For HVAC, Irrigation, OEM, Commercial and Institutional Applications

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

LEAD FREE*

Butterfly Valves

Series DBF-03 Full Lug and DBF-04 Wafer

Sizes: 2" - 12" 200psi (13.8 bar)

Watts Series DBF resilient seated butterfly valves are available in sizes 2"-12" , wafer or lug body design. This series was designed to meet the stringent requirements for HVAC, Irrigation, OEM, Commercial and Institutional applications, and wherever positive shutoff is required for liquids, gases, and slurries. Incorporating a 200psi (13.8 bar) pressure rating for 2"-12", the Series DBF is standardly constructed of aductile iron body, an aluminum bronze, ductile iron or 316SS disc, and a 416SS or 316SS shaft. Standard seat materials available include Buna-N, EPDM, and Viton®. A phenolic-backed seat prevents the seat from collapsing or dislodging. In addition to the above features, the Series DBF mounting pad is designed to ISO 5211 standard to accommodate lever handles, gear operators or actuator.

The Watts Series DBF butterfly valves are designed and manufactured for use with ANSI 125 or 150 Class flanges and to comply with API 609 and MSS-SP-67.

NSF Certified to NSF/ANSI 61

Features

- **Operators** – Ten-position handle is standard. An infinite positioning/locking handle is also available on valve sizes 2"-12". The infinite position Pos-Lok throttle plate incorporates a memory stop and a padlocking device in the fully closed position. Manual, worm-gear operators are available for all valves and are recommended on 8" and larger sizes. Watts butterfly valves are also available with electric or pneumatic actuators and chain wheel operators to satisfy a wide variety of requirements.
- **Shaft** – One-piece shaft delivers positive disc-to-seat location with maximum strength. 416SS is standard with aluminum bronze and ductile iron discs and 316SS shaft with stainless steel disc.
- **Shaft Bushings** – Duralon® bushings (3) provide shaft support for proper shaft alignment and minimal shaft deflection.
- **Shaft Seal** – To prevent shaft leakage, the bidirectional shaft seal prevents external contamination of stem area and provides a backup seal to the primary shaft seal formed by the disc/seat interface.
- **Body** – Watts Butterfly Valves are available in Full Lug (DBF-03) and Wafer (DBF-04) types designed for use between ANSI 125 and 150 flanges. Face-to-face dimensions comply with API 609 and MSS-SP-67. All valves are designed to accommodate 2" of insulation. The standard body material is ASTM A-536 ductile iron.
- **Disc** – Disc edge is machined and polished 360° to assure leak-tight shutoff while minimizing operating torque. Positive, disc-to-shaft connection is provided by stainless steel precision taper pins that are vibration proof.
- **Seat** – Phenolic-backed, non-collapsible, resilient seat is mechanically secured to provide dead-end service to the full 200psi (13.8 bar) pressure rating. Seat face eliminates the need for flange gaskets. Full 360° sealing isolates the body components from the media and provides the primary shaft seal. Available in EPDM, Buna-N, and Viton®.

Duralon® is a Registered Trademark of Rexnord Corporation

Teflon® is a Registered Trademark of E.I. DuPont de Nemours, Co., Inc.

Viton® is a registered trademark of DuPont Dow Elastomers.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

NOTICE

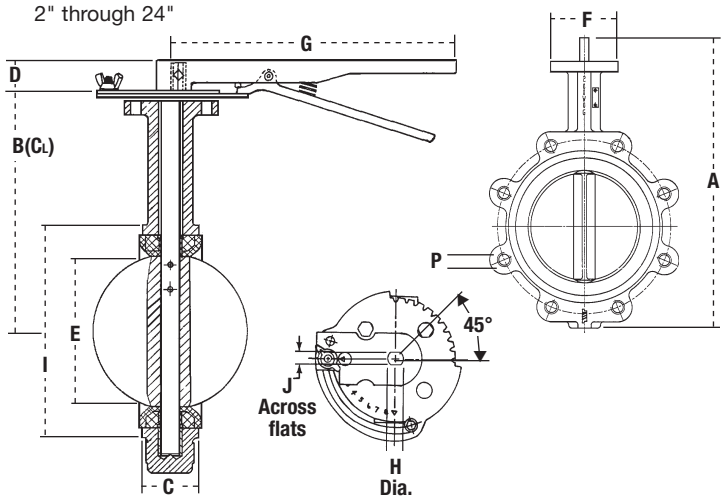
Inquire with governing authorities for local installation requirements

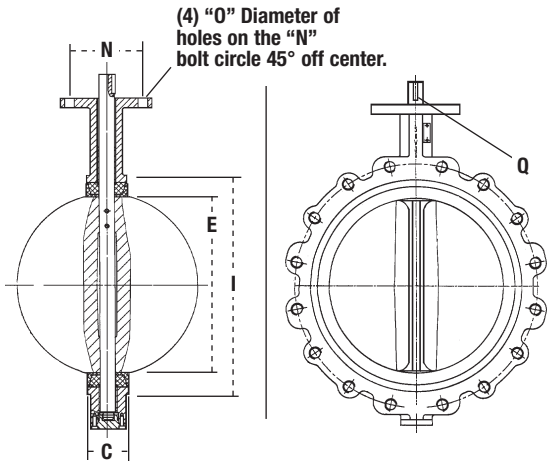
***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

WATTS®

Dimensions





SIZE	DIMENSIONS																			
	A		B		C		D		E		F		G		H		I		J	
	in.	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*
2"	10¾	273	6⅜	161	1⅝	42	1¼	32	2⅛	54	3 1⁄16	77	10½	267	½	13	3¾	95	⅜	9
2½"	11⅝	295	6⅞	175	1¾	45	1¼	32	2 9⁄16	65	3 1⁄16	77	10½	267	½	13	4¼	108	⅜	9
3"	12⅛	308	7⅛	181	1¾	45	1¼	32	3⅛	79	3 1⁄16	77	10½	267	½	13	4¾	120	⅜	9
4"	13⅝	346	7⅞	200	2	52	1¼	32	4⅛	105	3⅝	92	10½	267	⅝	16	6 1⁄16	154	⅜	10
5"	14⅝	372	8⅜	213	2⅛	54	1¼	32	4⅞	124	3⅝	92	10½	267	¾	19	7⅛	181	½	13
6"	15⅝	397	8⅞	226	2 3⁄16	55	1¼	32	6⅛	156	3⅝	92	10½	267	¾	19	8 3⁄16	208	½	13
8"	18⅞	479	10¼	260	2⅜	60	1¾	45	8	200	4½	115	14	356	⅞	22	10¼	260	⅝	16
10"	21¼	540	11½	292	2⅝	66	1¾	45	9⅞	251	4½	115	14	356	1⅛	29	12⅝	320	¾	19
12"	24⅝	626	13¼	337	3	76	1¾	45	11⅞	301	5½	140	14	356	1¼	32	14¾	375	1¼	32

For 14"- 24" BF Ⓘ Series Dimensional Data, Request Engineering Spec Sheet ES-BF-03-M2/BF-04-M2.

SIZE	TOP PLATE DRILLING				TAPPED LUG DATA			KEY WAY		WEIGHT†			
	N		O		Bolt Circle	No.	Bolt	Q		DBF-03		DBF-04	
	in.	*mm*	*in.*	*mm*	*in.*	*Holes*	*P*	*in.*	*mm*	*lbs.*	*kgs*	*lbs.*	*kgs*
2"	2¼	57	¼	6	4¾	4	⅝"-11UNC x 1¼"	–	–	8	3.6	6	2.7
2½"	2¼	57	¼	6	5½	4	⅝"-11UNC x 1⅜"	–	–	10	4.5	7	3.2
3"	2¼	57	¼	6	6	4	⅝"-11UNC x 1⅜"	–	–	10	4.5	7	3.2
4"	2¾	70	⅜	10	7½	8	⅝"-11UNC x 1½"	–	–	17	7.7	12	5.4
5"	2¾	70	⅜	10	8½	8	¾"-10UNC x 1¾"	–	–	25	11.3	16	7.3
6"	2¾	70	⅜	10	9½	8	¾"-10UNC x 2"	–	–	27	12.2	20	9.1
8"	3½	89	⅝	16	11¾	8	¾"-10UNC x 2⅛"	–	–	40	18.1	29	13.2
10"	3½	89	⅝	16	14¼	12	⅞"-9UNC x 2¼"	–	–	63	28.6	48	21.8
12"	4¼	108	⅝	16	17	12	⅞"-9UNC x 2¼"	¼ x 1	6 x 25	107	48.5	78	35.4

†Weights are for valves with ductile iron or aluminum bronze discs and 10-position lever handles.

Refer to Watts' folder F-CDBF for butterfly valve weights with gear actuators, or consult factory.

SEATING TORQUE BUNA-N, EPDM, VITON	
Size	Normal Conditions
in.	*WET/DRY*
2"	134/214
2½"	190/289
3"	250/387
4"	390/644
5"	600/959
6"	907/1,542
8"	1,697/2,919
10"	2,500/4,857
12"	3,300/7,071

CV RATING (FULL OPEN)	
Size	CV Rating
in.	
2"	135
2½"	220
3"	302
4"	600
5"	1,022
6"	1,579
8"	3,136
10"	5,340
12"	8,250

How to Order Watts Series DBF

10 - DBF- 03 - 121 - G - M2

Size:
2" thru 12"

Series:
03; Full Lug, 04; Wafer

Body:
1; Ductile Iron

Disc:
1; Ductile Iron
2; Aluminum Bronze
3; 316 Stainless Steel*

Shaft:
1; 416 Stainless Steel
316SS on stainless steel disc models*

Seat:
1; EPDM
2; Buna-N
3; Viton

Operator:
0; No handle - 2" through 12"
G; Gear Operator - 2" through 12"
5; Standard handle (10-position) - 2" through 12"
P; Positioning / Locking Kit with handle - 2" through 12"

M2 Series:

Materials

Body:	ASTM A-536 Ductile Iron.
Bushing:	Duralon (3): Teflon® - Dacron liner bonded to fiberglass - epoxy resin outer shell.
Stem O-rings:	Buna-N
Disc:	ASTM A-395 Ductile Iron / Electroless Nickel Plated. ASTM B-148 Aluminum Bronze ASTM A-351 type 316SS
Shaft:	416 Stainless Steel 316 Stainless Steel on 316SS Disc Models
Seat:	EPDM: +5°F to 248°F (-15°C to +120°C) Buna-N: +14°F to 176°F (-10°C to +80°C) Viton: -4°F to 302°F (-20°C to +150°C)

Note: Do not use EPDM when hydrocarbons are present.

USA: T: (978) 689-6066 • F: (978) 975-8350 • Watts.com
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Latin America: T: (52) 55-4122-0138 • Watts.com

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