

BUTTERFLY VALVES

Model B302 Grooved End Butterfly Valve

Grinnell® Model B302 Butterfly Valves are capable of pressures of 300 psi (20.7 Bar) for sizes 2" – 8" (DN 50 – DN 200) and 200 psi for sizes 10" and 12" (DN 250 – DN 300). The valves are designed for efficient control of: on/off or throttling/balancing service, fluid flow and "bubble tight" shut-off in piping systems. Flow may be from either direction and the valve may be positioned in any orientation. The valves are available with either a Gear Operator, for sizes 2" – 12" (DN 50 – DN 300) or Lever-Lock Operator, for sizes 2" – 8" (DN 50 – DN 200). The valves are furnished with grooved ends for use with grooved couplings and can be easily adapted to flanged components utilizing Grinnell Figure 71 Class 150 Flange Adapters.

The body and disc construction provides for increased strength and durability. The disc seal and body coatings are compatible with a variety of chemicals and temperature ranges (Contact Tyco Fire & Building Products for specific recommendations on seal and coating selections).

The Model B302 Butterfly Valve with Gear Operator is a self-locking worm gear type. It is equipped with adjustable stops at the open and shut positions.

The Model B302 Butterfly Valve with Lever-Lock Operator has a throttling plate which provides throttling notches every 10° for manual control in balancing up to 90° or shut off service. The lever may be padlocked in any one of the positions including opened or closed by virtue of a locking hole located in the handle and lever.



Model B302
with Gear Operator



Model B302
with Lever-Lock Operator

Tech Data: G310

MATERIAL SPECIFICATIONS

Ductile Iron Body and Disc Specifications

- ASTM A-395 – Standard Specification for Ductile Iron Castings
- Grade 60-40-18
- Tensile Strength, Minimum PSI – 60,000 (MPa-414)
- Yield Strength, Minimum PSI – 40,000 (MPa-276)
- Elongation in 2" (50mm), Minimum 18%

Body Coating

- Black Polymid Coated

Upper and Lower Stem

- Type 416 Stainless Steel

Gear Operator

- Cast Iron Housing

Lever-Lock Operator

- Handle – Iron Polymer Coated
- Lever-Lock – Steel Zinc Plated
- Throttling Plate – Steel Zinc Plated

Disc Seal Specifications Encapsulated Rubber

- **EPDM** – for service temperatures from -20°F (-29°C) to 250°F (121°C), intermittent service at 250°F (121°C) and continuous service at 225°F (107°C). Recommended for hot water not to exceed the temperature ratings above, plus a variety of dilute acids, alkalines and many chemical services. They are not recommended for petroleum oil, strong acid, strong alkaline or compressed air services.
- **Nitrile** – for service temperatures from -20°F (-29°C) to 180°F (82°C). Recommended for solvents, oils, water and hydraulic fluid resistance. They are not recommended for highly polar solvents such as acetone and methyl ethyl ketone, chlorinated hydrocarbons, ozone or nitro hydrocarbons and some aviation fuels.
- **Fluoroelastomer** – For service temperatures +20° F (-7°C) to +300°F (+149°C). Recommended for oxidizing acids, petroleum products, hydraulic fluids, lubricants, and halogenated hydrocarbons.

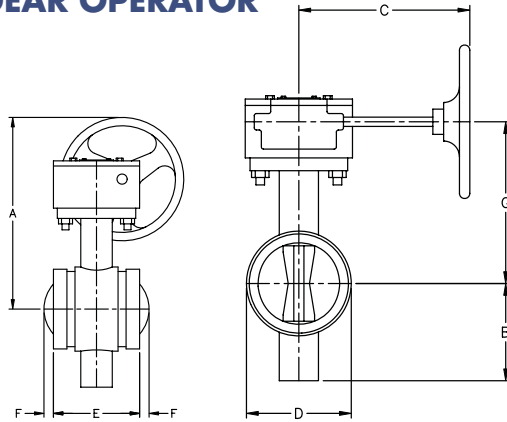
VALVES

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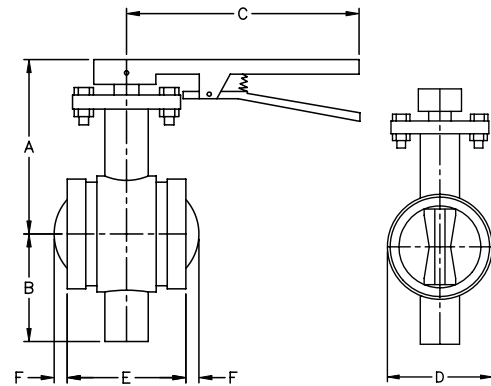
GEAR OPERATOR



Side view
with valve open

Front view
with valve open

LEVER LOCK OPERATOR



Side view
with valve open

Front view
with valve open

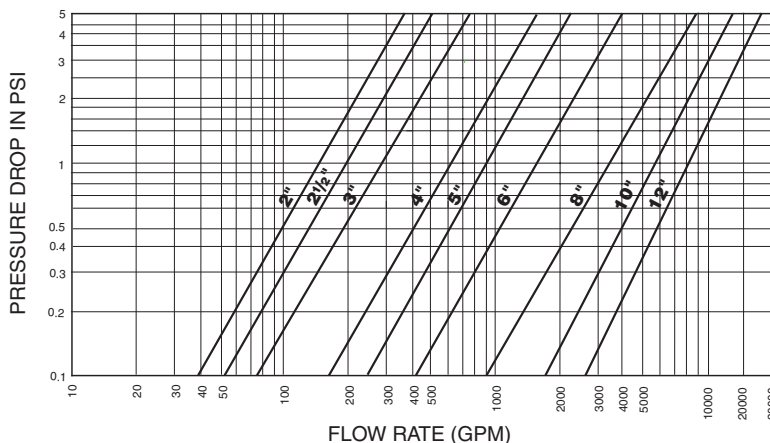
Nominal Size	Nominal Dimensions							Approx. Weight
	A	B	C	D	E	F	G	
Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	lbs
mm	mm	mm	mm	mm	mm	mm	mm	kg
2	8.46	3.14	7.64	2.89	3.33	N/A*	5.50	14.5
50	214.9	79.8	194.1	73.4	84.6		139.7	6.6
2½	8.65	3.25	7.64	3.46	3.85	N/A*	5.69	15.5
65	219.7	82.6	194.1	87.9	97.8		144.5	7.0
3	8.99	3.54	7.64	3.97	3.85	N/A*	5.94	17.0
80	226.1	89.9	194.1	100.8	97.8		150.9	7.7
4	9.79	4.35	7.64	5.03	4.56	N/A*	8.00	20.5
100	248.7	110.5	194.1	127.8	115.8		203.2	9.3
5	9.30	4.84	7.64	6.28	5.86	N/A*	7.33	25.0
125	236.2	122.9	194.1	159.3	148.8		186.2	11.3
6	13.53	5.93	9.53	7.25	5.86	N/A*	8.61	33.0
150	343.7	150.6	242.1	184.2	148.8		218.7	15.0
8	14.47	6.87	9.53	9.25	5.26	1.30	9.55	45.0
200	367.5	174.5	242.1	235.0	133.6	33.0	242.6	20.4
10	16.53	9.17	11.54	11.25	6.29	1.65	11.61	83.0
250	418.9	232.9	293.1	285.8	159.8	41.9	294.9	37.6
12	17.52	10.17	11.54	13.14	6.52	2.56	12.60	100.0
300	445.0	258.3	293.1	333.8	165.6	65.0	320.0	45.4

* End of disc does not extend beyond valve body.
Please refer to General Notes on page 17.

Nominal Size	Nominal Dimensions							Approx. Weight
	A	B	C	D	E	F	G	
Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	lbs
mm	mm	mm	mm	mm	mm	mm	mm	kg
2	5.00	3.14	10.50	2.89	3.33	N/A*		6.5
50	127.0	79.8	266.7	73.4	84.6			2.9
2½	5.19	3.25	10.50	3.46	3.85	N/A*		7.0
65	131.8	82.6	266.7	87.9	97.8			3.2
3	5.44	3.54	10.50	3.97	3.85	N/A*		8.5
80	138.2	89.9	266.7	100.8	97.8			3.9
4	6.33	4.35	13.75	5.03	4.56	N/A*		13.0
100	160.8	110.5	349.3	127.8	115.8			5.9
5	6.83	4.84	13.75	6.27	5.86	N/A*		18.0
125	173.5	122.9	349.3	159.3	148.8			8.2
6	8.11	5.93	13.75	7.25	5.86	N/A*		25.0
150	206.0	150.6	349.3	184.2	148.8			11.3
8	9.05	6.87	13.75	9.25	5.26	1.30		33.0
200	229.9	174.5	349.3	235.0	133.6	33.0		15.0

* End of disc does not extend beyond valve body.
Please refer to General Notes on page 17.

Performance



Note: It is good piping practice to apply a safety factor of 15% to 20% to the values in the above table.

BUTTERFLY VALVE

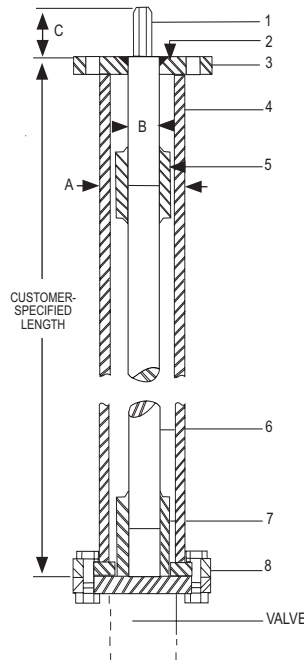
Model B302 Butterfly Valve Options

Stem Extensions

Stem extensions can be provided to permit remote operation of the valve in any required length. Stem extensions are available in lengths up to 10 feet. The top flange of the extension stem, plug shaft diameter, and distance across the flats on the plug shaft are the same size as the valve selected. This allows interchangeability of gear operators, actuators, and adapter bushings from the valve mounting flange to the extension stem top flange.

Adjustable Sprocket Rim

The Babbitt Adjustable Sprocket Rim will provide for remote operation of the butterfly valves in high, out-of-reach locations. Specify the sprocket number and size. The chain length must also be specified. (Chain length = Height x 2 + 2 ft.).



MATERIAL LIST	
Part	Specification
1. Plug	Steel
2. Top Flange Bushing	Bronze
3. Top Flange	Steel
4. Housing (Steel Pipe)	Steel
5. Plug and Rod Coupling	Steel
6. Rod	Steel
7. Rod and Stem Coupling	Steel
8. Bottom Flange	Steel

DIMENSIONS			
SIZE	A	B	C
2" - 12"	2.88	1.125	1.12

Adjustable Sprocket Rim Dimensions						
Size No.	Dia. of Sprocket Wheel Inches	Weight lbs	Dia. Of HDWL Rim will Fit	Chain Size	Chain Weight per 100' in lbs	Butterfly Valve Size
1	5½	4	4½ to 5½	1/0	17½	
1½	7½	5	6 to 7½	1/0	17½	2" - 6"
2	9	8	7¾ to 9	1/0	17½	
2½	12½	15	9¾ to 12½	4/0	30	8" - 16", 20", 24"
3	15½	21	12¾ to 15½	4/0	30	
3½	19	25	15¾ to 19	4/0	30	18", 30" - 48"
4	22	34	19¾ to 22	5/0	35	

VALVES