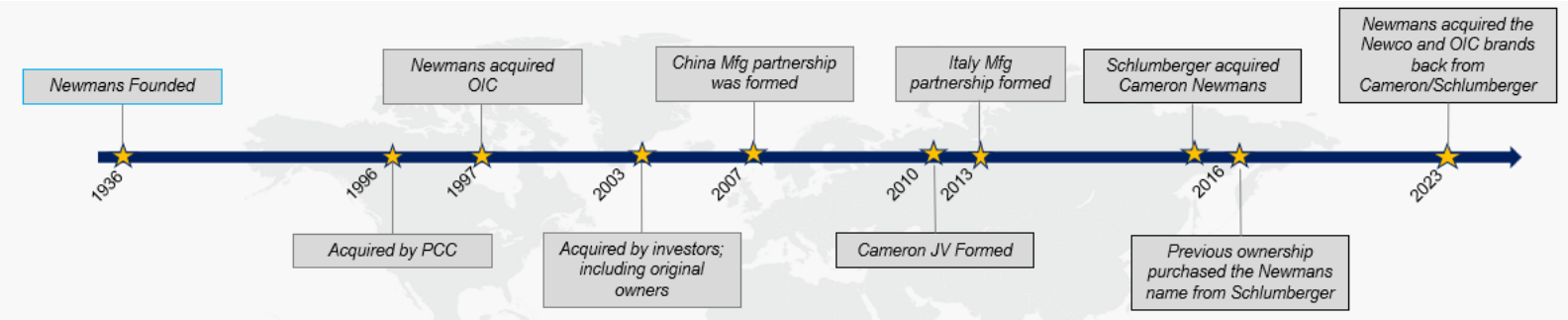
Newmans is recognized as a global valve manufacturing company providing product to the market on a world-wide basis. The NEWCO and OIC trademarks are recognized and respected the world over for their high quality and ability to meet the industry's most exacting standards. Newmans manufactures and markets one of the industry's broadest product lines suitable for most applications and market segments. Newmans is fully committed to engineering excellence and product innovation supported by a highly qualified technical engineering staff. Superior customer service is backed by the inventory of NEWCO finished valves.

Mission

It is our goal to be known and respected in the industry as "The Reliable Source" for our extensive knowledge and superior service. Measured by keeping our word we will deliver the quality products on time at a fair value. We shall achieve the above dealing with integrity in an open and flexible environment allowing people access to valuable information to make good and timely decisions. We believe that all this can be accomplished yielding great rewards for all involved while maintaining a balance in life.

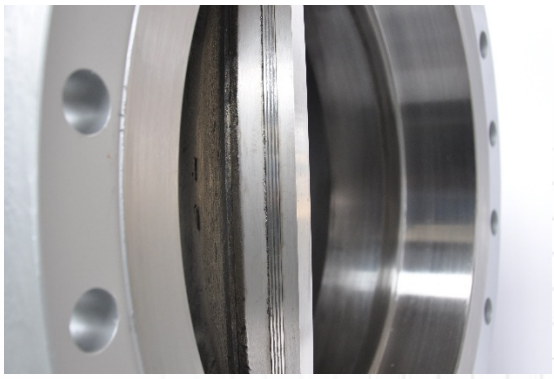
Overview

- *Newco & OIC*
- *Gate, Globe, Check, Ball, & Triple Offset valves*
- *Sizes from 1/4" thru 60"*
- *ANSI Class 150 thru 4500 lbs.*
- *ASME, API, & MSS*
- *Carbon, Stainless, Duplex, Super Duplex, Monel, Noble & other Alloys*
- *Oil & Gas, chemical, power, pulp & paper, marine, & industrial*
- *In-house modifications & actuation for special applications*



Features & Benefits

Sizes: 3” thru 60” - DN: 80 thru 1500 - ASME 150, 300, & 600 - PN16, 25, 40, & 100



NEWCO Triple Offset Valves feature standard Stellite body seats, robust laminated disc seals, and unique graphite stem bearing seals for exceptional service life.

- Triple Offset Design for Bi-directional Bubble Tight Shutoff
- Self-Centering Disc
- Sealed Bearing Design
- Stellite Body Seat Standard
- Blowout Proof Stem Option
- Firesafe Tested to API 607 Revision 7
- Available in a Wide Range of Materials and Configurations
  - WCB
  - 316 Stainless Steel
  - Monel
  - Hastelloy
  - Nickel - Aluminum - Bronze
  - Duplex

Time Tested Performance from the Quality Valve Supplier

NEWCO Triple Offset Valves are designed, manufactured and supplied from world class facilities serving the industrial processing, transmission, water treatment and power industries across the globe. NEWCO Triple Offset Valves offer dependable, economical service for all applications that require proven performance and quality.

Superior Features come Together for Superior Service

Featuring the premium Triple Offset design, the NEWCO TOV is a zero-leakage valve in both directions utilizing a Stellite/Duplex F51 metal seating surface carefully matched to provide superior sealing. The Triple Offset design uses three separate geometries of disc/stem orientation and rotation to accomplish bubble tight sealing. The proven conical seating feature allows NEWCO Triple Offset Valve to operate with minimal torque, increased temperatures and longer life cycle. The disc and body seat engage with no rubbing of the seating components.

Our Commitment is to Your Success

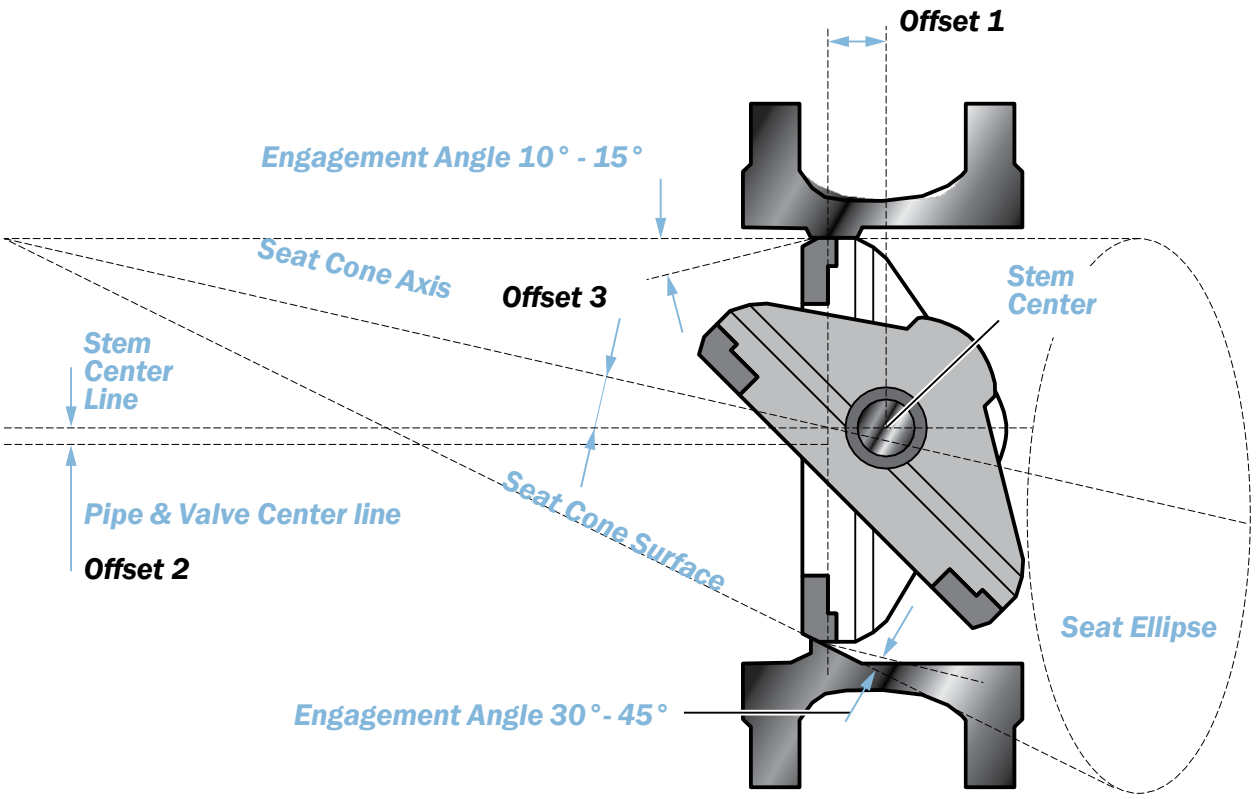
The NEWCO Triple Offset Valve meets or exceeds industry standards and is available in a wide range of pressures, materials and body configurations. Once again NEWCO Valve is offering superior value and performance to our global customers. Contact your Newmans representative for more information on the new Triple Offset Valve Product line.”

Sealing Principle of the NEWCO Series TOV

Offset # 1 - The sealing plane is moved forward of the centerline of the shaft to provide full 360-degree interrupted sealing. This offset was initially introduced as standard with the introduction of the high-performance butterfly valve.

Offset #2 - The centerline of disc rotation was moved laterally from the centerline of the shaft. This provided eccentric rotation of the disc which swung the seal ring completely off the seat upon opening. This also was introduced as standard on the high-performance butterfly valves.

Offset #3 - The centerline of the seat cone angle. This angle is identical to the cone angle of the laminated seal ring on the disc. Additionally the point of the centerline of cone rotation is moved laterally from the centerline of disc rotation. As stated, the point of cone angle of the laminated seal ring on the disc does not use this offset for the placement of the cone angle.



Materials of Construction

Standard Cast Carbon Steel & Stainless-Steel Valve Assemblies

Assy No.	Component	Carbon Steel Assembly	Stainless Steel Assembly
1	Screw	A193 B7/zinc coat	A193 B8M Class 1
2	Body*	A216 Gr. WCB	A351 Gr. CF8M
3	Bottom Cap	A105	316 SST
4	Shaft Bearing	316 SST/Nitrited	316 SST/Nitrited
5	Disc	A216 Gr. WCB	A351 Gr.CF8M
6	Pin	17-4ph Cond. H1150D	17-4ph Cond. H1150D
7	Bearing Seal	Graphite	Graphite
8	Shaft Bearing	316 SST/Nitrited	316 SST/Nitrited
9	Bearing Seal	Graphite	Graphite
10	Packing Stud	A193 B7/zinc coat	A193 B8M Class 1
11	Hex Nut	A194 2H/zinc coat	A194 8M
12	Yoke	AISI 1020	AISI 1020
13	Key	1045	1045
14	Manual Gear	Mfr Std	Mfr Std
15	Gear Stud	A193 B7/zinc coat	A193 B7/zinc coat
16	Hex Nut	A194 2H/zinc coat	A194 2H/zinc coat
17	Yoke Stud	A193 B7/zinc coat	A193 B8M
18	Hex Nut	A194 2H/zinc coat	A194 8M
19	Gland Follower	A216 Gr. WCB	A351 Gr. CF8M
20	Packing Gland	316 SST	316 SST
21	Shaft Packing	Graphite	Graphite
22	Shaft	17-4ph Cond. H1150D	17-4ph Cond. H1150D
23	Split Ring	316 SST/Nitrided	316 SST/Nitided
24	Gasket Ring	316 SST/Graphite	316 SST/Graphite
25	Seal Ring	F51 SST/Graphite	F51 SST/Graphite
26	Retainer	A105	316 SST
27	Retainer Screw	A193 B7/zinc coat	A193 B8M Class 1
*Stellite 6 or 21 seat overlay in valve body			

Shaft Packing

The stem packing shall be used standard API 622 Fugitive emissions packing.

Valve End Facing

All valve end faces shall be standard 1/16” raised face for class 150 and 300 valves per ANSI B16.5

Certifications

a. **Certified material test reports with traceability by a heat number are provided for each valve body, cap, disc and shaft.**

b. **A certificate of compliance is provided for each valve assembly certifying compliance with the applicable purchase order requirements and to the design standards and testing noted herein.**

When requested on the purchase order, a certified shell and seat leakage test report shall also be included in the document package.

1. Basic Design Standards

a. In addition to the specific industry standard noted herein as a minimum the valve design will meet the applicable requirements of the following industry standards.

i. ASME B16.34 including the pressure / temperature ratings for valve body, disc and bottom cap materials: valve body minimum wall dimensions: nondestructive examination and markings.

ii. API STD 609 including basic design requirements applicable to Category B HP Butterfly Valves.

iii. API STD 598 including hydrostatic shell and hydrostatic and pneumatic seat testing.

iv. API STD 607, latest edition for fire testing.

v. MSS –SP- 55 for visual inspection of cast valve body, disc and bottom cap.

vi. ASME B16.5 for mating pipe flange dimensions for valve sizes 3" through 24" Class 150 & 300.

vii. ASME B16.47 for series A mating pipe flange dimensions for valve sizes 26" and larger Class 150 & 300.

viii. ISO-5752 Flange Dimension

2. Face-To-Face Dimensions

a. Lug style valves – nominal dimension listed in API STD 609 Ninth edition Table 3a for category B valves.

b. Flanged (double flanged, short pattern) – nominal dimension in API STD 609, Table 3c and ISO 5752 basic series 13.

c. Flanged (double flanged, long pattern) – nominal dimension in API STD 609, Table 3b and to Gate Valve Dimensions per ASME B16.10 Valves Lug Design – nominal dimension listed in API STD 609 Table 2 for category B valves.

3. Seat Leakage Performance

a. Each valve exhibits the seat leakage performance as follows:

i. Preferred side (pressure entering the valve on the shaft side of the shut disc) - zero seat leakage at the low pressure and high-pressure test. Each valve shall have an arrow on the external valve body indicating the direction of high pressure.

ii. Non preferred side (pressure entering the valve with the shaft on the opposite side of the shut disc) only – zero seat leakage at the low-pressure closure test per API 598. High pressure closure test on application.

iii. Shell Test – Each unpainted valve assembly is hydrostatically shell tested in accordance with the applicable test requirements stated in API STD 598.

- Test Fluid – Filtered clean water (may contain a water- soluble oil or rust inhibitor). When testing austenitic stainless steel valves, the chloride content does not exceed 100 parts per million.
- Test Leakage – No visually detectable leakage through the pressure boundary walls. Leakage through the adjustable shaft packing shall not be cause for rejection. However, the packing must be able prevent any leakage at a test pressure equal to the 100°F (38°C) valve body rating.
- Standard Production Seat Leakage Test – Each production valve assembly, unless otherwise stated on the purchase order, shall be seat tested In accordance with the requirements listed in API STD 598, Table 1-A as follows:
- Test Leakage – Each valve tested shall exhibit zero leakage (no visible bubbles) for the duration of the test period.
- Fugitive Emissions Testing – Valves are capable of passing the fugitive emissions test requirements of ISO-15848-1.

Torque Values

Torque values for unlisted differential pressures are available upon request.

CLASS 150: DP PSI 50				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
3"	228	101	68	253
4"	300	133	90	333
6"	660	293	198	733
8"	1,075	478	322	1,194
10"	1,697	754	509	1,886
12"	2,497	1,110	749	2,774
14"	3,680	1,636	1,104	4,089
16"	5,107	2,270	1,532	5,674
18"	7,176	3,189	2,153	7,973
20"	8,881	3,947	2,664	9,868
24"	13,232	5,881	3,969	14,702

CLASS 150: DP PSI 100				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
3"	308	137	92	342
4"	463	206	139	515
6"	1,098	488	329	1,220
8"	1,838	817	551	2,042
10"	3,043	1,352	913	3,381
12"	4,508	2,004	1,352	5,009
14"	6,643	2,952	1,993	7,381
16"	9,292	4,130	2,788	10,324
18"	12,871	5,721	3,861	14,302
20"	15,947	7,087	4,784	17,717
24"	24,212	10,761	7,264	26,902

CLASS 150: DP PSI 150				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
3"	387	172	116	431
4"	627	279	188	697
6"	1,535	682	461	1,706
8"	2,601	1,156	780	2,890
10"	4,388	1,950	1,316	4,876
12"	6,520	2,898	1,956	7,244
14"	9,605	4,269	2,882	10,673
16"	13,476	5,989	4,043	14,974
18"	18,567	8,252	5,570	20,630
20"	23,012	10,227	6,903	25,568
24"	35,192	15,641	10,558	39,102

CLASS 150: DP PSI 285				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
3"	603	268	181	670
4"	1,070	475	321	1,189
6"	2,717	1,208	815	3,019
8"	4,661	2,072	1,398	5,179
10"	8,021	3,565	2,406	8,913
12"	11,951	5,312	3,585	13,279
14"	17,604	7,824	5,281	19,560
16"	24,775	11,011	7,432	27,528
18"	33,945	15,087	10,183	37,716
20"	42,087	18,705	12,626	46,764
24"	64,838	28,817	19,451	72,042

Torque Values (cont'd.)

CLASS 300: DP PSI 250				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
3"	547	243	164	608
4"	955	424	287	1,061
6"	2,574	1,144	772	2,860
8"	4,501	2,001	1,350	5,001
10"	7,883	3,503	2,365	8,758
12"	11,584	5,148	3,475	12,871
14"	17,832	7,925	5,350	19,814
16"	24,927	11,078	7,478	28,696
18"	34,275	15,233	10,282	38,083
20"	43,638	19,395	13,091	48,487
24"	67,672	30,076	20,302	75,191

CLASS 300: DP PSI 500				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
3"	946	420	284	1,051
4"	1,774	789	532	1,972
6"	4,837	2,150	1,451	5,374
8"	8,517	3,786	2,555	9,464
10"	15,048	6,688	4,514	16,720
12"	22,245	9,887	6,674	24,717
14"	33,848	15,044	10,154	37,609
16"	47,602	21,156	14,280	52,891
18"	65,228	28,990	19,568	72,476
20"	82,280	36,569	24,684	91,422
24"	128,810	57,249	38,643	143,122

CLASS 300: DP PSI 740				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
3"	1,328	590	398	1,476
4"	2,561	1,138	768	2,846
6"	7,009	3,115	2,103	7,788
8"	12,373	5,499	3,712	13,748
10"	21,927	9,745	6,578	24,363
12"	32,481	14,436	9,744	36,090
14"	49,223	21,877	14,767	54,693
16"	69,370	30,831	20,811	77,077
18"	94,943	42,197	28,483	105,493
20"	119,376	53,056	35,813	132,640
24"	187,503	83,335	56,251	208,336

CLASS 600: DP PSI 500				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
4"	2,320	1,031	696	2,578
6"	5,265	2,340	1,579	5,850
8"	10,050	4,467	3,015	11,167
10"	18,890	8,395	5,667	20,989
12"	30,248	13,443	9,078	33,609
14"	43,712	19,428	13,114	48,569
16"	60,930	27,080	18,279	67,700
18"	90,653	40,290	27,196	100,726
20"	112,471	49,987	33,741	124,968
24"	175,931	78,191	52,779	195,478

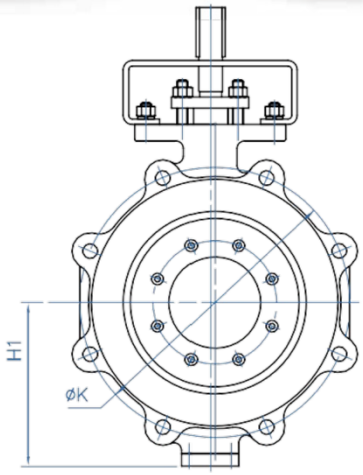
CLASS 600: DP PSI 1000				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
4"	4,302	1,912	1,291	4,780
6"	10,045	4,464	3,013	11,161
8"	19,178	8,524	5,753	21,309
10"	35,439	15,751	10,632	39,377
12"	57,606	25,603	17,282	64,007
14"	82,426	36,634	24,728	91,585
16"	115,326	51,256	34,598	128,140
18"	173,334	77,037	52,000	192,593
20"	213,619	94,942	64,086	237,355
24"	335,164	148,962	100,549	372,405

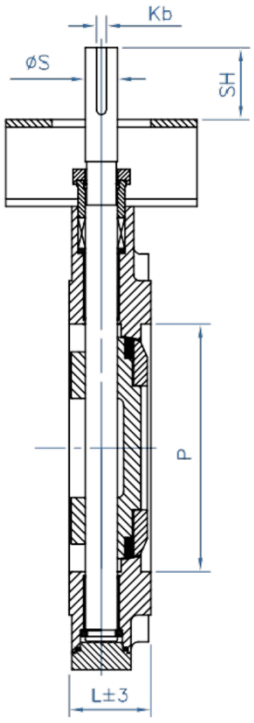
CLASS 600: DP PSI 1480				
VALVE SIZE	PREFERRED DIRECTION		NON-PREFERRED DIRECTION	
	To Open in-lbs	To Close in-lbs	To Open in-lbs	To Close in-lbs
4"	6,204	2,757	1,861	6,893
6"	14,633	6,504	4,390	16,259
8"	27,941	12,418	8,382	31,046
10"	51,327	22,812	15,398	57,029
12"	83,870	37,275	25,161	93,189
14"	119,592	53,152	35,878	132,880
16"	167,546	74,465	50,264	186,163
18"	252,707	112,314	75,812	280,786
20"	310,721	138,098	93,216	345,246
24"	488,029	216,902	146,409	542,254

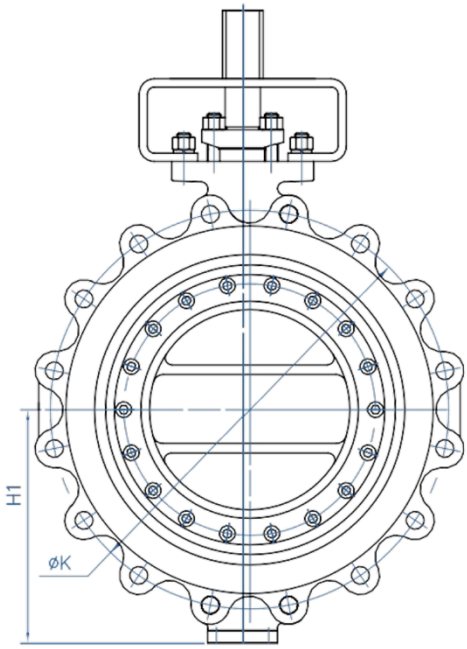
Lug Design Technical Data

Size: 3” thru 60”
Class: 150 thru 600

Valve Design: API 609
Flange Dimensions : ASME B16.5, B16.47 (Series A)
Tested in Accordance with: API 598







LUG CLASS 150									
Size	P	L	K	H1	S	SH	KbxKey	ISO Flg	Wgt
3"	3.15	1.88	6.00	4.5	0.71	1.65	0.24X0.24X1	F07	20
4"	4.02	2.12	7.50	5.3	0.79	1.65	0.24X0.24X1	F07	31
6"	6.02	2.25	9.50	6.3	0.87	1.65	0.24X0.24X1	F10	48
8"	8.00	2.50	11.75	7.6	1.02	2.28	0.31X0.28X1	F12	75
10"	10.00	2.81	14.25	8.9	1.10	2.28	0.31X0.28X1	F12	119
12"	12.00	3.19	17.00	10.6	1.34	2.28	0.39X0.31X2	F14	209
14"	13.27	3.62	18.75	11.4	1.50	2.56	0.39X0.31X2	F16	247
16"	15.24	4.00	21.25	13.2	1.73	2.56	0.47X0.31X2	F16	356
18"	17.32	4.50	22.75	13.6	1.89	2.83	0.55X0.35X2	F25	502
20"	19.25	5.00	25.00	15.0	2.13	3.23	0.63X0.39X2	F25	662
24"	23.23	6.06	29.50	19.1	2.36	3.62	0.71X0.43X2	F30	904

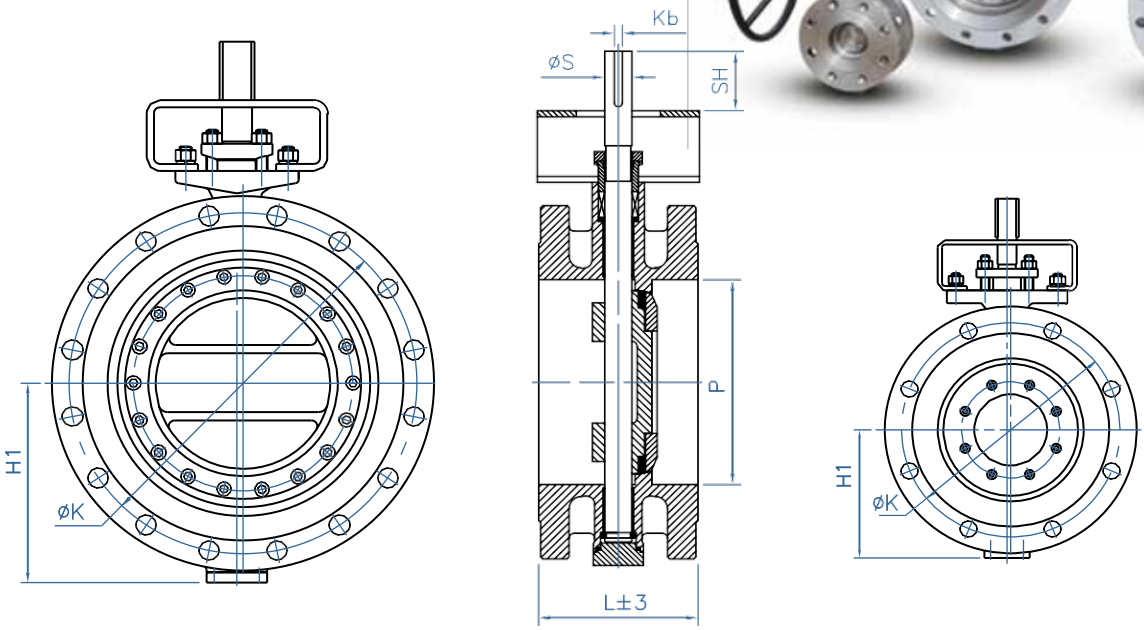
LUG CLASS 300									
Size	P	L	K	H1	S	SH	KbxKey	ISO Flg	Wgt
3"	3.15	1.88	6.62	4.9	0.71	1.65	0.24X0.24X1	F07	25
4"	4.02	2.12	7.88	5.8	0.79	1.65	0.24X0.24X1	F07	34
6"	6.02	2.31	10.62	7.1	1.02	2.28	0.31X0.28X1	F12	64
8"	8.00	2.88	13.00	8.5	1.34	2.28	0.39X0.31X2	F14	109
10"	10.00	3.25	15.25	9.7	1.50	2.56	0.39X0.31X2	F16	173
12"	12.00	3.62	17.75	11.6	1.73	2.56	0.47X0.31X2	F16	277
14"	13.27	4.62	20.25	13.4	2.13	3.23	0.63X0.39X2	F25	452
16"	15.24	5.25	22.50	14.3	2.36	3.62	0.71X0.43X2	F30	682
18"	17.32	5.88	24.75	15.1	2.56	4.45	0.71X0.43X2	F30	852
20"	19.25	6.25	27.00	16.8	2.91	6.02	0.79X0.47X2	F30	1,082
24"	23.23	7.12	32.00	19.4	3.35	6.42	0.87X0.55X2	F35	1,568

Dimensional data on sizes and pressures not shown is available upon request.

Short Pattern Design Technical Data

Size: 3” thru 60”
Class: 150 thru 600

Valve Design: API 609
Flange Dimensions: ASME B16.5, B16.47 (Series A)
Tested in Accordance with: API 598



SP CLASS 150									
Size	P	L	K	H1	S	SH	KbxKey	ISO Flg	Wgt
3"	3.15	4.50	6.00	4.5	0.71	1.65	0.24X0.24X1	F07	35
4"	4.02	5.00	7.50	5.3	0.79	1.65	0.24X0.24X1	F07	48
6"	6.02	5.50	9.50	6.3	0.87	1.65	0.24X0.24X1	F10	79
8"	8.00	6.00	11.75	7.6	1.02	2.28	0.31X0.28X1	F12	122
10"	10.00	6.50	14.25	8.9	1.10	2.28	0.31X0.28X1	F12	175
12"	12.00	7.00	17.00	10.6	1.34	2.28	0.39X0.31X2	F14	280
14"	13.27	7.50	18.75	11.4	1.50	2.56	0.39X0.31X2	F16	349
16"	15.24	8.50	21.25	13.2	1.73	2.56	0.47X0.31X2	F16	476
18"	17.32	8.75	22.75	13.6	1.89	2.83	0.55X0.35X2	F25	630
20"	19.25	9.00	25.00	15.0	2.13	3.23	0.63X0.39X2	F25	780
24"	23.23	10.50	29.50	19.1	2.36	3.62	0.71X0.43X2	F30	1,054

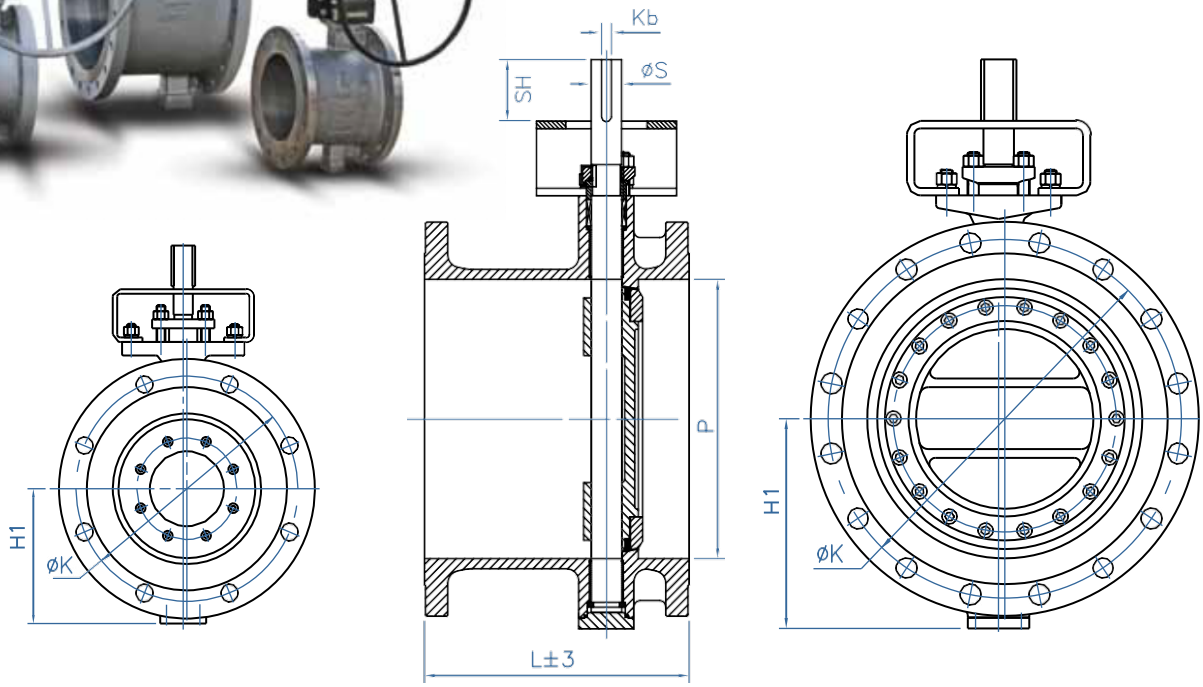
SP CLASS 300									
Size	P	L	K	H1	S	SH	KbxKey	ISO Flg	Wgt
3"	3.15	4.50	6.62	4.9	0.71	1.65	0.24X0.24X1	F07	47
4"	4.02	5.00	7.88	5.8	0.79	1.65	0.24X0.24X1	F07	66
6"	6.02	5.50	10.62	7.1	1.02	2.28	0.31X0.28X1	F12	120
8"	8.00	6.00	13.00	8.5	1.34	2.28	0.39X0.31X2	F14	179
10"	10.00	6.50	15.25	9.7	1.50	2.56	0.39X0.31X2	F16	266
12"	12.00	7.00	17.75	11.6	1.73	2.56	0.47X0.31X2	F16	400
14"	13.27	7.50	20.25	13.4	2.13	3.23	0.63X0.39X2	F25	561
16"	15.24	8.50	22.50	14.3	2.36	3.62	0.71X0.43X2	F30	808
18"	17.32	8.75	24.75	15.1	2.56	4.45	0.71X0.43X2	F30	1,002
20"	19.25	9.00	27.00	16.8	2.91	6.02	0.79X0.47X2	F30	1,268
24"	23.23	10.50	32.00	19.4	3.35	6.42	0.87X0.55X2	F35	1,804

Dimensional data on sizes and pressures not shown is available upon request.

Long Pattern Design Technical Data

Size: 3” thru 60”
Class: 150 thru 600

Valve Design: API 609
Flange Dimensions: ASME B16.5, B16.47 (Series A) ANSI B16.10
Tested in Accordance with: API 598

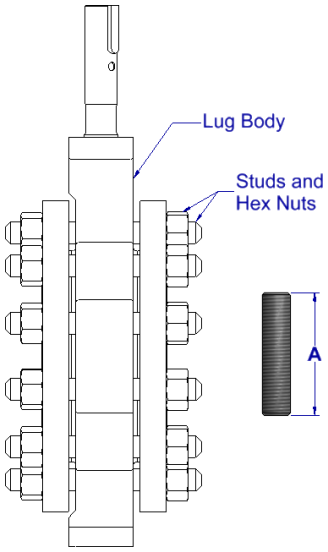


LP CLASS 150									
Size	P	L	K	H1	S	SH	KbxKey	ISO Flg	Wgt
3"	3.15	8.00	6.00	4.5	0.71	1.65	0.24X0.24X1	F07	38
4"	4.02	9.00	7.50	5.3	0.79	1.65	0.24X0.24X1	F07	52
6"	6.02	10.50	9.50	6.3	0.87	1.65	0.24X0.24X1	F10	82
8"	8.00	11.50	11.75	7.6	1.02	2.28	0.31X0.28X1	F12	130
10"	10.00	13.00	14.25	8.9	1.10	2.28	0.31X0.28X1	F12	189
12"	12.00	14.00	17.00	10.6	1.34	2.28	0.39X0.31X2	F14	301
14"	13.27	15.00	18.75	11.4	1.50	2.56	0.39X0.31X2	F16	371
16"	15.24	16.00	21.25	13.2	1.73	2.56	0.47X0.31X2	F16	528
18"	17.32	17.00	22.75	13.6	1.89	2.83	0.55X0.35X2	F25	664
20"	19.25	18.00	25.00	15.0	2.13	3.23	0.63X0.39X2	F25	840
24"	23.23	20.00	29.50	19.1	2.36	3.62	0.71X0.43X2	F30	1,160

LP CLASS 300									
Size	P	L	K	H1	S	SH	KbxKey	ISO Flg	Wgt
3"	3.15	11.12	6.62	4.9	0.71	1.65	0.24X0.24X1	F07	54
4"	4.02	12.00	7.88	5.8	0.79	1.65	0.24X0.24X1	F07	78
6"	6.02	15.88	10.62	7.1	1.02	2.28	0.31X0.28X1	F12	150
8"	8.00	16.50	13.00	8.5	1.34	2.28	0.39X0.31X2	F14	219
10"	10.00	18.00	15.25	9.7	1.50	2.56	0.39X0.31X2	F16	336
12"	12.00	19.75	17.75	11.6	1.73	2.56	0.47X0.31X2	F16	505
14"	13.27	30.00	20.25	13.4	2.13	3.23	0.63X0.39X2	F25	784
16"	15.24	33.00	22.50	14.3	2.36	3.62	0.71X0.43X2	F30	1,108
18"	17.32	36.00	24.75	15.1	2.56	4.45	0.71X0.43X2	F30	1,385
20"	19.25	39.00	27.00	16.8	2.91	6.02	0.79X0.47X2	F30	1,826
24"	23.23	45.00	32.00	19.4	3.35	6.42	0.87X0.55X2	F35	2,679

Dimensional data on sizes and pressures not shown is available upon request.

Lug Valve Thread Dimensions



Note:

For blind threaded holes stud and nut is preferable

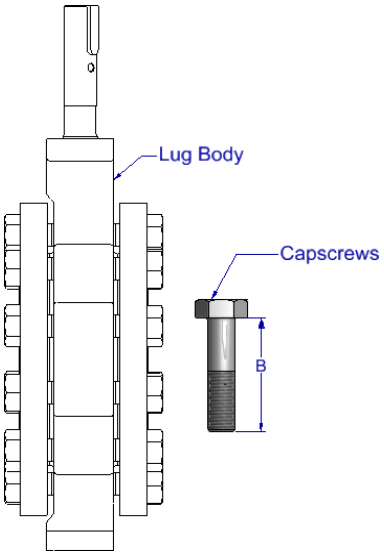


Table 2

Recommended bolt and stud lengths for installation in ASME B16.5 flanges are provided in Table 2.

Valve		Bolt Circle Dia. (in)	Bolt Size	Lug Body		
Size	Class			Qty.	Stud length "A" (in.)	Cap screw length "B" (in.)
3"	150	6	5/8-11 UNC	8	2.7	1.95
	300	6.63	3/4-10 UNC	16	3.01	2.13
4"	150	7.5	5/8-11 UNC	16	2.85	2.11
	300	7.88	3/4-10 UNC	16	3.29	2.42
	600	8.5	7/8-9 UNC	16	4.2	3.2
6"	150	9.5	3/4-10 UNC	16	3.04	2.17
	300	10.63	3/4-10 UNC	24	3.56	2.68
	600	11.5	1.000-8 UNC	20	4.98	3.85
				4	4.1	3.23
8"	150	11.75	3/4-10 UNC	16	3.32	2.45
	300	13	7/8-9 UNC	24	3.83	2.83
	600	13.75	1 1/8-8 UN	20	5.89	4.64
				4	4.91	3.65
10"	150	14.25	7/8-9 UNC	24	3.67	2.67
	300	15.25	1.000-8 UNC	24	4.41	3.28
				8	3.91	2.78
	600	17	1 1/4-8 UN	24	6.44	5.07
				8	5.38	4.01
12"	150	17	7/8-9 UNC	24	3.73	2.73
	300	17.75	1 1/8-8 UN	28	4.86	3.6
				4	4.27	3.01
	600	19.25	1 1/4-8 UN	32	6.64	5.27
				8	5.51	4.14

Valve		Bolt Circle Dia. (in)	Bolt Size	Lug Body		
Size	Class			Qty.	Stud length "A" (in.)	Cap screw length "B" (in.)
14"	150	18.75	1-8 UNC	24	4.22	3.09
	300	20.25	1 1/8-8 UN	32	5.26	4
				8	3.25	3.13
	600	20.75	1 3/8-8 UN	32	6.97	5.48
				8	4.49	4.37
16"	150	21.25	1-8 UNC	32	4.17	3.04
	300	22.5	1 1/4-8 UN	32	5.73	4.36
				8	4.71	3.34
	600	23.75	1 1/2-8 UN	32	7.54	5.92
				8	6.32	4.7
18"	150	22.75	1 1/8-8 UN	28	4.77	3.51
				4	3.83	2.57
	300	24.75	1 1/4-8 UN	40	5.86	4.49
				8	4.83	3.46
	600	25.75	1 5/8-8 UN	32	8.24	6.49
				8	6.78	5.03
20"	150	25	1 1/8-8 UN	32	5.02	3.68
				8	3.95	2.62
	300	27	1 1/4-8 UN	40	6.06	4.61
				8	5.04	3.59
	600	28.5	1 5/8-8 UN	40	8.56	6.74
				8	7.19	5.36
24"	150	29.5	1 1/4-8 UN	32	5.32	3.87
				8	4.41	2.96
	300	32	1 1/2-8 UN	40	6.92	5.22
				8	5.7	4
	600	33	1 7/8-8 UN	40	9.59	7.51
				8	8.02	5.94

Pressure Temperature Ratings

Ratings in PSIG (ASME B16.34)

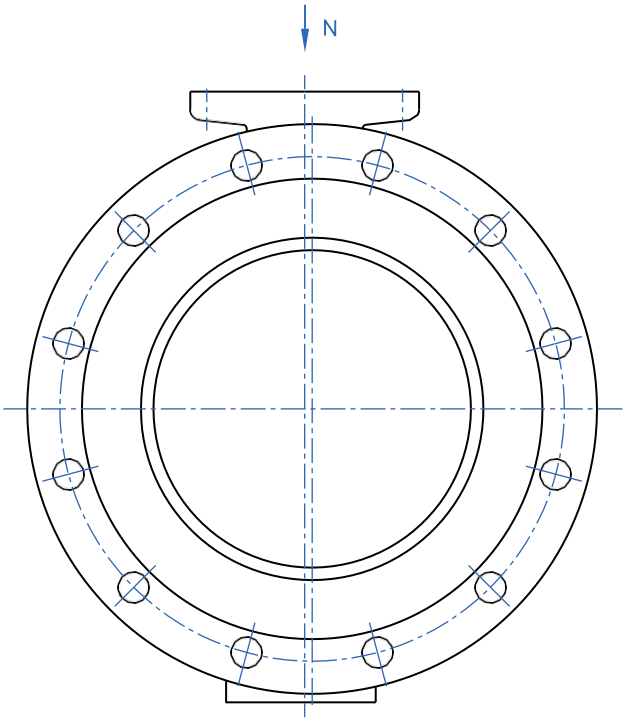
Temperature		ANSI 150		ANSI 300		ANSI 600	
Fahrenheit	Celsius	Carbon Steel	Stainless Steel**	Carbon Steel	Stainless Steel**	Carbon Steel	Stainless Steel**
-80[A] to 100	-62[A] to 38	285	275	740	720	1480	1440
200	93	260	240	675	620	1350	1240
300	149	230	215	655	560	1315	1120
400	204	200	195	635	515	1270	1030
500	260	170	170	600	480	1200	955
600	316	140	140	550	450	1095	905
650	343	125	125	535	445	1075	890
700	371	110	110	535	430	1065	865
750	399	95	95	505	425	1010	845
800*	427	80	80	410	415	825	830
850	454	65	65	270	405	535	810
900	482	50	50	170	395	345	790
950	510	35	35	105	385	205	775
1000	538	20	20 (a)	50	365	105	725
1100	593	-	20 (a)	-	305	-	610
1150	621	-	20 (a)	-	235	-	475
1200	649	-	20 (a)	-	185	-	370
1250	677	-	20 (a)	-	145	-	295
1300	704	-	20 (a)	-	115	-	235
1350	732	-	20 (a)	-	95	-	190
1400	760	-	20 (a)	-	75	-	150
1450	788	-	20 (a)	-	60	-	115
1500	816	-	15 (a)	-	40	-	85

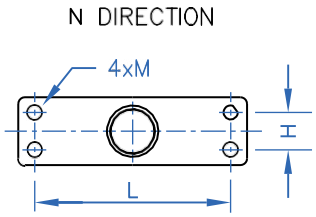
* = WCB permissible but not recommended for prolonged use above 800°F (427°C).
** = Above 800°F Stainless Steel body valves, stem material to be determined.
A = Low temperature gas test per API 598 for services below -20°F (316SS & PTFE Seals).
(a) = Flanged-end valve ratings terminate at 1,000°F (538°C) for ANSI 150 Class.

Body Top Mounting Flange

CLASS 150			
Size	L	H	M
3"	3.70	0.98	M8
4"	3.70	0.98	M8
6"	4.33	0.94	M10
8"	5.51	1.02	M12
10"	5.51	1.02	M12
12"	5.91	1.34	M14
14"	6.50	1.57	M16
16"	6.89	1.77	M18
18"	8.86	2.13	M20
20"	8.86	2.13	M20
24"	11.81	3.15	M24

CLASS 300			
Size	L	H	M
3"	3.70	0.98	M8
4"	3.70	0.98	M8
6"	5.51	1.02	M12
8"	5.91	1.34	M14
10"	6.50	1.57	M16
12"	6.89	1.77	M18
14"	8.86	2.13	M20
16"	11.81	3.15	M24
18"	11.81	3.15	M24
20"	11.81	3.15	M24
24"	13.98	3.54	M30





Cv Values

General

The flow coefficient or Cv value is used to describe the inherent flow capacity of a valve. This Cv value is defined as the number of U.S. gallons of water per minute at standard conditions (60°F and 14.7 PSIA) that will flow through a valve at a constant 1.0 PSI pressure drop. The capacity of the valve with other fluids at various flowing conditions can be calculated using the basic Cv value. The following tables indicate the Cv values at full open conditions.

Class 150									
Size	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
3	3	10	22	42	64	96	150	157	160
4	6	17	41	75	116	174	273	284	290
6	17	51	119	221	340	510	799	833	850
8	34	103	239	445	684	1026	1607	1676	1710
10	50	151	353	655	1008	1512	2369	2470	2520
12	79	236	552	1024	1576	2364	3704	3861	3940
14	106	319	743	1381	2124	3186	4991	5204	5310
16	168	504	1176	2184	3360	5040	7896	8232	8400
18	203	609	1421	2639	4060	6090	9541	9947	10150
20	251	752	1756	3260	5016	7524	11788	12289	12540
24	367	1100	2568	4768	7336	11004	17240	17973	18340

Class 300									
Size	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
3	3	10	22	42	64	96	150	157	160
4	6	17	41	75	116	174	273	284	290
6	17	51	119	221	340	510	799	833	850
8	34	103	239	445	684	1026	1607	1676	1710
10	50	151	353	655	1008	1512	2369	2470	2520
12	79	236	552	1024	1576	2364	3704	3861	3940
14	96	289	675	1253	1928	2892	4531	4724	4820
16	142	426	994	1846	2840	4260	6674	6958	7100
18	187	562	1310	2434	3744	5616	8798	9173	9360
20	234	702	1638	3042	4680	7020	10998	11466	11700
24	338	1014	2366	4394	6760	10140	15886	16562	16900

CLASS 600											
Cv - Full Open											
SIZE	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Cv	-	246	720	1,450	2,140	3,350	4,100	6,035	7,955	9,940	14,360

NEWCO Triple Offset Valves

Sizes: 3" thru 60"
DN: 80 thru 1500
ASME 150, 300, & 600
PN16, 25, 40, & 100

NEWCO Triple Offset Valves feature standard Stellite body seats, robust laminated disc seats, and unique graphite stem bearing seals for exceptional service life.

End Connections

- *Wafer*
- *Lug*
- *Flanged*

Technical Demand Features

- *Design and manufactured to API 609, ASME B16.10, B16.5, & ISO 5752*
- *Test and Inspect to API 598*
- *Flange to ASME B16.5*
- *Face-to-Face to API 609*
- *Fire test per API 607 7Ed*
- *Optional Materials to NACE Requirements*

How to order NEWCO Triple Offset Valves

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

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

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

Fig. 91F-CBN-FS-GO

Type
9 = Triple Offset

Pressure Class
1 = 150
3 = 300
6 = 600

End Connections
F = Flanged
P = Lug
Q = ISO Flange 5752
Z = Wafer
W = Buttweld

Disc/Stem/Seat Material
N = Carbon Steel/17-4ph Cond. H1150d/F51SS Graphite
I = 316 Stainless Steel/17-4ph Cond. H1150d/F51SS Graphite
S = 304 Stainless Steel/17-4ph Cond. H1150d/ F51SS Graphite
L = Special (Customer to Specify)

Suffix Letters
BS = Bare Stem
CR = Cryogenic Service
CW = Chain Wheel
EB = Extended Body
GO = Gear Operated
HO = Hydraulic Operator
LP = Long Pattern to B16.10
LV = Live Load Packing
MO = Motor Operated
PO = Pneumatic Operator
SP = Short Pattern to ISO 5752
SPL = Special (Customer to specify)
*** = Monel® is a registered trademark International Nickle

Body Material

A20	= ASTM A351, CN7M	= Cast Alloy 20
CB	= ASTM A216, WCB	= Cast Carbon Steel
CF3	= ASTM A351, CF3	= Cast 304L Stainless Steel
C3M	= ASTM A351, CF3M	= Cast 316L Stainless Steel
CF8	= ASTM A351, CF8	= Cast 304 Stainless Steel
C8M	= ASTM A351, CF8M	= Cast 316 Stainless Steel
LCC	= ASTM A352, LCC	= Cast Low Temperature Carbon Steel
CM	= ASTM A414, M35	= Cast NI Cu (Monel***)
HC	= ASTM A494, CW 12MW	= Hastelloy C 276
NAB	= ASTM B148 C95800	= Nickel - Aluminum - Bronze
SPL	= Special (Customer to specify)	

Limited Warranty

Newmans 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 Newmans shall be defective in workmanship or materials, the customer shall notify the Newmans Warranty Representative by telephone (832) 944-5930 within 24 hours from such determination, followed by written notice to such effect within 7 days therefrom, addressed to:

Newmans Valve LLC
4655 Wright Road, Suite 250
Stafford, TX 77477

In the event Newmans shall determine that the product is defective as a result of factory workmanship, based upon such examination of the product which Newmans may deem appropriate, Newmans 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. Newmans 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 Newmans 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 Newmans shall be deemed to have been determined exclusively by and within the sole discretion of the purchaser. Accordingly, Newmans 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 Newmans with respect to defective products purchased from it and in no manner shall Newmans assume or be liable for any other expenses, incidental or consequential damages, losses, lost profits, down time or otherwise, whether directly or indirectly suffered, or in any other manner relating to or as the result of any defect or failure or any product that it may sell.

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Notes