

BUTTERFLY VALVES

Model B302

Grinnell® Model B302 Butterfly Valves are capable of pressures of 300 psi (20.7 Bar) for sizes 2" - 8" (60.3mm - 219.1mm) and 200 psi for sizes 10" and 12" (273.0mm and 323.9mm). 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" (60.3mm - 323.9mm) or Lever-Lock Operator, for sizes 2" - 8" (60.3mm - 219.1mm). 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.

Tech Data: G310



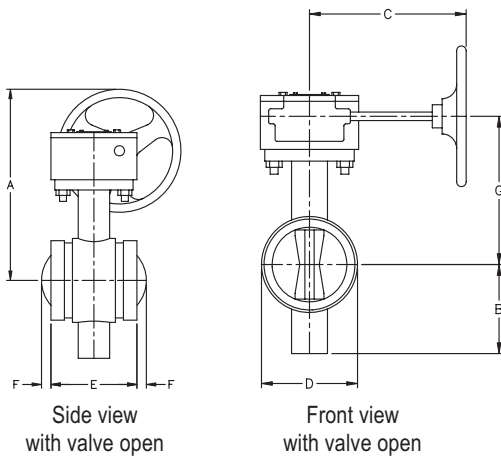
Model B302 with Gear Operator



Model B302 with Lever-Lock Operator

BUTTERFLY VALVES

Model B302 Grooved End Butterfly Valve with Gear Operator

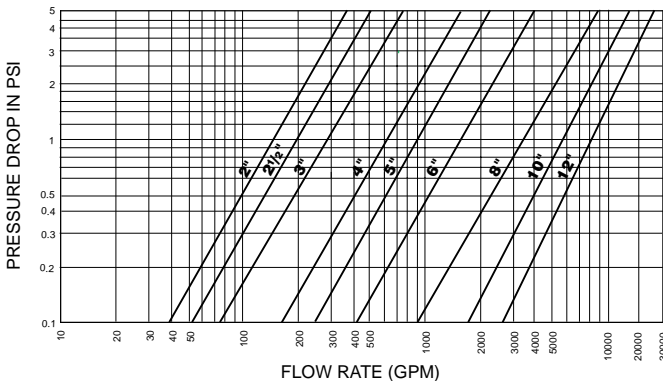


Nominal Size Inches mm	Nominal Dimensions							Approx. Weight Lbs. Kg
	A Inches mm	B Inches mm	C Inches mm	D Inches mm	E Inches mm	F Inches mm	G Inches mm	
2 50	8.46 214.9	3.14 79.8	7.64 194.1	2.89 73.4	3.33 84.6	N/A*	5.50 139.7	14.5 6.6
2½ 65	8.65 219.7	3.25 82.6	7.64 194.1	3.46 87.9	3.85 97.8	N/A*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

* End of disc does not extend beyond valve body.

Please refer to General Notes on page 14.

PERFORMANCE



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

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 Polyimid Coated

Upper and Lower Stem

Type 416 Stainless Steel

Gear Operator Cast Iron Housing

Disc Seal Specifications

Encapsulated Rubber

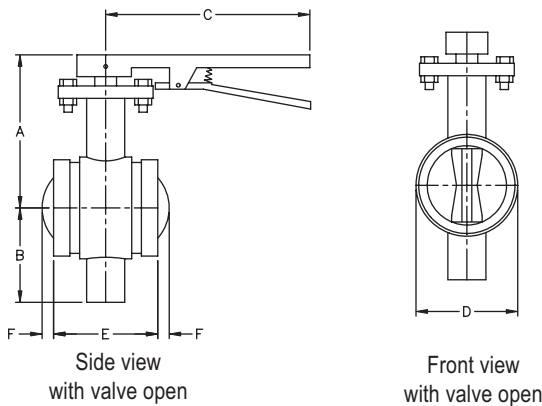
EPDM - for service temperatures from -20°F (-29°C) to 250°F (121°C), intermittent service at 250°F (121°C) and continuous service at 225°F (107°C). They are recommended for hot water not to exceed the temperature ratings above, plus a variety of dilute acids, alkalines and many chemical services. They 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). They are 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.

VALVES

BUTTERFLY VALVES

Model B302 Grooved End Butterfly Valve with Lever Lock Operator

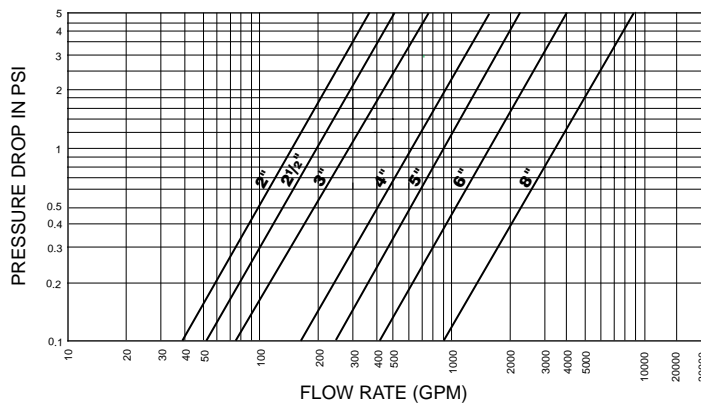


Nominal Size	Nominal Dimensions						Approx. Weight
	A	B	C	D	E	F	
2	5.00	3.14	10.50	2.89	3.33	N/A*	6.5
50	127.0	79.8	266.7	73.4	84.6		2.9
2½	5.19	3.25	10.50	3.46	3.85	N/A*	7.0
65	131.8	82.6	266.7	87.9	97.8		3.2
3	5.44	3.54	10.50	3.97	3.85	N/A*	8.5
80	138.2	89.9	266.7	100.8	97.8		3.9
4	6.33	4.35	13.75	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 14.

PERFORMANCE



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

MATERIAL SPECIFICATIONS

Ductile Iron Body & 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 Polyamid Coated

Upper and Lower Stem

Type 416 Stainless Steel

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). They are 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.

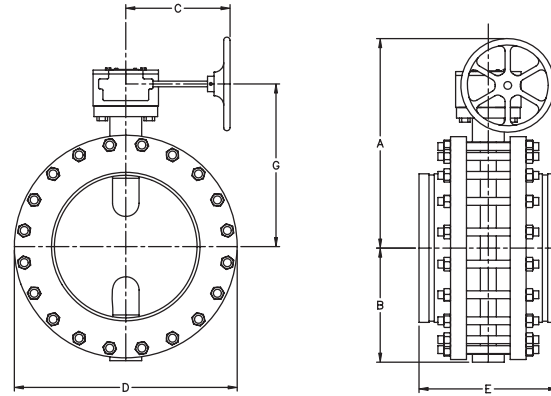
Nitrile - for service temperatures from -20°F (-29°C) to 180°F (82°C). They are recommended for solvents, oils, water and hydraulic fluid resistance. They are not recommended for highly polar solvents such as acetone and methyl ethyl ketone, chlorinated hydrocarbons, ozone or nitro hydrocarbons and some aviation fuels.

BUTTERFLY VALVES

Model 308 14" - 24" Butterfly Valve

The Model 308 Butterfly Valve provides dependable, long-term service and superior control of fluid flow in piping systems. Flow may be from either direction and the valve may be positioned in any orientation. The valve is furnished with grooved ends for use with grooved couplings. The body and disc design provides exceptional flow characteristics and low operating torque. The disc has a streamline profile that optimizes flow. The body is lined with an elastomer seat that is reinforced with a phenolic backing ring, reducing seat distortion, and wear.

The Model 308 Butterfly Valve is provided with a gear operator with adjustable stops at the open and shut positions.



Tech Data: G320

Maximum Working Pressure is 150 psi (10.3 Bar) with 316 S.S. Stem and 200 psi (13.8 Bar) with 416 S.S. Stem. Special order is available upon request: Vacuum Service to 29.5" (750mm) Hg.

Temperature rating for Grade E EPDM seat material is -40°F (-40°C) to $+230^{\circ}\text{F}$ ($+110^{\circ}\text{C}$), recommended for water service, dilute acids, alkalis, oil-free air and many chemical services. **NOT RECOMMENDED FOR USE IN PETROLEUM SERVICES.** The temperature rating for Grade T (Nitrile) seat material is -20°F (-29°C) to $+180^{\circ}\text{F}$ ($+82^{\circ}\text{C}$), recommended for petroleum products, air with oil vapors, vegetable oils and mineral oils. **NOT RECOMMENDED FOR USE IN HOT WATER SERVICES.** (Contact Tyco Fire & Building Products for specific recommendations on seat material.)

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BUTTERFLY VALVES

Model 308 14" - 24" Butterfly Valve

MATERIAL SPECIFICATIONS

Body

- Cast Iron conforming to ASTM A-126, Class B

Body Seat (Liner)

- Grade E EPDM, Grade T Nitrile or Viton®

Body Coating

Epoxy Coated

Disc

- Stainless Steel conforming to ASTM A-351, Grade CF8M
- Aluminum Bronze conforming to ASTM B-148, C95400
- Ductile Iron conforming to ASTM A-536 Grade 65-45-12

Drive and Bottom Shaft

Stainless Steel conforming to ASTM A-582, Type 416 or Stainless Steel conforming to ASTM A-276, Type 316

Gear Operator

Cast Iron Housing

Upper and Lower Bearings

Reinforced Teflon

Plug

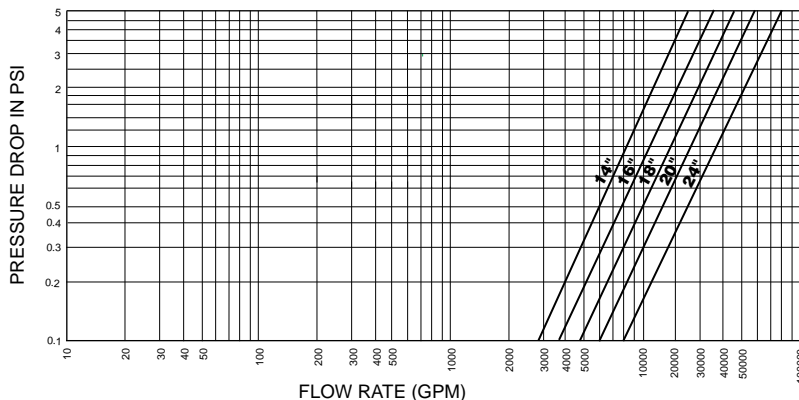
Cast Iron ASTM A-126

Nominal Size Inches mm	Nominal Dimensions						Approx. Weight Lbs. Kg
	A Inches mm	B Inches mm	C Inches mm	D Inches mm	E Inches mm	F Inches mm	
14 350	23.25 590.6	10.75 273.1	10.00 254.0	21.00 533.4	13.06 331.7	15.25 387.4	378.0 171.8
16 400	24.75 628.7	12.50 317.5	10.00 254.0	23.50 596.9	14.33 364.0	16.75 425.5	452.0 205.5
18 450	25.75 654.1	14.00 355.6	10.00 254.0	25.00 635.0	15.40 391.2	17.75 450.9	548.0 249.1
20 500	27.25 692.2	15.00 381.0	10.00 254.0	27.50 698.5	16.38 416.1	18.25 463.6	728.0 330.9
24 600	30.12 765.0	16.75 425.5	10.25 260.4	32.00 812.8	18.26 463.8	21.12 536.4	1097.0 498.6

VALVES

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PERFORMANCE



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

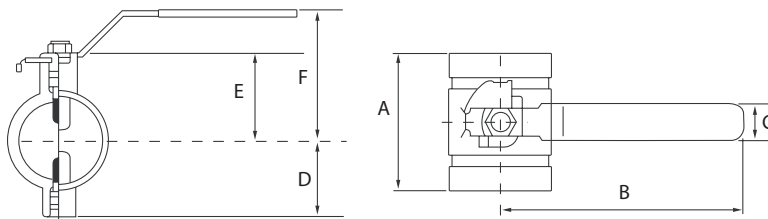
BUTTERFLY VALVES

Model B8101 Low Profile Butterfly Valve

The Model B8101 Low Profile Butterfly Valve has a rated working pressure of 200 PSI and provides efficient control of fluid in piping systems. Flow may be from either direction, and the valve may be positioned in any orientation. The ductile iron body is epoxy coated to resist atmospheric corrosion and the disc is EPDM encapsulated ductile iron to be compatible with a variety of chemicals and temperature ranges.



Tech Data: G330



MATERIAL SPECIFICATIONS

Body

- Ductile Iron

Body Coating

Black Epoxy Coated

Disc

Ductile Iron

Disc Seal

EPDM encapsulated rubber

Stem

Two-piece Stainless Steel, splined

Stem Seal

O-rings, upper and lower stem

Handle

Carbon Steel zinc plated

Nominal Size	A	B	C	D	E	F
Inches	Inches	Inches	Inches	Inches	Inches	Inches
	mm	mm	mm	mm	mm	mm
2	3.39	5.98	0.98	1.81	1.97	3.15
50	86.0	152.0	25.0	46.0	50.0	80.0
2½	3.78	5.98	0.98	2.05	2.40	3.58
65	96.0	152.0	25.0	52.0	61.0	91.0
3	3.78	8.27	0.98	2.56	2.64	4.21
80	96.0	210.0	25.0	65.0	67.0	107.0
4	4.53	8.27	0.98	3.27	3.27	4.84
100	115.0	210.0	25.0	83.0	83.0	123.0
6	5.20	12.01	1.26	4.29	4.29	6.85
150	132.0	305.0	32.0	109.0	109.0	174.0

VALVES