

# Resilient Seated Butterfly Valves



**XOMOX**  
Process Valves & Actuators



These valves have provided years of exceptional, cost-effective service in a wide variety of applications.

# Xomox Resilient Seated Butterfly Valves

## Series 7000 Xomox Butterfly Valves

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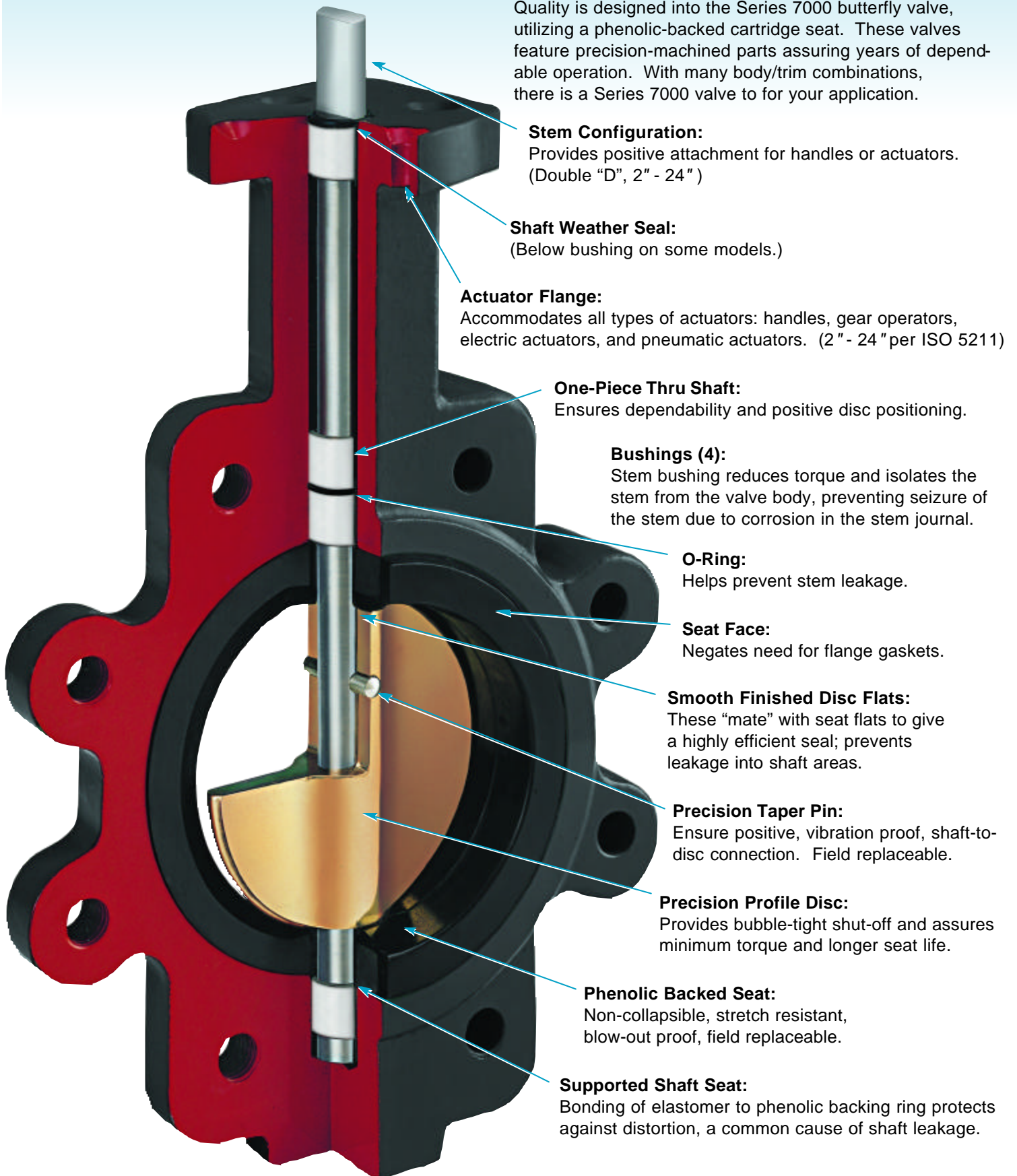
## Series 7500 Xomox Butterfly Valves for demanding applications

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# Xomox Butterfly Valves - Series 7000

Quality is designed into the Series 7000 butterfly valve, utilizing a phenolic-backed cartridge seat. These valves feature precision-machined parts assuring years of dependable operation. With many body/trim combinations, there is a Series 7000 valve to for your application.



*Representative cut-away*



## Series 7000 - Xomox Butterfly Valves



- Qualified for both gaseous and liquid service
- Positive shutoff, bi-directionally
- Phenolic backed cartridge seat
- Three-position PTFE bushing - standard
- Locking handle - standard
- End-of-line service optional
- Ease of automation
- Field repairable
- Complete size range: 2 through 48 inches

### Typical Applications:

- HVAC
- Chemical / Petrochemical Processing
- Food & Beverage
- Power & Utilities
- Pulp & Paper

- Available in sizes 2" to 48".
- Available in Wafer or Lug style body (2" to 30").
- Full flange style body for 36" to 48" valves.
- Wafer body features four alignment holes.
- Pressure ratings for tight shut-off at temperatures up to the maximum limit of the seat material:
  - 2" to 12" - 200 psi
  - 14" to 48" - 150 psi
- Ideal for on-off or throttling services.
- Available with handles (2" to 12"), manual gear operators (2" to 48"), and electric or pneumatic actuators (2" to 48").
- Refer to Xomox actuator bulletin for details of pneumatic and electric actuators.
- Designed to comply with MSS SP-67.
- Compatible with ANSI 125/150 flanges.
- Valves 2" to 20" meet the intent and have passed the AWWA C-504-87 Section 5 proof of design tests.
- Type approval certification from ABS for marine applications (2" to 14").
- Bi-directional dead-end capability to 200 psi (2" to 12") and 150 psi (14" to 24") is available.
- For bolting information, consult the Xomox Installation and Maintenance Manual.

### Seat Temperature Ratings

Material	Temperature Ratings °F
Buna-N	+10 to 180
EPDM (2" - 16")	-30 to 275
EPDM (18" and above)	-30 to 225
High Temp. Viton	+10 to 400

Although elastomers have an effective operating temperature range, when used in valves, these ranges may have to be modified. The temperature ranges shown in the table have been adjusted accordingly.

**For Low Temperature:** While the seat materials selected for use in Xomox butterfly valves are capable of withstanding lower temperatures without damage, the durometer of the elastomer is changed. This "hardening" of the seat may increase the operating torque beyond the structural limits of the stem and/or the disc to stem configuration.

**For High Temperature:** When using High Temperature Viton, the operating pressure of the valve is reduced above 275°F.

**Valve Seating Torques (In-Lbs.) 2" to 30"**

Valve Size	Standard Disc Differential Pressure							
	50 PSI ΔP Bushing		100 PSI ΔP Bushing		150 PSI ΔP Bushing		200 PSI ΔP Bushing	
	Bronze	PTFE	Bronze	PTFE	Bronze	PTFE	Bronze	PTFE
2"	106	100	117	106	129	111	140	117
2½"	152	150	166	163	181	176	195	189
3"	213	207	230	220	248	232	265	244
4"	321	290	386	323	450	357	515	390
5"	481	423	598	481	715	540	832	598
6"	692	599	878	691	1,063	783	1,248	875
8"	1,326	1,060	1,716	1,183	2,106	1,307	2,496	1,430
10"	2,239	1,671	3,010	1,872	3,780	2,074	4,550	2,275
12"	3,959	2,568	4,953	2,795	5,948	3,023	6,942	3,250
14"	4,881	2,640	6,226	3,070	7,570	3,500	-	-
16"	7,020	4,260	8,580	4,880	10,140	5,500	-	-
18"	10,105	6,287	12,202	7,243	14,300	8,200	-	-
20"	13,923	8,360	16,582	9,180	19,240	10,000	-	-
24"	23,617	15,427	26,953	16,813	30,290	18,200	-	-
30"	39,721	27,313	43,391	29,407	47,060	31,500	-	-

All torques shown on the chart were derived from test data using water at 60° F. For torques using dry gases, multiply these numbers by 1.6. For torques involving other media, please consult the factory.

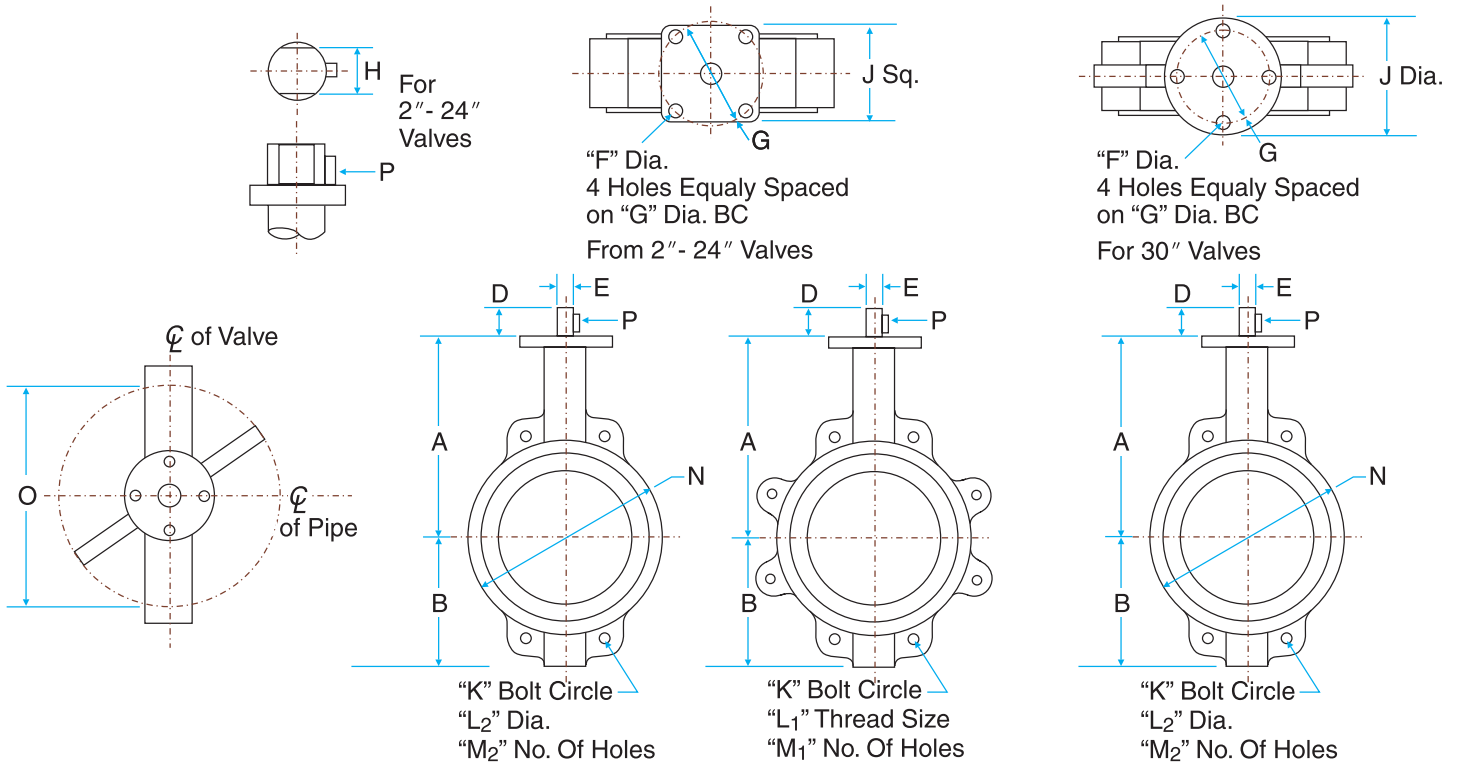
There is no safety factor included in the numbers shown on this chart. For actuator sizing, Xomox recommends that these values be multiplied by 1.2 for single valve applications, or 1.5 for 3-way ("tee") applications.

Under certain conditions, hydrodynamic torque can meet or exceed seating and unseating torques. When designing valve systems, hydrodynamic torque must be considered to help assure correct selection for the application.

**C<sub>v</sub> Values - Valve Sizing Coefficients (US-GPM @ 1ΔP) 2" to 30"**

Size	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	0.06	3	7	15	27	44	70	105	115
2½"	0.10	6	12	25	45	75	119	178	196
3"	0.20	9	18	39	70	116	183	275	302
4"	0.30	17	36	78	139	230	364	546	600
5"	0.50	29	61	133	237	392	620	9,30	1,022
6"	0.80	45	95	205	366	605	958	1,437	1,579
8"	2	89	188	408	727	1,202	1,903	2,854	3,136
10"	3	151	320	694	1,237	2,047	3,240	4,859	5,340
12"	4	234	495	1,072	1,911	3,162	5,005	7,507	8,250
14"	6	338	715	1,549	2,761	4,568	7,230	10,844	11,917
16"	8	464	983	2,130	3,797	6,282	9,942	14,913	16,388
18"	11	615	1,302	2,822	5,028	8,320	13,168	19,752	21,705
20"	14	791	1,647	3,628	6,465	10,698	16,931	25,396	27,908
24"	22	1,222	2,587	5,605	9,989	16,528	26,157	39,236	43,116
30"	37	2,080	4,406	9,546	17,010	28,147	44,545	66,818	73,426

## Series 7000 - Xomox Butterfly Valves



### Dimensions 2" to 30"

Inches	A	B	C	D	E	F	G	H	J	K	L1	L2	M1	M2	N	O	P
2"	6.38	3.25	1.75	1.25	0.50	0.38	2.76	0.39	2.75	4.75	5/8-11	0.69	4	4	4.00	1.26	Wooduff #3
2½"	6.88	3.75	1.88	1.25	0.50	0.38	2.76	0.39	2.75	5.50	5/8-11	0.69	4	4	4.75	1.83	Wooduff #3
3"	7.12	4.00	1.88	1.25	0.50	0.38	2.76	0.39	2.75	6.00	5/8-11	0.69	4	4	5.13	2.54	Wooduff #3
4"	7.88	4.88	2.13	1.25	0.63	0.38	2.76	0.47	2.75	7.50	5/8-11	0.69	8	4	6.75	3.54	Wooduff #9
5"	8.38	5.38	2.25	1.25	0.75	0.38	2.76	0.55	2.75	8.50	3/4-10	0.81	8	4	7.75	4.36	Wooduff #9
6"	8.88	5.88	2.25	1.25	0.75	0.38	2.76	0.55	2.75	9.50	3/4-10	0.81	8	4	8.63	5.72	Wooduff #9
8"	10.25	7.75	2.50	1.75	0.88	0.44	4.02	0.67	3.75	11.75	3/4-10	0.81	8	4	10.56	7.6	Wooduff #9
10"	11.50	8.25	2.75	1.75	1.13	0.44	4.02	0.87	3.75	14.25	7/8-9	0.94	12	4	13.06	9.5	Wooduff #15
12"	13.25	9.75	3.13	1.75	1.25	0.44	4.02	0.95	3.75	17.00	7/8-9	0.94	12	4	16.13	11.45	Wooduff #15
14"	14.50	11.00	3.13	1.75	1.25	0.44	4.02	0.95	3.75	18.75	1-8	1.06	12	4	17.13	12.78	Wooduff #15
16"	15.75	12.00	3.50	2.00	1.31	0.88	6.50	1.06	6.50	21.25	1-8	1.06	16	4	20.00	14.97	0.31Sq. x 1.75
18"	16.63	14.38	4.25	2.00	1.50	0.88	6.50	1.06	6.50	22.75	1½-7	1.25	16	4	21.38	16.83	0.38Sq. x 1.50
20"	18.88	14.63	5.25	2.50	1.63	0.88	6.50	1.26	6.50	25.00	1½-7	1.25	20	4	23.31	18.67	0.38Sq. x 1.75
24"	22.13	18.00	6.13	2.75	2.00	0.88	6.50	1.42	6.50	29.50	1¼-7	1.25	20	4	27.88	22.62	0.50Sq. x 2.25
30"	25.50	24.25	6.75	3.25	2.50	0.88	8.50	N/A	11.25	36.00	1¼-7	1.25	28	4	34.38	28.6	0.63Sq. x 2.63

L<sub>1</sub> and M<sub>1</sub> refer to lug style valves, L<sub>2</sub> and M<sub>2</sub> refer to wafer style. "C" dimension is listed with elastomer in the relaxed condition. Approximately 1/8" total compression is required for proper sealing with pipe flanges. Valves are designed for installation

between ANSI B16.1 Class 125 (Iron) and B16.5 Class 150 (Steel) flanges. Gaskets are not needed, and should not be used since the seat face seals against the mating flange. If the valve is to be installed in plastic or fiberglass flanges,

flange rings, or Van Stone style flanges, consult the factory for additional information. Xomox recommends that a blind flange be used on end of line applications.

**\*Dimensions 36" - 48"**

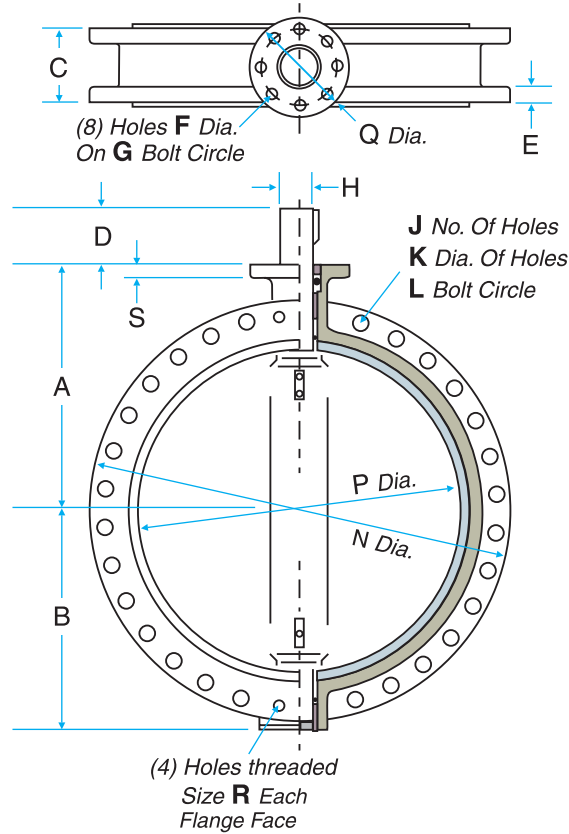
	36"	42"	48"
A	28.35	33.78	37
B	25.83	30.60	34
C	8.13	10	10.88
D	4.65	5.90	5.90
E	2.36	2.60	2.76
F	0.71	0.71	0.87
G	10	10	11.73
H	2.95	3.35	4.13
J	28	32	40
K	1.63	1.63	1.63
L	42.75	49.5	56
M	.79 Sq.	.87 Sq.	1.1 Sq.
N	46	53	59.50
P	34.04	40.55	45.67
Q	11.81	11.81	13.78
R	1 1/2-6	1 1/2-6	1 1/2-6
S	1.25	1.38	1.50

\* Dimensions apply to standard product only.  
For custom product dimensions,  
please consult factory.

**Valve Seating Torques  
(In-Lbs.) 36" - 48"**

Valve Size	Standard Disc Differential Pressure		
	50 PSI	100 PSI	150 PSI
36"	54,667	57,035	59,400
42"	82,460	86,034	89,600
48"	108,022	112,704	117,376

*Note: Technical data  
subject to change  
without notice.*



**Weights (Lbs.)  
2" - 48"**

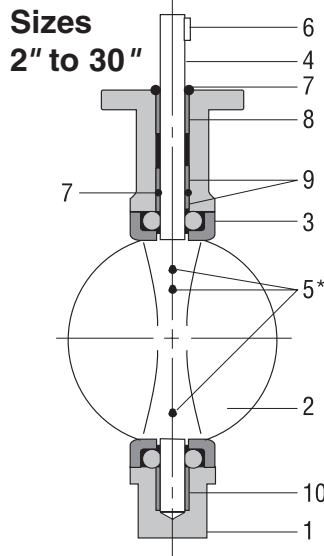
Size	Wafer	Lug
2"	6	7
2 1/2"	7	8
3"	10	14
4"	13	26
5"	18	28
6"	20	31
8"	32	49
10"	42	72
12"	70	105
14"	95	155
16"	117	195
18"	165	230
20"	275	396
24"	440	610
30"	740	1050
36"	1,949	N/A
42"	2,495	N/A
48"	3,711	N/A

*Weights are for bare  
stem valves only.*

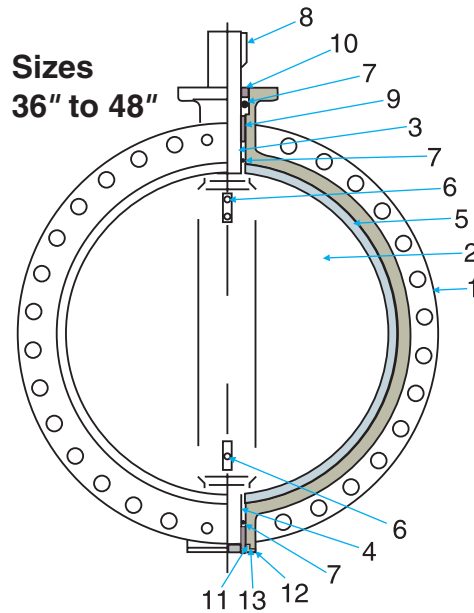
**C<sub>v</sub> Values - Valve Sizing Coefficients (US-GPM @ 1ΔP) 36" - 48"**

Size	10°	20°	30°	40°	50°	60°	70°	80°	90°
36"	260	3,050	6,730	12,740	20,220	32,500	52,500	79,600	87,500
42"	350	4,095	9,040	17,108	27,150	43,640	70,500	106,890	117,500
48"	455	5,365	11,840	22,400	30,600	51,200	92,300	140,000	154,000

## Series 7000 - Xomox Butterfly Valves



\* Quantity of 3 pins required for sizes 30" and above.



### Bill of Materials 2" to 30"

Item	Description	Materials	Optional Materials
1	Body	Cast Iron	Ductile Iron
2	Disc	Ductile Iron †	Aluminum Bronze, 316 SS, Monel
3	Seat	Buna-N or EPDM	Viton
4	Shaft	416 Stainless Steel	316 Stainless Steel, Monel
5	Taper Pin	316 Stainless Steel	Monel
6	Key	Carbon Steel	No Option Available
7	O-Ring	Buna-N	No Option Available
8	Bushing	PTFE	Luberized Bronze
9	Bushing	PTFE	Luberized Bronze
10	Bushing	PTFE	Luberized Bronze

† ENP plated 2" - 12" valves.

### Bill of Materials 36" to 48"

Item	Description	Materials	Optional Materials
1	Body	Ductile Iron	No Option Available
2	Disc	Ductile Iron	Aluminum Bronze, 316 Stainless Steel, Monel
3	Upper Shaft	416 Stainless Steel	316 Stainless Steel, Monel
4	Lower Shaft	416 Stainless Steel	316 Stainless Steel, Monel
5	Seat	Buna-N or EPDM	Viton
6	Taper Pin	316 Stainless Steel	Monel
7	O-Ring	Buna-N	No Option Available
8	Key	Carbon Steel	No Option Available
9	Bushing	Luberized Bronze	No Option Available
10	Bushing	Luberized Bronze	No Option Available
11	Thrust Washer	Luberized Bronze	No Option Available
12	End Plate	Ductile Iron	No Option Available
13	O-Ring	Buna-N	No Option Available



# How To Specify.

Example: **6" 7 0 0 4 - FA 2 AA SR A E01 - H**

1 2 3 4 5 6 7 8 9 10 11 12

The example above, **6" 7 0 0 4 - FA 2 AA SR A E01 - H** indicates:  
 an ANSI Class 150, 6-inch – Xomox Series 7000 Resilient Seated Butterfly Valve  
 – ANSI Raised Face Wafer Pattern Body to MSS SP-67 Face-to-Face –  
 150 psi – A395 Ductile Iron Body – Enamel Paint Finish –  
 Aluminum Bronze Disc – Type 416 Stainless Steel Shaft – PTFE Shaft Bushings –  
 Buna-N Resilient Liner – 10-Position Handle Operator.

1	Size (DN)	Size (inches)	Code
	50	2"	2"
	65	2½"	2.5"
	80	3"	3"
	100	4"	4"
	125	5"	5"
	150	6"	6"
	200	8"	8"
	250	10"	10"
	300	12"	12"
	350	14"	14"
	400	16"	16"
	450	18"	18"
	500	20"	20"
	600	24"	24"
750	30"	30"	
900	36"	36"	
1050	42"	42"	
1200	48"	48"	

2&3	Valve Series	Code
3	Xomox Series 7000 = Standard	70

4	Body Style	Size Range	Code
	ANSI Wafer	2" - 30"	0
	ANSI Lug	2" - 30"	1
	ANSI Lug (DE) *	2" - 30"	2
ANSI Dbl Flanged	36" - 48"	3	

5	Pressure	Size Range	Code
	150 psi	14" - 48"	4
	200 psi	2" - 12"	5

6	Body Material	Size Range	Code
	A395 Ductile Iron	2" - 48"	FA
	A536 Ductile Iron	2" - 48"	FB
Cast Iron	2" - 30"	FC	

7	Body Finish	Code
	Special Coating (Specify)	4

8	Disc Material	Size Range	Code
	B148 Grade 955 Al-Bronze	2" - 48"	AA
	A395 Ductile Iron	14" - 48"	FA
	A395 Ductile Iron †	2" - 12"	FE
	Monel 400	2" - 48"	NA
A351 Grade CF8M	SC		

9	Shaft Material	Size Range	Code
	316 Stainless Steel	2" - 48"	SC
	416 Stainless Steel		SR
Monel 400	NM		

10	Bushing Material	Size Range	Code
	PTFE	2" - 30"	A
Luberized Bronze	36" - 48"	B	

11	Liner Material	Size Range	Code
	Buna-N	2" - 48"	E01
	High Temperature Viton		E02
EPDM	E03		

12	Operation	Size Range	Code
	Bare Stem / No Operator	2" - 48"	X
	Lockable Handle, 10-Pos.	2" - 12"	H
	Manual Gear Operator	2" - 48"	G
	Manual Gear Operator with Chainwheel		C
	Manual Gear Operator with Locking Device		L
	Xomox Pneumatic Actuator, DA (Specify)		D
	Xomox Pneumatic Actuator, SR-Closed (Specify)		S
	Xomox Pneumatic Actuator, SR-Open (Specify)		A
	Electric Actuator, (Specify)		E
Other (Specify)	Z		

\* Lug style valve modified specifically for dead end service applications.

† ENP = Electroless Nickel Plated.