



Sure Flow
Equipment Inc.

BUTTERFLY VALVES

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2010



CONTENTS COMMITMENT TO QUALITY

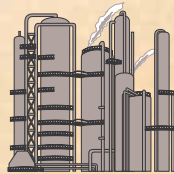
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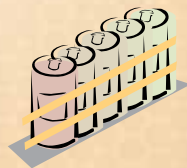
Service Applications



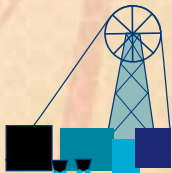
Sewage Treatment Industry



Chemical Plants



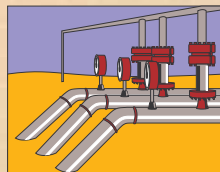
Food Processing Facilities



Mining Operations



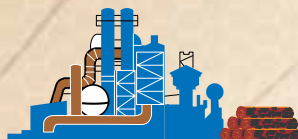
Cement Manufacturing



Petrochemical



Steel Mills



Pulp and Paper

Commitment to Quality

Sure Flow Equipment Inc. features complete custom engineered design and fabrication expertise within a quality focused state-of-the-art manufacturing facility. Commitment to quality, customer satisfaction and continual improvement is integral to our manufacturing processes and ensures custom engineered strainers meet your design specifications and stringent quality requirements. We've made it easy for you to place your order with confidence.

Sure Flow Equipment Inc. provides industry with Custom Engineered Fabricated Strainers to many design codes. Custom products are designed and manufactured to ASME SECTION VIII, DIV 1, Current Edition. ASME "U" Code Stamp and ASME "UM" Code Stamp are available on certain products as specified.

The Sure Flow Equipment Inc. list of Certifications includes:

ISO 9001:2008 Certificate of Registration

ASME "U" Code Stamp Certificate of Authorization and ASME "UM" Code Stamp Certificate of Authorization (ASME Boiler and Pressure Vessel Code; ASME Section VIII, Div 1, Current Edition);

National Board Certified and authorized to apply the "NB" Mark for pressure vessels and/or pressure retaining items manufactured in accordance with ASME "U" Code Stamp and ASME "UM" Code Stamp;

TSSA Certificate of Authorization (Technical Standards & Safety Authority) for the manufacture of pressure vessels in accordance with ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 and CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code.

CE Mark is available

CRN's (Canadian Registration Numbers) are available upon request

Compliance to NAFTA (North American Free Trade Agreement) is available upon request

C-TPAT Certified (Customs-Trade Partnership Against Terrorism)

Recognized by PIP (Partners In Protection) for our C-TPAT status

Member of FCI (Fluid Controls Institute) and Vice Chairman of Pipeline Strainer Section



Sure flow
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BUTTERFLY VALVES

Specifications and Applications

Sure Flow Butterfly Valves are an excellent choice for your Butterfly Valve requirements. They combine the cost effectiveness of an economical Butterfly Valve with the performance you expect in a high quality Commercial, HVAC and Industrial Butterfly Valve.

Specifications

All Sure Flow Butterfly Valves meet API-609, MSS SP-67, and ISO 5752 face-to-face dimensions. Butterfly Valve sizes from 2" to 12" are rated at 250 psi WOG service and valve sizes from 14" and larger are rated at 200 psi WOG service. All Butterfly Valves are full rated on dead-end service. All Butterfly Valve bodies are ductile iron 65-45-12. They are bi-directionally tested in both directions and are bubble tight with zero leakage. Lug style bodies are full rated and suitable for ASME Class 125 and ASME Class 150 flanges. Wafer style bodies are suitable for ASME Class 125, ASME Class 150, JIS, DIN or B.S. flanges. Secondary seals are self-adjusting. All elastomers and all internal bearings are non-corrosive and non-metallic. EPDM seats are suitable for 250°F sustained high temperature and capable of 2000 ppm on chlorinated applications.

Testing

All valves are factory tested on both sides for bi-directional installations to zero leakage and bubble tight.



Features and Benefits	
Feature	Benefit
Extended Neck	Allows for 2" insulation
Ductile Iron Body	High strength body when in tension (lug body)
Non-Corrosive Bushings	Elimination of shaft to body seizure
Cartridge Seat	Excellent in full vacuum distortion proof primary shaft seal, minimal seat movement and consistent displacement on closing
Two-Piece Shaft, Splined	High torsional capabilities with zero disc deflection

Typical Applications

Typical Applications:

- On/off isolation
- Dead-end service/removal of downstream piping
- Heating, ventilation and air conditioning systems
- Industrial process piping
- Municipal raw water intake
- Municipal chlorinated water systems (2000 ppm)
- Municipal feed water and reservoir
- Throttling and process control
- Full vacuum
- Aeration and blower installations



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BUTTERFLY VALVES

Lug Style Body - BFVL125 / BFVL150 ASME Class 125 / ASME Class 150 Flanges



Wafer Style Body - BFVW125 / BFVW150 ASME Class 125 / ASME Class 150 Flanges



Features

- Extended neck design for ample application of insulation.
- One-piece / uni-body construction of cast ductile iron designed to accommodate ASME Class 125 flanges or ASME Class 150 flanges.
- Integral ISO 5211 mounting flange will accept all styles of hand levers, multi-turn manual gears and power operators/actuators.
- Acetal Plastic "Delrin" stem bushings to assure long life even during extended periods of inactivity and to decrease operating torque which eases manual operation or power assisted operation.
- One-piece resilient seat with a molded-in (integral) o-ring seal eliminates the need for additional flange gaskets. The Butterfly Valve body is designed to limit seat compression to optimum dimensions.
- One-piece resilient phenolic back seat has molded-in (integral) o-ring seal for upper and lower valve shafts and works with disc edge hub seals to provide a double stem seal.
- Phenolic backed seat features:
 - Dimensionally stable seat sealing surface
 - Minimal seat wear, extending seat life
 - Blow-out proof seat
 - Non-distorting shaft hole with molded-in (integral) o-ring seal
- Suitable for open left or open right operation.
- Two-piece shaft design
- Butterfly Valve is standard with a hard back seat. There is no movement of the seat which results in a constant torque and dead end zero leakage
- Butterfly Valves are available in sizes up to 48 inches.

Installation

Butterfly Valves are manufactured in accordance with the specifications from ISO 5752, MSS SP-67, and API-609, American Petroleum Institute latest revisions. Both Lug and Wafer series valves are designed for ASME Class 125 and ASME Class 150 flanges. Valve sizes from 2" to 12" are rated at 250 psi WOG service and valve sizes from 14" and larger are rated at 200 psi WOG service. All Butterfly Valves are full rated on dead-end service.



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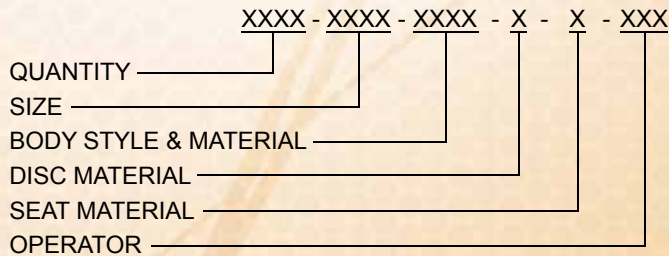


BUTTERFLY VALVES

- Available 2" to 48"
- ISO 5211 mounting flange
- Drop on actuation
- Wafer or lug style body
- Ideal for on-off or throttling
- Full flanged style 36" to 48"
- Bi-directional dead-end capability



Ordering Information



Example: Include full description

1000 BFLIB GHW

10" Lug Style Butterfly Valve
Ductile Iron Body, Ductile Iron Disc,
Buna Seat C/W Gear Operator

Butterfly Option Selection	
Size	2" - 0200 2 1/2" - 0250 3" - 0300 4" - 0400 5" - 0500 6" - 0600 8" - 0800 10" - 1000 12" - 1200 14" - 1400 16" - 1600 18" - 1800 20" - 2000 24" - 2400 30" - 3000 36" - 3600 42" - 4200 48" - 4800
Body Style and Material	BFWW - Wafer, ASTM A-536 - Ductile Iron BFVL - Lug, ASTM A-536 - Ductile Iron
Disc Material	I - Ni / Ductile A536 S - 316 Stainless Steel B - Bronze
Seat Material	B - Buna E - EPDM
Operator	BST - Bare Stem GHW - Gear Operator LVP - 10 Position Lever

Shipping Weights (Lbs)														
Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Wafer / BST	8	9	10	14	18	20	33	49	82	110	155	300	330	400
Lug / BST	10	12	14	23	27	36	47	69	102	143	243	410	512	686
Lever	3	3	3	3	3	3	7	7	7	-	-	-	-	-
Gear	4	4	4	4	4	8	20	24	25	26	28	36	71	132

Notes:

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

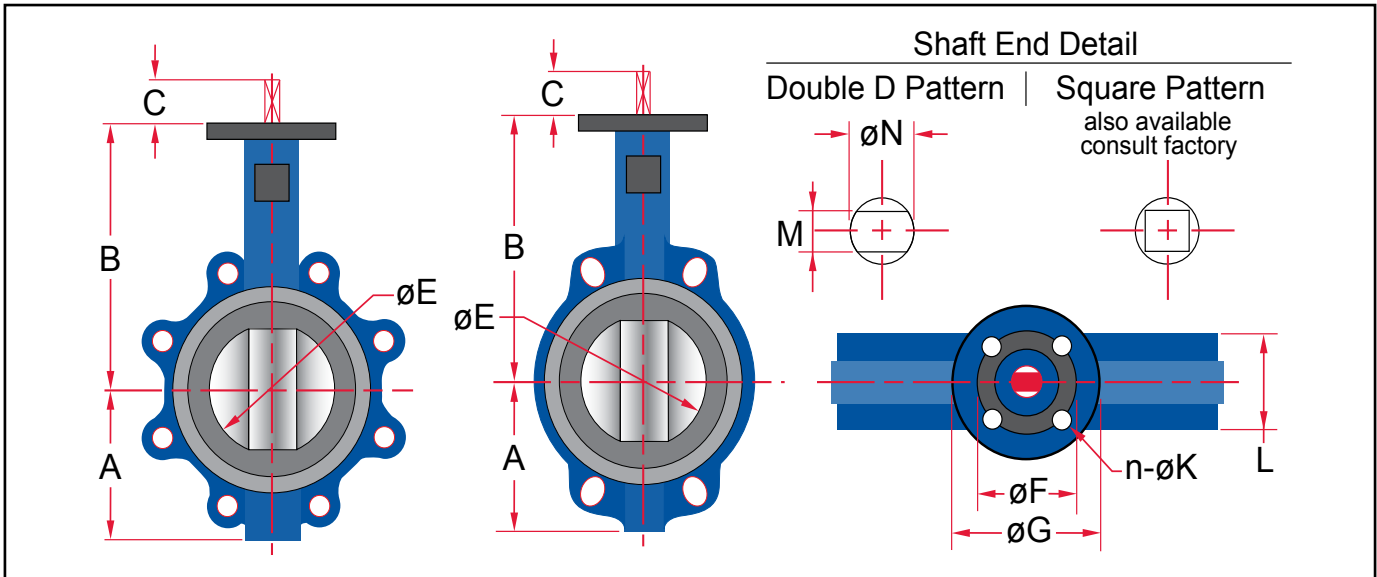


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Dimensional Data - Wafer and Lug



Notes

- Sizes 30", 36", 42" and 48" are also available. Consult factory for specifications.
- Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Dimensions (Inches)											
Size		A	B	C	E	F	G	n X ØK	L	M	ØN
Inches	Prefix										
2	0200	3 1/8	5 9/16	1 1/4	2	1 15/16	2 9/16	4 X Ø 1/4	1 5/8	0.393	0.496
2 1/2	0250	3 1/2	6 1/8	1 1/4	2 1/2	1 15/16	2 9/16	4 X Ø 1/4	1 3/4	0.393	0.496
3	0300	3 3/4	6 5/16	1 1/4	3 1/16	1 15/16	2 9/16	4 X Ø 1/4	1 3/4	0.393	0.496
4	0400	4 1/2	7 1/16	1 1/4	4 1/16	2 3/4	3 9/16	4 X Ø 3/8	2	0.472	0.620
5	0500	5	7 5/8	1 1/4	4 13/16	2 3/4	3 9/16	4 X Ø 3/8	2 1/8	0.550	0.744
6	0600	5 1/2	8 1/16	1 1/4	6 1/16	2 3/4	3 9/16	4 X Ø 3/8	2 1/8	0.550	0.744
8	0800	6 7/8	9 13/16	1 1/2	7 15/16	4	4 15/16	4 X Ø 1/2	2 1/2	0.668	0.868
10	1000	8 1/8	11 1/8	1 3/4	9 13/16	4	4 15/16	4 X Ø 1/2	2 1/2	0.865	1.118
12	1200	9 1/2	12 13/16	1 3/4	11 13/16	4	4 15/16	4 X Ø 1/2	3	0.943	1.242
14	1400	10 1/2	14 1/8	1 3/4	13 1/16	4	4 15/16	4 X Ø 1/2	3 1/8	0.943	1.242
16	1600	12 3/16	15 3/4	2 1/16	15 1/4	5 1/2	6 7/8	4 X Ø 7/8	4	1.061	1.305
18	1800	12 15/16	16 5/8	2 1/16	17 1/4	6 1/2	8 1/4	4 X Ø 7/8	4 1/2	1.061	1.494
20	2000	14 3/16	18 7/8	2 1/2	19 1/4	6 1/2	8 1/4	4 X Ø 7/8	5 1/4	1.257	1.616
24	2400	18 1/16	22 1/8	2 3/4	23 1/4	6 1/2	8 1/4	4 X Ø 7/8	6 1/8	1.415	1.989

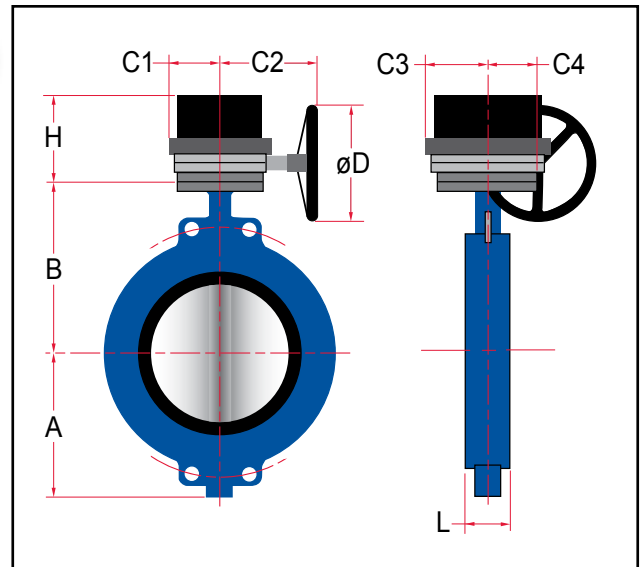


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Dimensional Data - Gear Operator



Notes:

- Sizes 30", 36", 42" and 48" are also available. Consult factory for specifications.

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Dimensions (Inches)										
Size		A	B	C1	C2	C3	C4	D	H	L
Inches	Prefix									
2	0200	3 1/8	5 9/16	2 1/16	6 1/16	2 1/16	1 3/4	5 7/8	2 13/16	1 5/8
2 1/2	0250	3 1/2	6 1/8	2 1/16	6 1/16	2 1/16	1 3/4	5 7/8	2 13/16	1 3/4
3	0300	3 3/4	6 5/16	2 1/16	6 1/16	2 1/16	1 3/4	5 7/8	2 13/16	1 3/4
4	0400	4 1/2	7 1/16	2 1/16	6 1/16	2 1/16	1 3/4	5 7/8	2 13/16	2
5	0500	5	7 5/8	2 1/16	6 1/16	2 1/16	1 3/4	5 7/8	2 13/16	2 1/8
6	0600	5 1/2	8 1/16	2 1/16	6 1/16	2 1/16	1 3/4	5 7/8	2 13/16	2 1/8
8	0800	6 7/8	9 13/16	3	9 1/4	3	2 1/2	11 13/16	3 1/4	2 1/2
10	1000	8 1/8	11 1/8	3	9 1/4	3	2 1/2	11 13/16	3 1/4	2 1/2
12	1200	9 1/2	12 13/16	3 3/16	9 1/4	3 3/16	3 1/8	11 13/16	3 1/4	3
14	1400	10 1/2	14 1/8	3 3/16	9 1/4	3 3/16	3 1/8	11 13/16	3 1/4	3 1/8
16	1600	12 3/16	15 3/4	4 1/16	10 15/16	4 1/16	7 1/8	11 13/16	5 5/16	4
18	1800	12 15/16	16 5/8	4 1/16	10 15/16	4 1/16	7 1/8	11 13/16	5 5/16	4 1/2
20	2000	14 3/16	18 7/8	4 1/16	10 15/16	4 1/16	7 1/8	11 13/16	5 5/16	5 1/4
24	2400	18 1/16	22 1/8	5 7/16	11 15/16	5 7/16	7 7/8	11 13/16	5 3/8	6 1/8

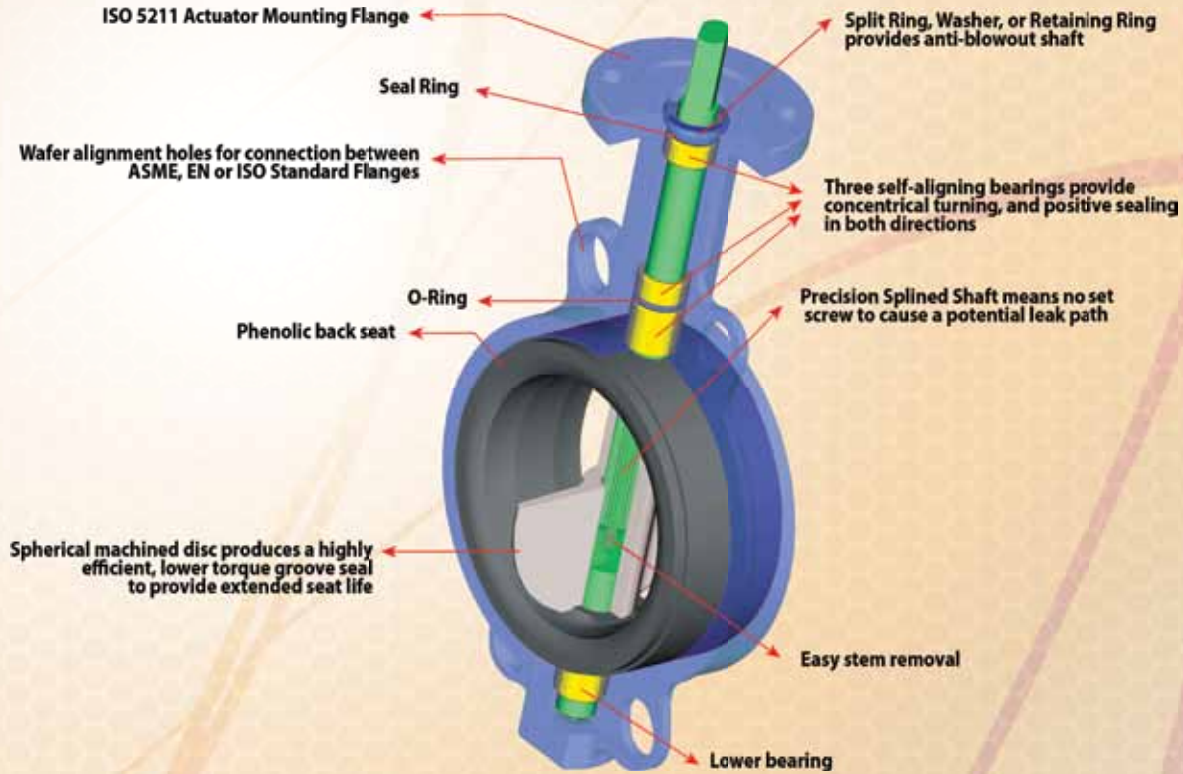


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PERFORMANCE FEATURES AND TECHNICAL INFORMATION



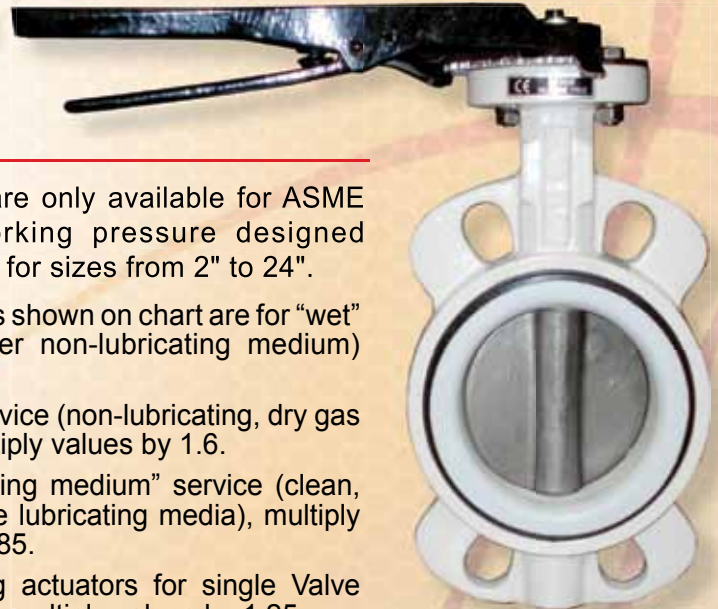
Notes:

- The Cv values shown in table are only available for ASME Class 125 working pressure designed Butterfly Valves for sizes from 2" to 24".
 - Sizes 30", 36", 42" and 48" are also available. Consult factory for specifications.
- Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Cv Values - Valve Sizing Coefficients (US - GPM @ 1 PSI Δ P)

Size	Flow in GPM @ 1 PSI Δ P @ Various Disc Angles								Full 90° Open
	10°	20°	30°	40°	50°	60°	70°	80°	
2	0.1	5	12	24	45	64	90	125	115
2 1/2	0.2	8	20	37	65	98	144	204	196
3	0.3	12	22	39	70	116	183	275	302
4	0.5	17	36	78	139	230	364	546	600
5	0.8	29	61	133	237	392	620	930	1,022
6	2	45	95	205	366	605	958	1,437	1,579
8	3	89	188	408	727	1,202	1,903	2,854	3,136
10	4	151	320	694	1,237	2,047	3,240	4,859	5,340
12	5	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	1,674	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

VALVE SEATING TORQUES AND TECHNICAL INFORMATION



Notes:

- Torque values are only available for ASME Class 125 working pressure designed Butterfly Valves for sizes from 2" to 24".
- All torque values shown on chart are for “wet” (water and other non-lubricating medium) on-off service.
 - * For “dry” service (non-lubricating, dry gas media), multiply values by 1.6.
 - * For “lubricating medium” service (clean, non-abrasive lubricating media), multiply values by 0.85.
 - * When sizing actuators for single Valve applications, multiply values by 1.25.
 - * When sizing for 3-way (“tee”) applications, multiply values by 1.5.
- Under certain conditions, hydrodynamic torque can meet or exceed seating and unseating torques. When designing valve systems, hydrodynamic torque must be considered to help ensure correct selection of application.
- Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Torque Values (Inch-Pounds)				
Size (inches)	Differential Pressure			
	125 psi	150 psi	200 psi	250 psi
2	100	106	111	117
2 1/2	150	163	176	189
3	207	220	322	244
4	290	323	357	390
5	423	481	540	598
6	599	691	783	875
8	1,060	1,183	1,307	1,430
10	1,671	1,872	2,074	2,275
12	2,568	2,795	3,023	3,250
14	2,640	3,070	-	-
16	4,260	4,880	-	-
18	6,287	7,243	-	-
20	8,360	9,180	-	-
24	15,427	16,813	-	-



PRODUCT OPTIONS - ACTUATION

Gear Operator with Indicator Standard



Lever with Standard Lockout



Electric or Pneumatic Actuators



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DISC AND SEAT MATERIAL DATA

Nickel Plated Ductile Iron

ASTM B320 Plating and ASTM A536 (Cast) Ductile Iron which has strength properties similar to steel is enhanced with the addition of Nickel Plating by adding to its ability to resist corrosion. Nickel Plating further adds to Ductile Iron, the ability to resist abrasion due to its inherent hardness features.

Applications

Suitable for Air, Kerosene, Oils, Ketones and Potable Water

Bronze

ASTM B148 Bronze while being recognized for steam rated valves is also resistant to corrosion, pitting and is also resistant to many chemicals

Applications

Suitable for Air, Alcohols, Ethers, Freons, Oils, Oxygen and Potable Water. Widely used in the HVAC market.

316 Stainless Steel

ASTM A351 Grade CF8M 316SS is an excellent choice for corrosion resistance to many chemicals and environmental applications. Investment Cast Stainless Steel has no need of additional heat treating, it has inherent high strength and is used for many industrial applications.

Applications

Suitable for Acetic Acids, Air, Automotive Oils & Fuels, Beer, Freon, Gasoline, Ketones, Oils, Oxygen, Steam and Potable Water.

Buna - N

(NBR/Nitrile) (Butadiene Acrylonitrile Copolymer) Buna - N is widely used as a seat material for water and sewage Butterfly Valve applications. It is also used in certain petroleum applications.

Applications

- Buna-N is suitable for and resistant to most all petroleum products. It is also resistant to many chemicals, ethylene glycol, fats, grease, hydrocarbons, hydraulic fluids and oils.
- Buna-N should not be used where Chlorinated and Nitro Hydrocarbons, Esters, Ketones and Ozone will be found.

Temperature Range:

0° to 180° F Continuous Service / 0° to 212° F Intermittent

EPDM

(Ethylene Propylene EPM) (Ethylene Propylene Copolymer and Terpolymer) EPDM has a wide variety of uses being generally resistant to many chemicals, higher temperatures (low pressure steam to 15 psi) and abrasion. It is used in many HVAC and industrial applications.

Applications

- EPDM is suitable for and resistant to animal and vegetable oils, ozone, oxidizing chemicals. EPDM is good for diluted acids and alkalies, brake fluid and ketones.
- EPDM should not be used where mineral oils, solvents and aromatic hydrocarbons are present.

Temperature Range:

- 40° to 250° F Continuous / - 40° to 275° F Intermittent



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Sure Flow Equipment Inc. – Limited Warranty

All products are warranted to be free of defects in material and workmanship for a period of one year from the date of shipment, subject to below. **All custom products are not subject to return, credit or refund.**

If the purchaser believes a product to be defective, the purchaser shall:

(a) Notify the manufacturer **within ten(10) days after receipt of merchandise**, state the alleged defect and request permission to return the product. Merchandise will not be accepted for return without a "Return Code" clearly marked on the outside of the package. Contact the office to obtain a return code. **Merchandise will not be accepted for return or credit later than six (6) months after invoicing.**

(b) If permission is given, return the product with the transportation prepaid. Collect shipments will not be accepted. Goods must be returned **prepaid**.

If a shipment is received in a damaged or deficient condition, a claim must be filed with the delivering carrier and noted on the freight bill before you accept the merchandise. All other claims must be made in writing and received by Sure Flow Equipment Inc. within ten (10) days after receipt of merchandise.

If the product is accepted for return and found to be defective, the manufacturer will, at its discretion, either repair or replace the product, F.O.B. factory, within 60 days of receipt, or issue credit for the purchase price.

Sure Flow Equipment Inc. shall not be liable for failure to deliver or delays in delivering occasioned by acts of God, war, labor difficulties, inability to obtain materials or any other causes whatsoever beyond our control.

Other than to repair, replace or credit as described above, purchaser agrees that manufacturer shall not be liable for any loss, costs, expenses, or damages of any kind arising out of the product, its use, installation or replacements, labeling, instructions, information or technical data of any kind, description of product use, sample or model, warnings or lack of any of the foregoing.

NO OTHER WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, ARE MADE OR AUTHORIZED. NO AFFIRMATION OF ACT, PROMISE, DESCRIPTION OF PRODUCT OR USE OR SAMPLE OR MODEL SHALL CREATE ANY WARRANTY FROM MANUFACTURER, UNLESS SIGNED BY THE PRESIDENT OF MANUFACTURER.

CANCELLATIONS:

Cancelled orders will be subject to a charge of at least 35%.

Cancelled custom orders will be subject to a charge of 100% of quoted price.

MINIMUM BILLING: \$100.00 NET

SPECIAL DOCUMENTATION: A charge will apply for non-standard, special documentation requests such as Material Test Reports (MTR's) and Certificates of Conformance (COC's).

Product shipping weights are approximate and subject to variances depending on packaging methods/requirements.



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