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Resilient Seated Butterfly Valves

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Xomox Resilient Seated Butterfly Valves

Series 7000 Xomox Butterfly Valves

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Series 7500 Xomox Butterfly Valves for demanding applications

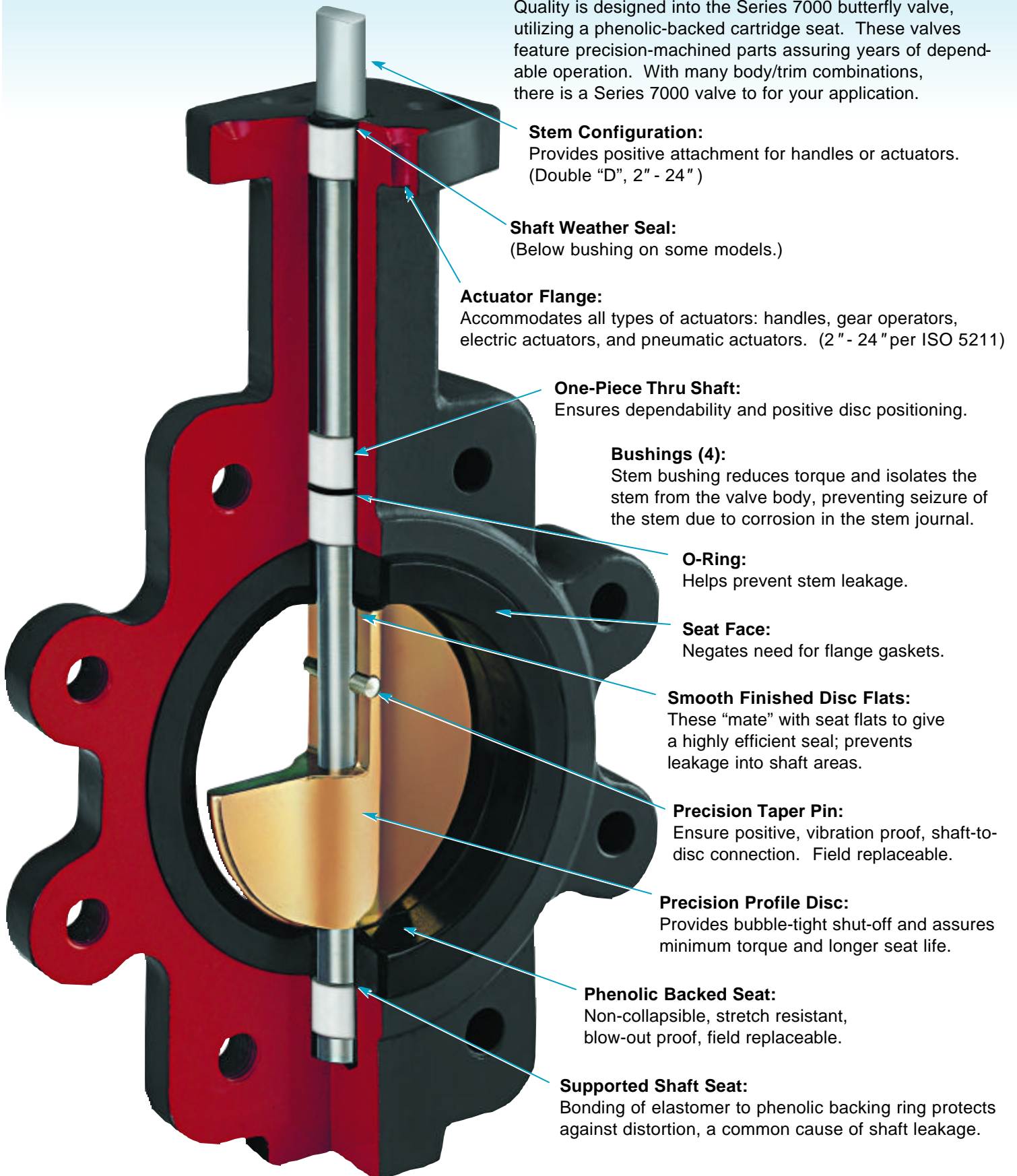
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These valves have provided years of exceptional, cost-effective service in a wide variety of applications.

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.



Stem Configuration:

Provides positive attachment for handles or actuators. (Double "D", 2" - 24")

Shaft Weather Seal:

(Below bushing on some models.)

Actuator Flange:

Accommodates all types of actuators: handles, gear operators, electric actuators, and pneumatic actuators. (2" - 24" per ISO 5211)

One-Piece Thru Shaft:

Ensures dependability and positive disc positioning.

Bushings (4):

Stem bushing reduces torque and isolates the stem from the valve body, preventing seizure of the stem due to corrosion in the stem journal.

O-Ring:

Helps prevent stem leakage.

Seat Face:

Negates need for flange gaskets.

Smooth Finished Disc Flats:

These "mate" with seat flats to give a highly efficient seal; prevents leakage into shaft areas.

Precision Taper Pin:

Ensure positive, vibration proof, shaft-to-disc connection. Field replaceable.

Precision Profile Disc:

Provides bubble-tight shut-off and assures minimum torque and longer seat life.

Phenolic Backed Seat:

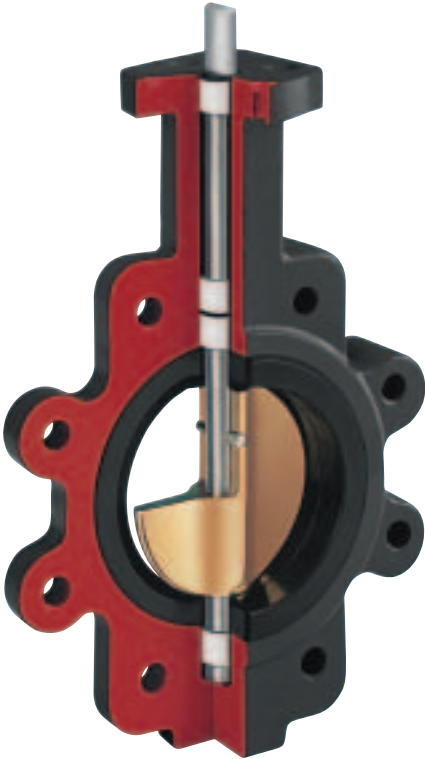
Non-collapsible, stretch resistant, blow-out proof, field replaceable.

Supported Shaft Seat:

Bonding of elastomer to phenolic backing ring protects against distortion, a common cause of shaft leakage.

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.

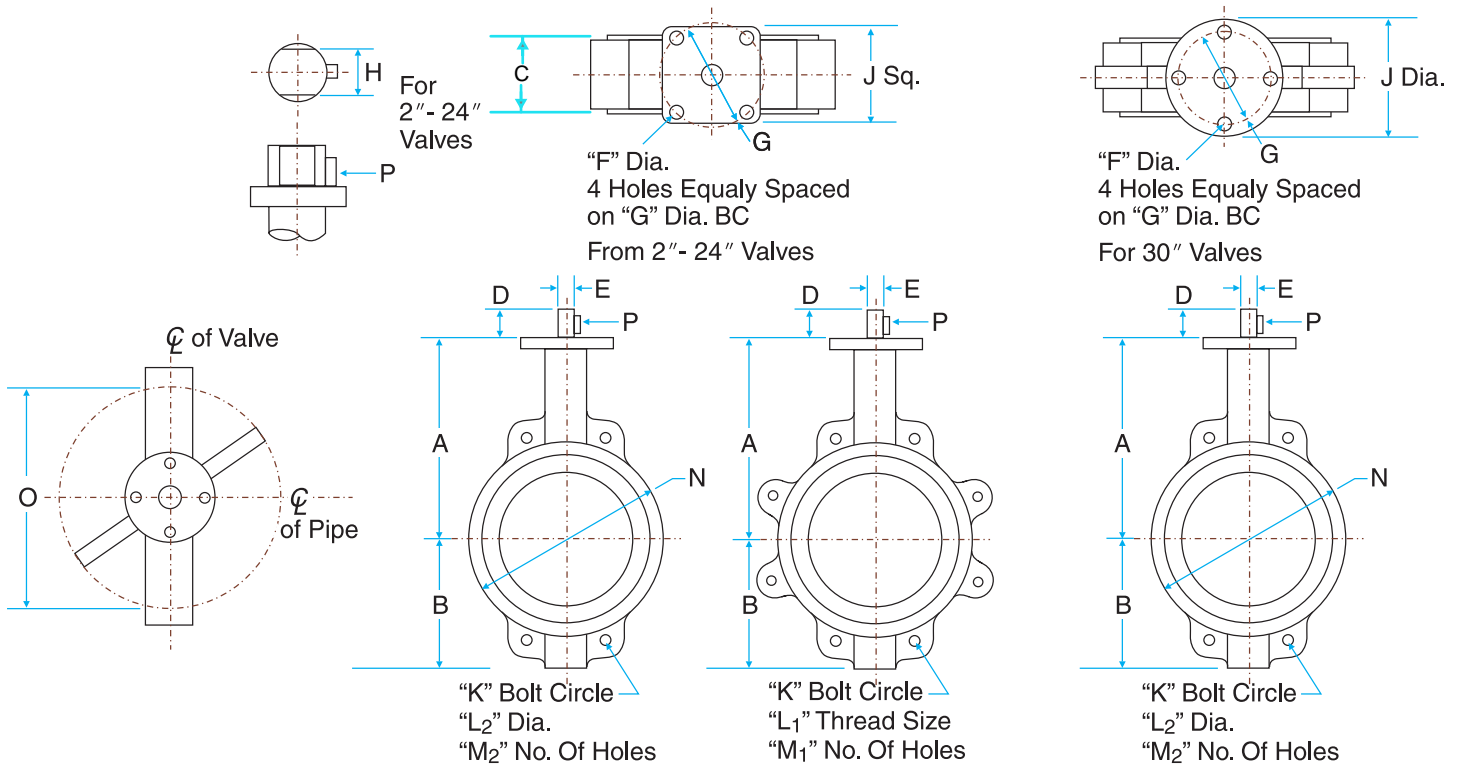
There is no safety factor included in the numbers shown on this chart. For actuator sizing, Xomox recommends that these values be multiplied by 1.2 for single valve applications, or 1.5 for 3-way ("tee") applications.

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_v 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

L₁ and M₁ refer to lug style valves, L₂ and M₂ 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

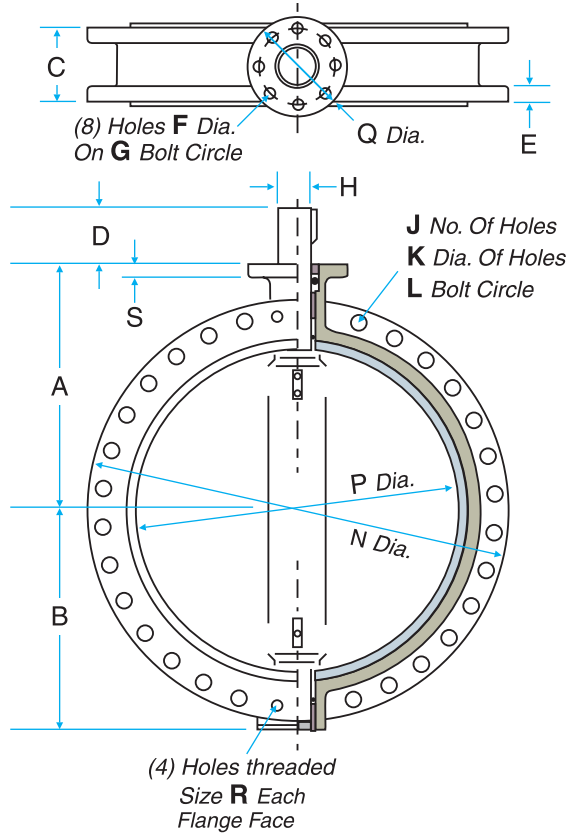
between ANSI B16.1 Class 125 (Iron) and B16.5 Class 150 (Steel) flanges. Gaskets are not needed, and should not be used since the seat face seals against the mating flange. If the valve is to be installed in plastic or fiberglass flanges,

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.



**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.

**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

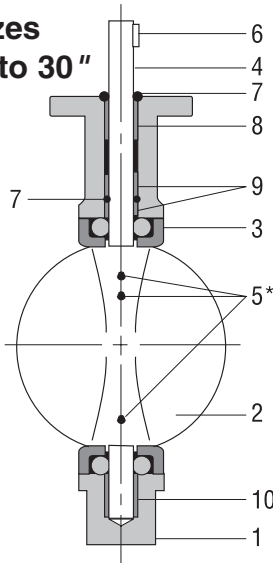
Note: Technical data subject to change without notice.

C_v 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

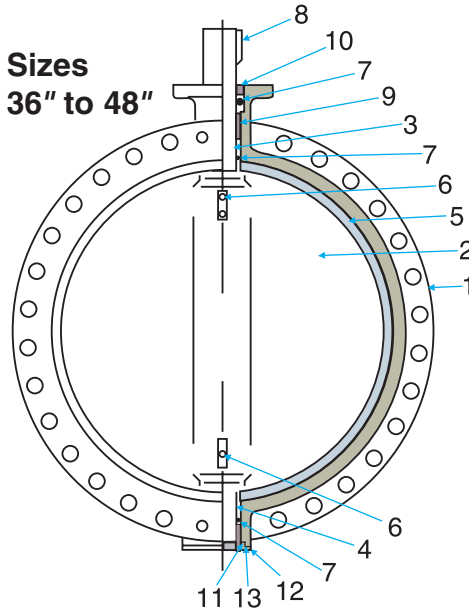
Series 7000 - Xomox Butterfly Valves

Sizes
2" to 30"



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

Sizes
36" to 48"



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
	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
	Epoxy Coating = Standard	2
	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.

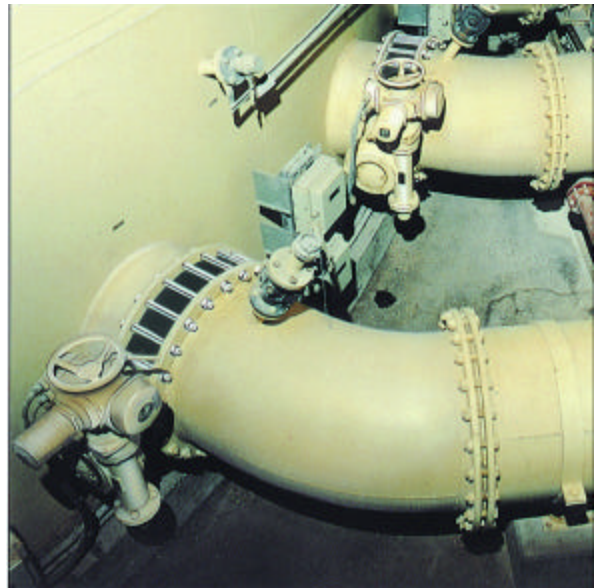
† ENP = Electroless Nickel Plated.

Xomox Butterfly Valves - Series 7500

- Xomox Series 7500 Butterfly Valves are used in demanding service applications.
- Xomox Series 7500 Butterfly Valves are reliable, low maintenance shut-off and control valves.
- Designed for use in gas and liquid pipelines, to a maximum working pressure of 230psi.
- Equipped to handle an operating temperature range of -30°F to +300°F.
- An economical alternative to plug, gate, and ball valves.

Xomox Series 7500 Butterfly Valves are extremely adaptable and have numerous application possibilities:

- Water treatment
- Chemical industry
- Waste effluent treatment
- Paper industry
- Sugar processing
- Construction
- Drilling / Production
- HVAC
- Cooling water circulation
- Pneumatic conveyors
- Compressed air
- Gas plants
- Desulpherization





Corrosion Free

- The body lining and disc are the only components of the valve that come into contact with the line medium. These components come in a wide variety of materials which resist degradation from the majority of line media.

Permanently Tight Closure

- Xomox Series 7500 Butterfly Valves close liquid and gas tight in both flow directions.
- The disc is pressed with a defined constant compression over the entire disc circumference, into the elastic body lining. The power transmission between disc and spindle is effected via a square drive and provides for an axial movement and self centering of the disc, which prevents overstress and wear of the elastomer.

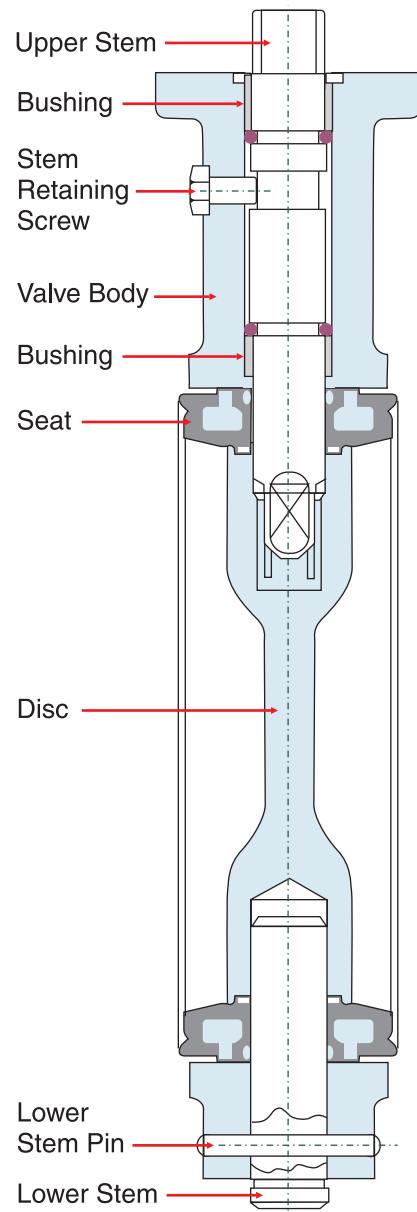
Suitable for Vacuum Service

- The replaceable body lining consists of a firm back-up ring onto which the elastic seating material is vulcanized, thus creating stability of the seat which prevents deformation of the elastomer during closing.
- The bond between elastomer and back-up ring is strong enough to enable the valve to be used with high flow rates and for vacuum service.

Standard Specifications

- ISO 9001
- Pipe diameters 2" to 24", ANSI 150.
- Temperature range -30°F to $+300^{\circ}\text{F}$.
- Face-to-face dimensions according to API 609 and ISO 5752 Series 20.
- Neck flange according to ISO 5211.
- Bubble tight shut-off
ANSI Class VI or better.

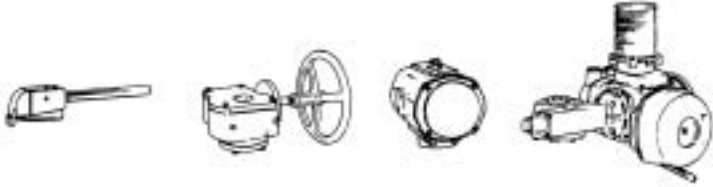
Basic construction







Series 7500 - Xomox Butterfly Valves

Possible Combinations

Body Type		Material	2" to 12"	14" to 24"
	Wafer Body	Cast Iron	ANSI 150	-
		Ductile Iron	ANSI 150	ANSI 150
		Cast Carbon Steel	ANSI 150	ANSI 150
	Lug Body	Ductile Iron	ANSI 150	ANSI 150
Ductile Iron A395		ANSI 150	ANSI 150	
Cast Carbon Steel		ANSI 150	ANSI 150	

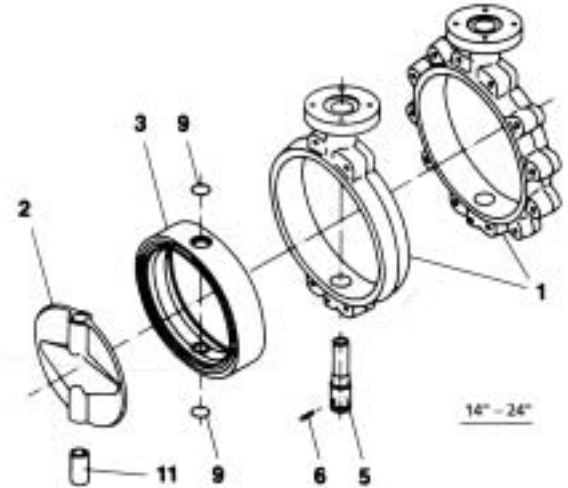
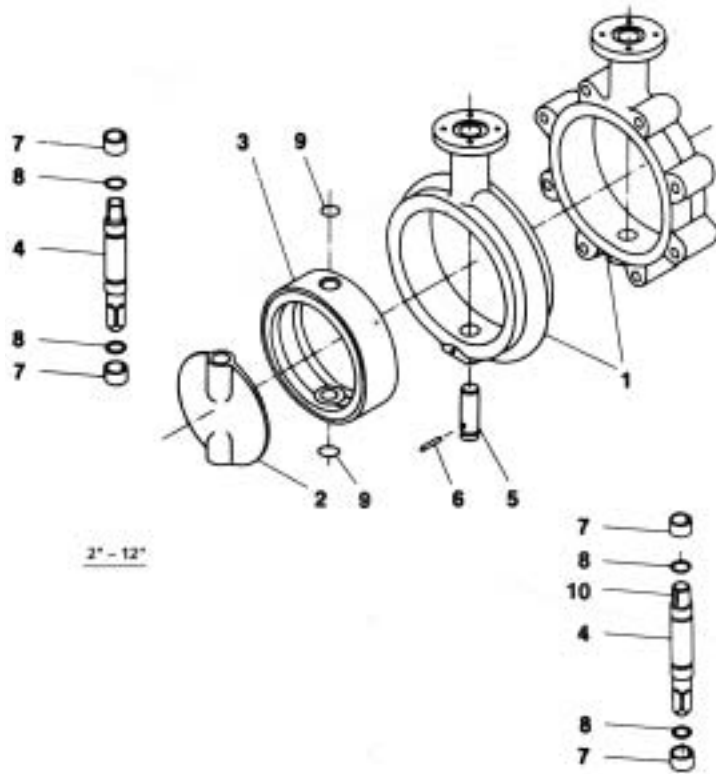
Component	Design	DN
	10 Position Lever	2" to 8"
	10 Position Lever (Lockable)	2" to 8"
	Infinitely Variable Lever	2" to 8"
	Square Nut	2" to 8"
	Gear Operator	2" to 24"
	Pneumatic Actuator	2" to 24"
	Hydraulic Actuator	2" to 24"
	Electric Actuator	2" to 24"



Component	DN	Material
Upper Stem 	2" to 24"	Stainless Steel grade ASTM A477
		Stainless Steel grade ASTM A479
Seat 	2" to 24"	Buna-N
		EPDM
		Fluoroelastomer
		Hypalon
Disc 	2" to 10"	SBR (Copolymer of Styrene + Butadiene ⁽²⁾)
	2" to 20"	HNBR (Hydrogenated Nitrile)
	2" to 24"	Aluminum - Bronze
		Stainless Steel grade ASTM A351 CF-8M
		Ductile Iron - Nickel Plated
Ductile Iron - Rilsan Coated		
Stainless Steel (Polished) grade ASTM A351 CF-8M		
2" to 24"	Ductile Iron - ECTFE Coated	
	Hastelloy C 4C ^{(1) (2)}	
	Duplex Steel ^{(1) (2)}	
	Ductile Iron Hostalen GUR Lined ⁽¹⁾	
	Hastelloy C 22C ^{(1) (2)}	
Lower Stem 	2" to 24"	Stainless Steel grade ASTM A477
		Stainless Steel grade ASTM A479

(1) Only for shut-off pressure 150psi. (2) Only on inquiry.

Material Specifications



Components in contact with line fluids

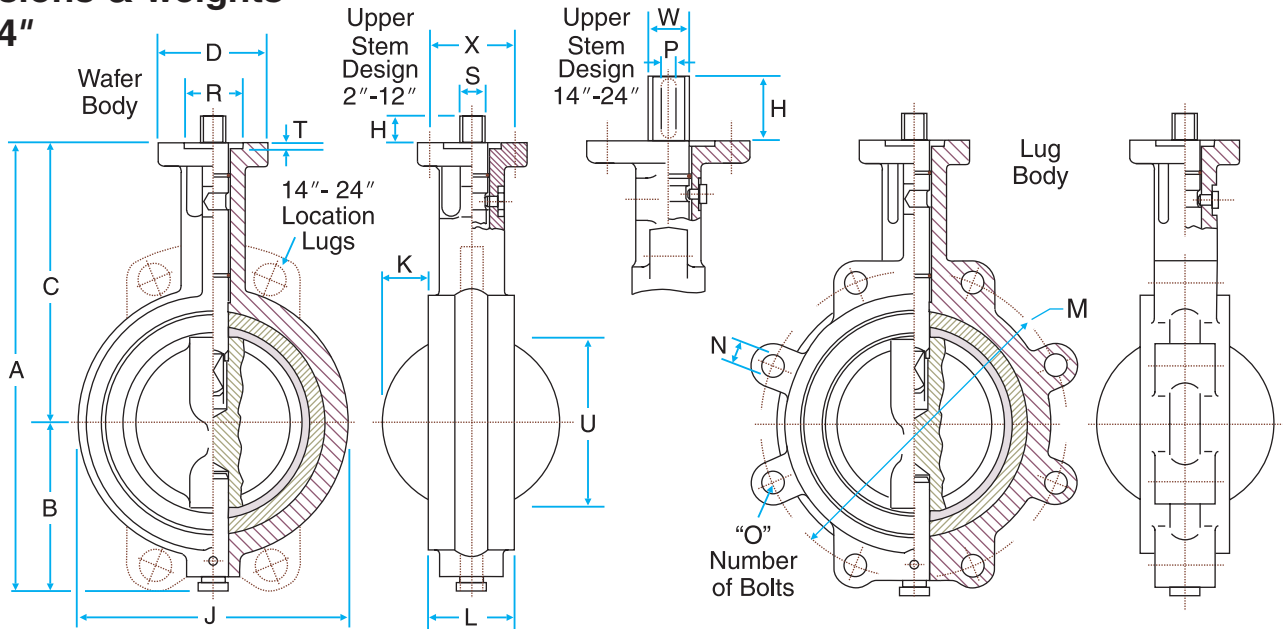
Component	Material Designation	Temperature Range
Disc (2)	Ductile Iron, Nickel Plated	-4°F, Upper temperature limited by seat
	Ductile Iron, Rilsan Coated	-4°F to +176°F
	Ductile Iron, ECTFE Coated	-4°F, Upper temperature limited by seat
	Aluminum Bronze	Limited by seat
	Stainless Steel	Limited by seat
	Duplex Steel	Limited by seat
	Hastelloy C 4C	Limited by seat
	Hastelloy C 22C	Limited by seat
	Ductile Iron, Hostalen GUR Lined	Minus Temperature limited by seat, to +158°F
Seat (3)	Nitrile (Copolymer of Butadiene + Acrylonitrile)	-4°F to +176°F (up to 230°F for intermittent operation)
	Hypalon (Chlorosulphonated Polyethylene)	-4°F to +176°F (up to 212°F for intermittent operation)
	Viton (Copolymer of Vinylidene - Fluoride)	20°F to +300°F
	EPDM (Ethylene-Propylene-Terpolymer)	-31°F to +250°F
	EPDM-H (Ethylene-Propylene-Terpolymer)	-31°F to +284°F
	SBR (Copolymer of Styrene + Butadiene)	-4°F to +176°F
	HNBR (Hydrogenated Nitrile)	-4°F to +248°F

Components not in contact with line fluids

Component	Material
Body (1)	Cast Iron (only 2" to 12")
	Ductile Iron
	Cast Carbon Steel
Upper and lower stem (4) (5)	Stainless Steel A 477 - 420 Stainless Steel A 479 - 316
Pin (6)	Spring Steel
Bushing (7)	Composite Resin
Circlip (8)	Spring Steel, Zinc Plated
O-Ring (9)	Buna-N
Parallel Key (10)	Steel
Bushing (11)	Bronze

Series 7500 - Xomox Butterfly Valves

Dimensions & weights 2" to 24"

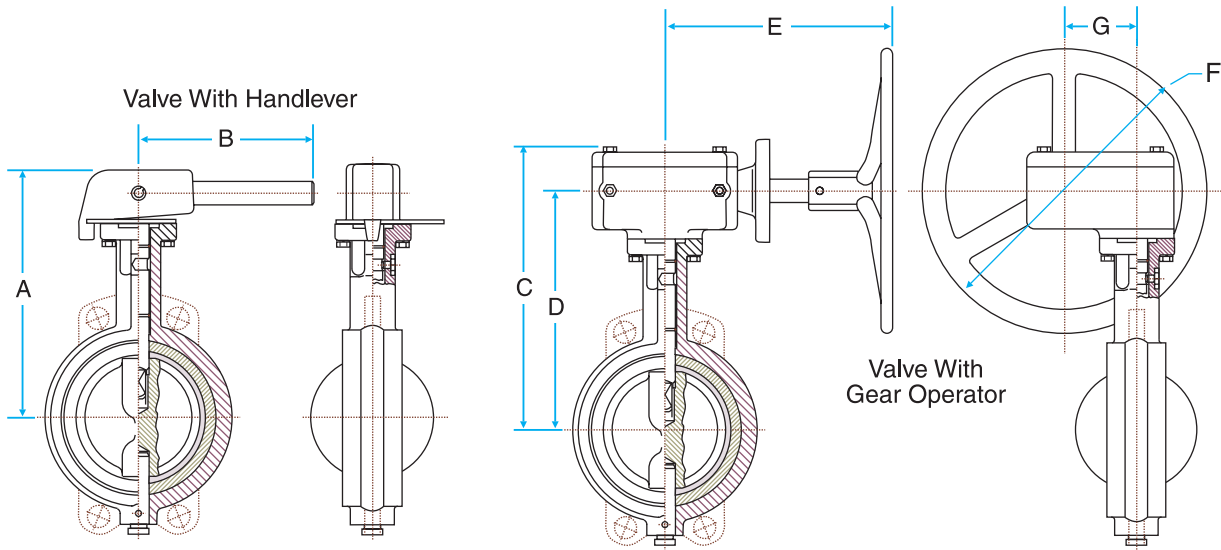


Bare Stem Valves - Dimensions in inches

Nominal Diameter:	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
A ⁽¹⁾	8.03	8.86	9.41	10.55	11.50	12.60	15.20	18.19	21.34	24.69	26.65	29.25	31.22	36.77
A ⁽²⁾	8.03	8.86	9.84	11.26	12.36	13.46	15.79	18.19	21.34	-	-	-	-	-
B	2.91	3.11	3.35	3.98	4.41	4.92	6.14	7.56	9.53	10.91	11.89	13.43	14.41	16.69
C ⁽¹⁾	5.12	5.75	6.06	6.57	7.09	7.68	9.06	10.63	11.81	13.78	14.76	15.83	16.81	20.08
C ⁽²⁾	5.12	5.75	6.50	7.28	7.95	8.54	9.65	10.63	11.81	-	-	-	-	-
D	2.56	2.56	2.56	2.56	3.54	3.54	3.54	4.92	4.92	6.89	6.89	6.89	6.89	8.27
E	0.55	0.55	0.55	0.55	0.59	0.59	0.59	0.71	0.71	0.91	0.91	0.91	0.91	0.98
H	0.63	0.63	0.63	0.63	0.75	0.75	0.75	0.94	0.94	2.56	2.56	2.56	2.56	3.15
J	4.13	4.88	5.43	6.38	7.56	8.58	10.75	12.91	14.88	17.24	19.25	21.22	23.43	27.40
K	0.28	0.51	0.75	1.06	1.46	1.93	2.76	3.54	4.37	5.08	5.55	6.38	7.13	8.70
L	1.69	1.81	1.81	2.05	2.20	2.20	2.36	2.68	3.07	3.07	4.02	4.49	5.00	6.06
M ANSI 150	4.75	5.50	6.00	7.50	8.50	9.50	11.75	14.25	17.00	18.75	21.25	22.75	25.00	29.50
N ANSI 150	5/8"-11 UNC				3/4"-10 UNC			7/8"-9 UNC		1"-8 UNC		1 1/8"-7 UNC		1 1/4"-7 UNC
O ANSI 150	4	4	4	8	8	8	8	12	12	12	16	16	20	20
P	-	-	-	-	-	-	-	-	-	0.55	0.55	0.55	0.55	0.79
R	1.38	1.38	1.38	1.38	2.17	2.17	2.17	2.76	2.76	3.94	3.94	3.94	3.94	5.12
S ⁽⁴⁾	0.55	0.55	0.55	0.55	0.67	0.67	0.67	0.87	0.87	-	-	-	-	-
T	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.20	0.20	0.20	0.20	0.28
U	1.54	2.20	2.80	3.66	4.61	5.67	7.52	9.45	11.46	12.87	14.61	16.65	18.58	22.64
W	-	-	-	-	-	-	-	-	-	1.77	1.77	1.77	1.77	2.76
X	Ø 0.28/4 x Ø 1.97				Ø 0.35/4 x Ø 2.76			Ø 0.43/4 x Ø 4.02		Ø 0.71/4 x Ø 5.51				Ø 0.87/4 x Ø 6.5

Weights in pounds - without actuator

Nominal Diameter:	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Wafer Body	5.3	6.6	7.1	9.9	15.4	17.6	26.7	43.7	68.8	110	159	203	245	430
Lug Body	7.5	8.8	10.6	15.2	23.4	25.1	35.1	57.3	84.2	132	203	238	333	540



Lever & Gear Operated Valves - Dimensions⁽³⁾ in inches

Nominal Diameter:	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
A ⁽¹⁾	7.13	7.76	8.07	8.58	9.09	9.69	11.06	-	-	-	-	-	-	-
A ⁽²⁾	7.13	7.76	8.50	9.29	9.96	10.55	11.65	-	-	-	-	-	-	-
B	7.87	7.87	7.87	7.87	9.45	9.45	9.45	-	-	-	-	-	-	-
C ⁽¹⁾	8.11	8.74	9.06	9.57	10.08	10.67	12.05	13.62	14.80	17.20	18.19	19.25	20.24	24.21
C ⁽²⁾	8.11	8.74	9.49	10.28	10.94	11.54	12.64	13.62	14.80	-	-	-	-	-
D ⁽¹⁾	6.77	7.40	7.72	8.23	8.74	9.33	10.71	12.28	13.46	15.83	16.81	17.87	18.86	21.93
D ⁽²⁾	6.77	7.40	8.15	8.94	9.61	10.20	11.30	12.28	13.46	-	-	-	-	-
E	9.06	9.06	9.06	9.06	9.06	9.06	9.06	9.06	9.06	11.22	11.22	11.22	11.22	17.87
F	7.87	7.87	7.87	7.87	9.84	9.84	9.84	9.84	9.84	15.75	15.75	15.75	15.75	24.02
G	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	3.78	3.78	3.78	3.78	5.39

(1) Standard neck, ductile iron bodies only. (2) Long neck, cast iron bodies only.
 (3) Figures apply to actuator with operating pressure 50psi and 150psi disc. (4) Square drive on 2" - 12" sizes.

Weights in pounds - Wafer Bodied Valve With Operator

Nominal Diameter:	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Hand Lever	9.0	10.4	10.8	13.7	19.6	21.8	30.9	-	-	-	-	-	-	-
Gear Operator	22.5	23.8	24.3	27.1	32.6	34.8	43.9	60.8	86.0	147	196	240	282	507

Hand Lever / Gear Operator - Recommendations

Key	Shut-off Pressure	2" - 5"	6"	8"	10"	12" - 24"
Hand Lever	230 psi					
	150 psi					
Gear Operator	50 psi					

Hand levers can be supplied up to 8", gear operators from 2" up.

Series 7500 - Xomox Butterfly Valves

Bolt Dimensions.

DN IMP Inches	ANSI Class	For Wafer Bodies Bolts With Nuts			For Lug Bodies Bolts Without Nuts		
		No.	Thread	Length	No.	Thread	Length
2	150	4	5/8-11 UNC	4"	8	5/8-11 UNC	1 1/2"
2 1/2	150	4	5/8-11 UNC	4"	8	5/8-11 UNC	1 3/4"
3	150	4	5/8-11 UNC	5"	8	5/8-11 UNC	1 3/4"
4	150	8	5/8-11 UNC	5"	16	5/8-11 UNC	1 3/4"
5	150	8	3/4-10 UNC	5 1/2"	16	3/4-10 UNC	2"
6	150	8	3/4-10 UNC	5 1/2"	16	3/4-10 UNC	2"
8	150	8	3/4-10 UNC	5 1/2"	16	3/4-10 UNC	2"
10	150	12	7/8-9 UNC	6 1/2"	24	7/8-9 UNC	2 1/2"
12	150	12	7/8-9 UNC	7"	24	7/8-9 UNC	2 1/2"
14	150	12	1-8 UNC	8"	24	1-8 UNC	2 3/4"
16	150	16	1-8 UNC	9"	32	1-8 UNC	2 3/4"
18	150	16	1-1/8"-7 UNC	10"	32	1-1/8"-7 UNC	3"
20	150	20	1-1/8"-7 UNC	10"	40	1-1/8"-7 UNC	3"
24	150	20	1-1/4"-7 UNC	12"	40	1-1/4"-7 UNC	4 1/2"

Chemical Resistance Guide.

The following valve seat materials are recommended subject to user's practical experience. However, the guidelines provided below may be limited by service temperature and

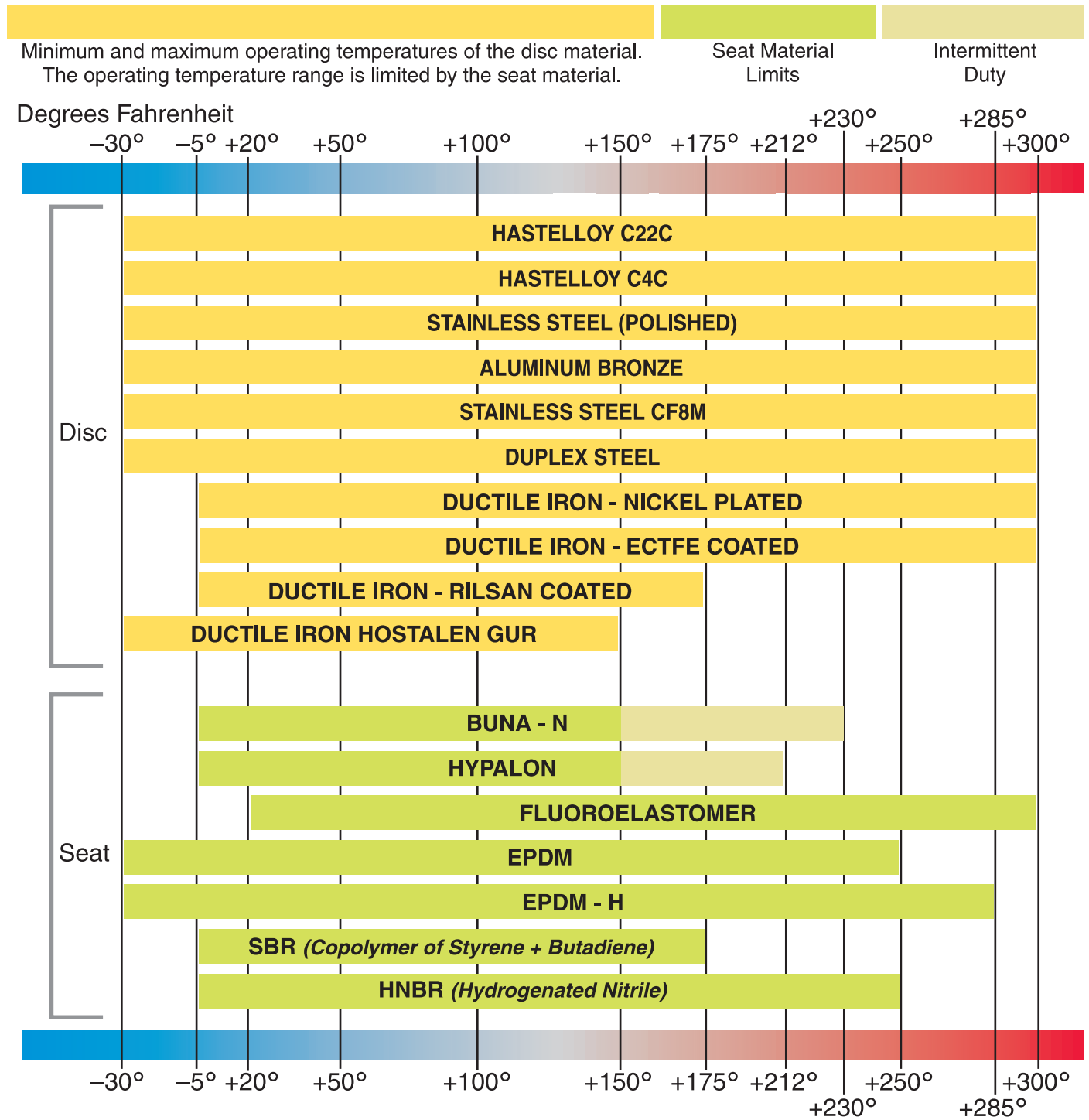
are not to be interpreted as applicable through the entire temperature range of the seat materials indicated on page 13. Also, the resistance can be affected by concentration,

pressure, flow rate, or evaporation of the medium. In case of doubt, the suitability is to be verified by tests under operating conditions.

Valve Seat Material	Resistant Against
Buna - N	Petroleum, grease, alcohol, glycol, propane, butane, diesel-fuel, and many other media.
EPDM	Ozone, phosphate, ester, ketones, alcohols, glycols, concentrated sulphuric acid, bleaching (20%), alkaline solutions in general, treated water (with caustic soda, sodium sulphate, chlorine), hot water and steam <i>(It is attacked by hydrocarbonaceous solutions and oils, chlorinated hydrocarbons, turpentine and all other petroleum based oils.)</i>
Hypalon	Sodium chloride, chromic acid, nitric and hydrofluoric acid, sulphuric acid, hydrocarbon oils, salts, and others.
SBR	Acids and alkalis.

Valve Seat Material	Resistant Against
Viton	Strong and weak mineral acids, aliphatic hydrocarbons, aromatic alcoholic and halogenated hydrocarbons, ester of aromatic acids, interlinked aliphatic acids, phosphoric acids except alkyl and alkylaryl, phosphoric ester, aromatic ethers, aliphatic ethers, except ethers of high molecular weight, such as methyl ether, dioxane and tetrahydrofuran. <i>(It is attacked by ester of low molecular weight, such as ethyl acetate, n-propyl nitrate, ketones, such as acetone and methyl-ethyl-ketone, amino compounds such as n-butylamine, dry ammonia and asymmetric diphenylhydracetin. Viton is not suitable for dry heat and steam)</i>
HNBR	Petroleum, grease, alcohol, glycol, propane, butane, diesel fuel and many other media.

Operating Temperatures



Series 7500 - Xomox Butterfly Valves

Valve sizing.

The size of butterfly valve used for control purposes should not be dictated by the nominal diameter of the pipe, but should be calculated on the basis of the operating characteristics, in order to achieve the correct control characteristics.

To determine the size of a control valve the opening angle characteristics need to be considered. Xomox Series 7500 Butterfly Valves are designed with approximately equal percentage characteristics over an opening angle of 60°.

Nominal Bore Inches	Cross-Section Of Pipe - in ² *	Opening Angle								
		90° Cv	80° Cv	75° Cv	70° Cv	60° Cv	50° Cv	40° Cv	30° Cv	25° Cv
2	3.36	130	104	89	69	53	27	16	8	6
2½	4.79	198	159	130	104	82	41	26	14	9
3	7.39	299	239	204	159	124	62	37	21	14
4	12.7	548	473	398	303	233	119	72	41	27
5	19.7	1,121	996	827	623	488	249	154	88	60
6	28.9	1,944	1,645	1,345	1,027	797	408	249	144	97
8	50	3,240	2,718	2,194	1,744	1,296	698	418	249	169
10	78.9	4,986	4,288	3,589	2,742	2,144	1,146	667	389	259
12	112	7,480	6,033	4,986	4,039	3,091	1,595	996	548	378
14	135	9,973	8,078	6,681	5,085	4,089	2,194	1,296	748	498
16	177	12,466	10,770	8,975	6,482	5,085	2,642	1,694	897	648
18	224	17,453	13,961	11,967	9,175	7,081	3,690	2,293	1,246	897
20	278	21,940	17,453	14,959	11,469	8,676	4,587	2,792	1,595	1,121
24	402	27,924	28,955	20,445	16,455	11,718	6,083	3,789	2,194	1,496

*Based on Schedule 40 commercial wrought steel pipe (ANSI B36-10)

Actuator sizing.

The drive torque required for selecting an actuator is given in the table below. The torques listed are in in-lbs and apply to liquid and most media.

The actuator should be capable of producing the listed torque over the total deflection angle.

Shut-off Pressure psig	Nominal Diameter Of A Butterfly Valve													
	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
230	228	336	528	1,068	1,596	2,304	2,916	4,248	6,108	13,452	17,880	22,044	27,168	50,976
150	144	204	312	624	840	1,128	1,776	2,484	3,540	7,872	10,536	12,924	15,936	30,708
50	120	120	204	276	360	564	1,020	1,860	2,304	3,720	4,872	8,580	11,064	20,448

How To Specify. Example: 6" 7 5 0 6 - FA 1 FE SC C E02 - H 2 X

1 2 3 4 5 6 7 8 9 10 11 12 13 14

The example above, **6" 7 5 0 6 - FA 1 FE SC C E02 - H 2 X** indicates:
 an ANSI Class 150, 6-inch – Xomox Series 7500 Resilient Seated Butterfly Valve – ANSI Raised Face Wafer Pattern Body to API 609 Face-to-Face – 230 psi shutoff pressure– A395 Ductile Iron Body – Primer Coated – ANP A395 Ductile Iron Disc – Type 316 Stainless Steel Shaft – Composite Resin Bushing – Viton Resilient Liner – 10-Position Handle Operator – 90° Oriented Drive Square – Standard Service

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"

2&3	Valve Series	Code
	Xomox Series 7500 = Standard	75

4	Body Style	Size Range	Code
	ANSI Wafer	2" - 24"	0
	ANSI Lug		1
	ANSI Lug (DE)		2
	ANSI Dbl Flanged		3

5	Pressure	Size Range	Code
	50 psi	4" - 24"	1
	150 psi	2" - 24"	4
	230 psi		6

6	Body Material	Size Range	Code
	ASTM A216 Grade WCB CS	2" - 24"	CB
	A395 Ductile Iron		FA
	A536 Ductile Iron		FB
	Cast Iron		FC

7	Body Finish	Code
	Primer Coated = Standard	1
	Epoxy Coating	3
	Special Coating (Specify)	4

8	Disc Material	Size Range	Code
	B148 Grade 955 Al-Bronze	2" - 24"	AA
	A395 Ductile Iron - ENP **		FE
	D.I. - Rilsan Coated		FF
	D.I. - ECTFE Coated		FG
	D.I. - Hostalen GUR Lined		FH
	A351 Grade CF8M SS		SC
	Duplex Stainless Steel		SF
	A351 Grade CF8M / Polished		SP
	Hastelloy C-4C †		NC
	Hastelloy C-22C †		ND

9	Shaft Material	Size Range	Code
	A479 Type 316 SS	2" - 24"	SC
	A477 Type 420 SS		SS

10	Bushing Material	Code
	Composite Resin = Standard	C

11	Liner Material	Size Range	Code
	Buna-N	2" - 24"	E01
	Fluoroelastomer (Viton)		E02
	EPDM		E03
	CSM (Hypalon)		E09
	Hydrogenated Nitrile (HNBR)		E15
	EPDM-H		E16
	SBR (Styrene+Butadiene)		E17

12	Operation	Size Range	Code
	Bare Stem / No Operator	2" - 24"	X
	Lockable Handle, 10-Pos.	2" - 8"	H
	Manual Gear Operator	2" - 24"	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

13	Shaft Drive Orientation	Code
	Square Drive 90° Angle to Valve Face = Standard (U.S.)	2

14	Service Options	Code
	Valve Supplied with PED Certificate	E
	Silicone-Free Valve	N
	Valve Cleaned and Bagged for Oxygen Service	O
	Valve Cleaned and Bagged for Vacuum Service	V
	Other (Specify)	Z

† Only available with 150 psi disc. ** ENP = Electroless Nickel Plated.

XOMOX®

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