

## For Potable Water Applications

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# LEAD FREE\*

## Full Lug Style Butterfly Valves with NSF Certification Model BF03-121-45 and BF03-121-4G

Sizes: 2" – 12"

Models BF03-121-45 and BF03-121-4G full lug style butterfly valves are certified by NSF to NSF/ANSI 61 Section 8. The valves feature a FDA epoxy coated ductile iron body, aluminum bronze disc, 416SS shaft, and a NSF approved EPDM seat. The valves are designed and manufactured for use with ANSI 125 or 150 class flanges. They comply with API 609 and MSS-SP-67 and are bi-directional and provide dead-end service capability. ISO standard 5211 mounting pad and bolt hole pattern allow for actuation if required.

### Features

- NSF approved EPDM seat is phenolic backed, non-collapsible, and mechanically secured to provide dead-end service to 200psi (13.8 bar)
- FDA approved epoxy coated ductile iron body designed to accept 2" of insulation
- One-piece 416SS shaft with diameters in accordance with AWWA C504-94 Class 75B for sizes 3" – 12"
- Disc edge is machined and polished to assure leak tight shutoff and low operating torque

### Models

BF03-121-45-M2	2" – 8" lever handles
BF03-121-4G-M2	6" – 12" manual gear operator



Series BF03-121-45  
Full Lug



### Specifications

Butterfly valves to be NSF approved for potable water applications with FDA approved epoxy coated ASTM A-536 ductile iron body, NSF approved EPDM seat and be fully rated for dead end and bidirectional service to 200psi. Disc material to be ASTM A-395 aluminum bronze with one piece 416 stainless steel shaft. Valve to have ISO standard 5211 mounting pad and bolt hole pattern. Valve to be Watts Series BF03-121-45 with lever handle or BF03-121-4G with gear operator.

### Pressure – Temperature

Temperature Range: 5°F – 248°F (-15°C – 120°C)  
Maximum Working Pressure: 200psi (13.8 bar) WOG

#### NOTICE

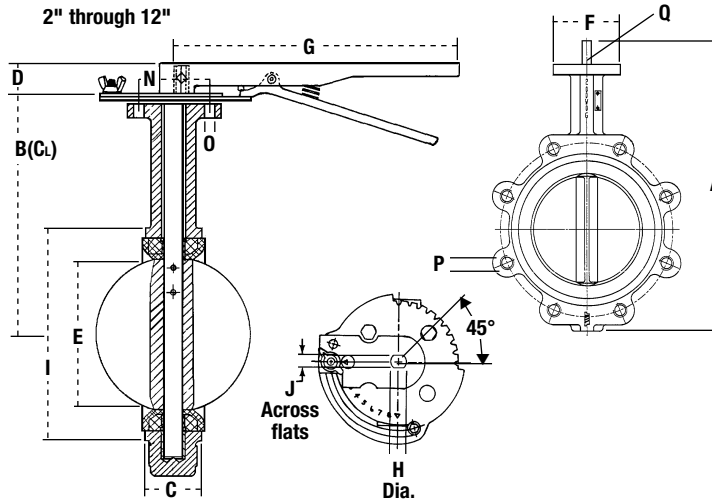
The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation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

## Dimensions – Weights



SIZE	DIMENSIONS																			
	A		B		C		D		E		F		G		H		I		J	
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
2"	10 <sup>3</sup> / <sub>4</sub>	273	6 <sup>5</sup> / <sub>8</sub>	161	1 <sup>5</sup> / <sub>8</sub>	42	1 <sup>1</sup> / <sub>4</sub>	32	2 <sup>1</sup> / <sub>2</sub>	54	3 <sup>1</sup> / <sub>16</sub>	77	10 <sup>1</sup> / <sub>2</sub>	267	1 <sup>1</sup> / <sub>2</sub>	13	3 <sup>3</sup> / <sub>4</sub>	95	3 <sup>5</sup> / <sub>8</sub>	9
2 <sup>1</sup> / <sub>2</sub> "	11 <sup>5</sup> / <sub>8</sub>	295	6 <sup>7</sup> / <sub>8</sub>	175	1 <sup>1</sup> / <sub>4</sub>	45	1 <sup>1</sup> / <sub>4</sub>	32	2 <sup>9</sup> / <sub>16</sub>	65	3 <sup>1</sup> / <sub>16</sub>	77	10 <sup>1</sup> / <sub>2</sub>	267	1 <sup>1</sup> / <sub>2</sub>	13	4 <sup>1</sup> / <sub>4</sub>	108	3 <sup>5</sup> / <sub>8</sub>	9
3"	12 <sup>1</sup> / <sub>8</sub>	308	7 <sup>1</sup> / <sub>8</sub>	181	1 <sup>1</sup> / <sub>4</sub>	45	1 <sup>1</sup> / <sub>4</sub>	32	3 <sup>1</sup> / <sub>8</sub>	79	3 <sup>1</sup> / <sub>16</sub>	77	10 <sup>1</sup> / <sub>2</sub>	267	1 <sup>1</sup> / <sub>2</sub>	13	4 <sup>3</sup> / <sub>4</sub>	120	3 <sup>5</sup> / <sub>8</sub>	9
4"	13 <sup>5</sup> / <sub>8</sub>	346	7 <sup>3</sup> / <sub>8</sub>	200	2	52	1 <sup>1</sup> / <sub>4</sub>	32	4 <sup>1</sup> / <sub>8</sub>	105	3 <sup>5</sup> / <sub>8</sub>	92	10 <sup>1</sup> / <sub>2</sub>	267	5 <sup>5</sup> / <sub>8</sub>	16	6 <sup>1</sup> / <sub>16</sub>	154	3 <sup>5</sup> / <sub>8</sub>	10
5"	14 <sup>5</sup> / <sub>8</sub>	372	8 <sup>5</sup> / <sub>8</sub>	213	2 <sup>1</sup> / <sub>8</sub>	54	1 <sup>1</sup> / <sub>4</sub>	32	4 <sup>7</sup> / <sub>8</sub>	124	3 <sup>5</sup> / <sub>8</sub>	92	10 <sup>1</sup> / <sub>2</sub>	267	3 <sup>3</sup> / <sub>4</sub>	19	7 <sup>1</sup> / <sub>8</sub>	181	1 <sup>1</sup> / <sub>2</sub>	13
6"	15 <sup>5</sup> / <sub>8</sub>	397	8 <sup>7</sup> / <sub>8</sub>	226	2 <sup>9</sup> / <sub>16</sub>	55	1 <sup>1</sup> / <sub>4</sub>	32	6 <sup>1</sup> / <sub>8</sub>	156	3 <sup>5</sup> / <sub>8</sub>	92	10 <sup>1</sup> / <sub>2</sub>	267	3 <sup>3</sup> / <sub>4</sub>	19	8 <sup>3</sup> / <sub>16</sub>	208	1 <sup>1</sup> / <sub>2</sub>	13
8"	18 <sup>7</sup> / <sub>8</sub>	479	10 <sup>1</sup> / <sub>4</sub>	260	2 <sup>5</sup> / <sub>8</sub>	60	1 <sup>3</sup> / <sub>4</sub>	45	8	200	4 <sup>1</sup> / <sub>2</sub>	115	14	356	7 <sup>5</sup> / <sub>8</sub>	22	10 <sup>1</sup> / <sub>4</sub>	260	5 <sup>5</sup> / <sub>8</sub>	16
10"	21 <sup>1</sup> / <sub>4</sub>	540	11 <sup>1</sup> / <sub>2</sub>	292	2 <sup>5</sup> / <sub>8</sub>	66	1 <sup>3</sup> / <sub>4</sub>	45	9 <sup>7</sup> / <sub>8</sub>	251	4 <sup>1</sup> / <sub>2</sub>	115	14	N/A	1 <sup>1</sup> / <sub>8</sub>	29	12 <sup>5</sup> / <sub>8</sub>	320	3 <sup>3</sup> / <sub>4</sub>	19
12"	24 <sup>3</sup> / <sub>4</sub>	626	13 <sup>1</sup> / <sub>4</sub>	337	3	76	1 <sup>3</sup> / <sub>4</sub>	45	11 <sup>7</sup> / <sub>8</sub>	301	5 <sup>1</sup> / <sub>2</sub>	140	14	N/A	1 <sup>1</sup> / <sub>4</sub>	32	14 <sup>3</sup> / <sub>4</sub>	375	1 <sup>1</sup> / <sub>4</sub>	32

SIZE	TOP PLATE DRILLING		TAPPED LUG DATA		KEY WAY		WEIGHT†					
	N	O	Bolt Circle	No. Holes	Bolt P	Q	BF-03					
in.	in.	mm	in.	mm	in.	mm	lbs.	kgs				
2"	2 <sup>1</sup> / <sub>4</sub>	57	1 <sup>1</sup> / <sub>4</sub>	6	4 <sup>3</sup> / <sub>4</sub>	121	4	5 <sup>5</sup> / <sub>8</sub> "-11UNC x 1 <sup>1</sup> / <sub>4</sub> "	–	–	8	3.6
2 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>4</sub>	57	1 <sup>1</sup> / <sub>4</sub>	6	5 <sup>1</sup> / <sub>2</sub>	140	4	5 <sup>5</sup> / <sub>8</sub> "-11UNC x 1 <sup>3</sup> / <sub>8</sub> "	–	–	10	4.5
3"	2 <sup>1</sup> / <sub>4</sub>	57	1 <sup>1</sup> / <sub>4</sub>	6	6	150	4	5 <sup>5</sup> / <sub>8</sub> "-11UNC x 1 <sup>3</sup> / <sub>8</sub> "	–	–	10	4.5
4"	2 <sup>3</sup> / <sub>4</sub>	70	3 <sup>5</sup> / <sub>8</sub>	10	7 <sup>1</sup> / <sub>2</sub>	191	8	5 <sup>5</sup> / <sub>8</sub> "-11UNC x 1 <sup>1</sup> / <sub>2</sub> "	–	–	17	7.7
5"	2 <sup>3</sup> / <sub>4</sub>	70	3 <sup>5</sup> / <sub>8</sub>	10	8 <sup>1</sup> / <sub>2</sub>	216	8	3 <sup>4</sup> / <sub>4</sub> "-10UNC x 1 <sup>3</sup> / <sub>4</sub> "	–	–	25	11.3
6"	2 <sup>3</sup> / <sub>4</sub>	70	3 <sup>5</sup> / <sub>8</sub>	10	9 <sup>1</sup> / <sub>2</sub>	241	8	3 <sup>4</sup> / <sub>4</sub> "-10UNC x 2"	–	–	27	12.2
8"	3 <sup>1</sup> / <sub>2</sub>	89	5 <sup>5</sup> / <sub>8</sub>	16	11 <sup>3</sup> / <sub>4</sub>	298	8	3 <sup>4</sup> / <sub>4</sub> "-10UNC x 2 <sup>1</sup> / <sub>8</sub> "	–	–	40	18.1
10"	3 <sup>1</sup> / <sub>2</sub>	89	5 <sup>5</sup> / <sub>8</sub>	16	14 <sup>1</sup> / <sub>4</sub>	362	12	7 <sup>5</sup> / <sub>8</sub> "-9UNC x 2 <sup>1</sup> / <sub>4</sub> "	–	–	63	28.6
12"	4 <sup>1</sup> / <sub>4</sub>	108	5 <sup>5</sup> / <sub>8</sub>	16	17	432	12	7 <sup>5</sup> / <sub>8</sub> "-9UNC x 2 <sup>1</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>4</sub> x 1	6 x 25	107	48.5

†Weights are for valves with 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
2 <sup>1</sup> / <sub>2</sub> "	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
2 <sup>1</sup> / <sub>2</sub> "	220
3"	302
4"	600
5"	1,022
6"	1,579
8"	3,136
10"	5,340
12"	8,250

## How to Order Series BF

**12 - BF- 03 - 121 - 4G**

**Size:** 2" thru 12"

**Series:** 03; Full Lug

**Body:** 1; Ductile Iron

**Disc:** 2; Aluminum Bronze

**Shaft:** 1; 416SS

**Seat:** 4; NSF Approved EPDM

**Operator:** G; Gear Operator - 6" through 12"  
5; Standard handle (10-position) - 2" through 8"

## Materials

Body:	FDA Epoxy Coated 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
Shaft:	416 Stainless Steel
Seat:	NSF Approved EPDM +5°F to 248°F (-15°C to +120°C)

**Note:** Do not use EPDM when hydrocarbons are present.

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