



# AUTOMATED AND MANUAL BUTTERFLY VALVES

PNEUMATIC  
ACTUATORS



## CAST IRON BFVS

WITH STANDARD  
STAINLESS STEEL  
DISC AND STEM



ELECTRIC  
ACTUATORS



MANUAL AND GEAR  
OPERATORS

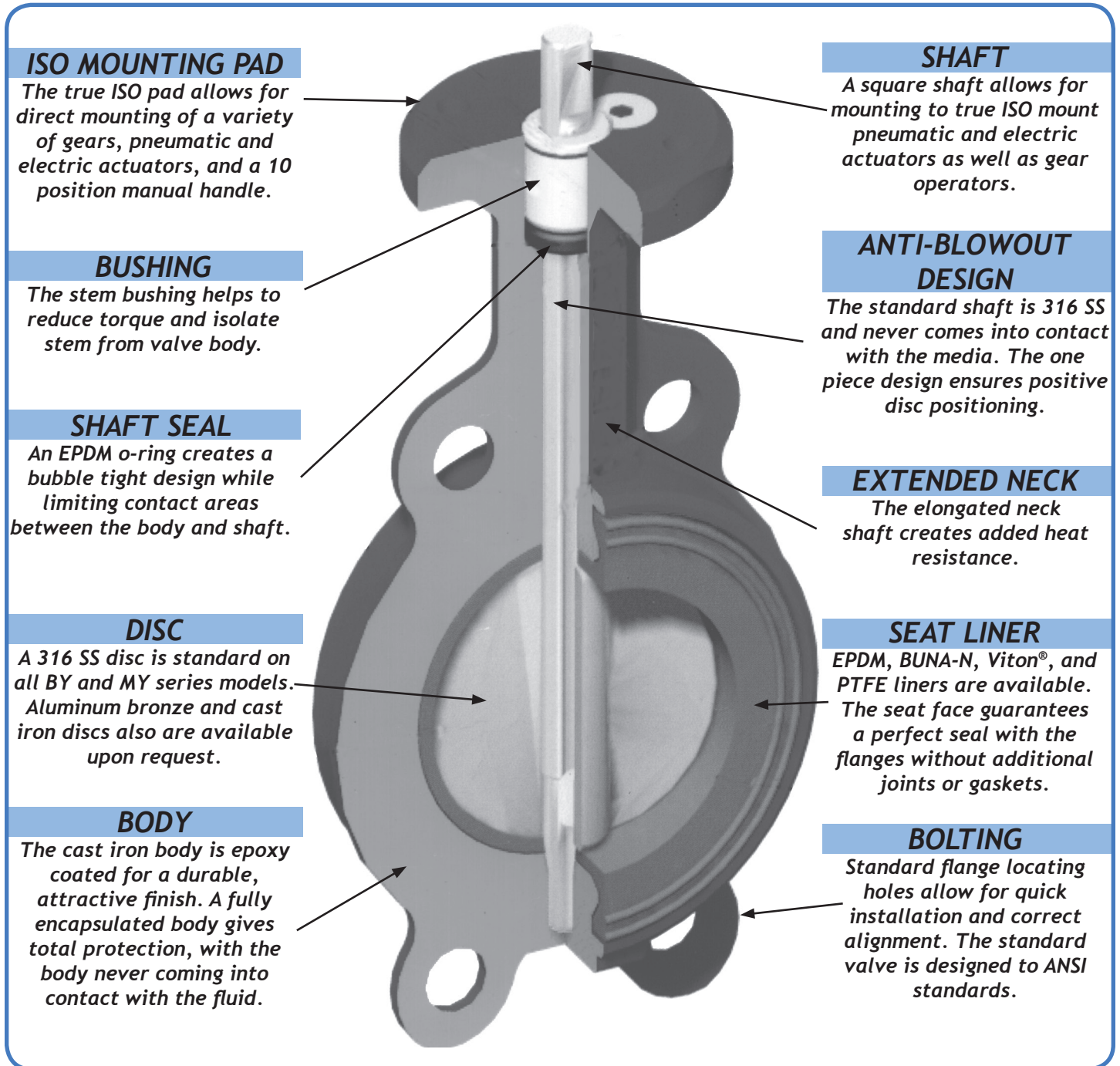


3-WAY TEE  
LINKAGES

SERVING THE VALVE AUTOMATION INDUSTRY SINCE 1995

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## Features and Benefits



**LUG STYLE**

10 throttling positions are available with each standard handle on manually operated valves. The ergonomic design allows for easy operation on all sizes. A padlocking device is optional with all lever handles.



**WAFER STYLE**

## Automation Accessories

*BI-TORQ VALVE AUTOMATION OFFERS A WIDE VARIETY OF ACCESSORIES FOR OUR AUTOMATED BUTTERFLY VALVE ASSEMBLIES. ALL ACCESSORY COMPONENTS ARE MOUNTED AND TESTED ON THE ACTUATOR BY OUR TRAINED FACTORY PERSONNEL.*



**ANALOG (3-15 PSI & 4-20MA)  
AND SMART POSITIONERS**



**LIMIT SWITCH  
POSITION INDICATORS**



**NAMUR MOUNT  
SOLENOIDS**



**CUSTOMIZED  
ASSEMBLIES**



**STAINLESS STEEL  
VERSIONS TOO!**

**LOCK-OUT  
KITS**



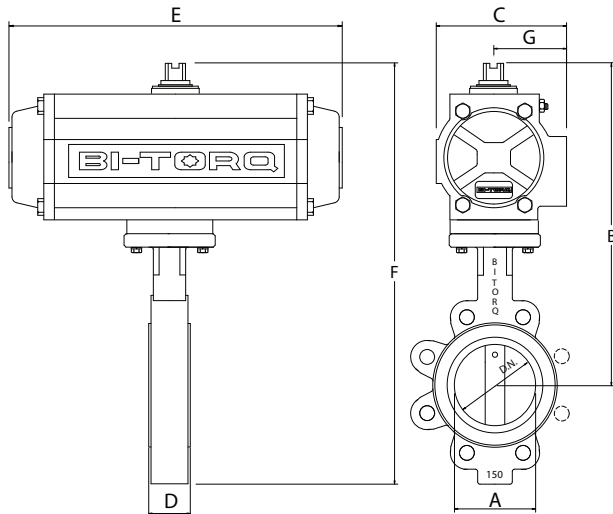


## Automated Cast Iron Butterfly Valves



Lug style with pneumatic actuator and accessories

- Wafer and lug style cast iron BFVS - 2" through 12"
- SS stem and disc as standard
- EPDM, BUNA-N, VITON® or PTFE® seats
- Direct mount for low profile, cost-efficient operation
- Pneumatic, electric and gear operators



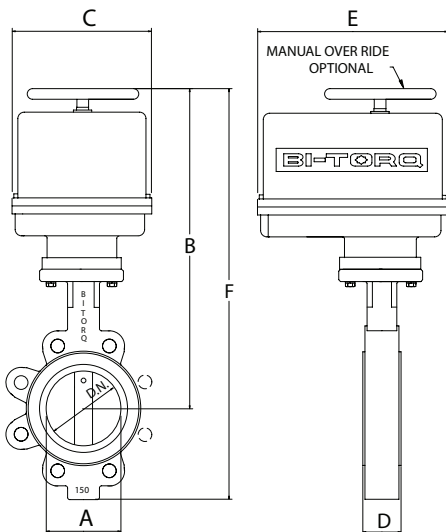
ALL STANDARD PNEUMATIC ACTUATORS SIZED FOR 80 PSI SUPPLY; PLEASE CONSULT OUR SALES STAFF FOR OTHER COMBINATIONS.

### PNEUMATIC ACTUATORS

	A	B	C	D	E	F	G	ACTUATOR
DOUBLE ACTING	2"	10.30	3.17	1.69	6.38	13.45	1.77	PN-63DA
	2-1/2"	10.85	3.17	1.81	6.38	14.35	1.77	PN-63DA
	3"	11.09	3.17	1.81	6.38	14.83	1.77	PN-63DA
	4"	12.46	3.17	2.05	6.38	16.95	1.77	PN-63DA
	5"	14.08	4.17	2.20	9.35	19.08	2.30	PN-85DA
	6"	15.10	4.85	2.69	10.69	20.57	2.30	PN-100DA
	8"	17.62	5.39	2.87	12.91	24.51	2.68	PN-115DA
	10"	20.49	6.45	3.44	16.85	28.48	3.15	PN-145DA
	12"	22.89	7.35	3.07	16.93	32.42	3.94	PN-161DA

	A	B	C	D	E	F	G	ACTUATOR
SPRING RETURN	2"	10.95	3.72	1.69	8.15	14.10	2.07	PN-75SR
	2-1/2"	11.50	3.72	1.81	8.15	15.00	2.07	PN-75SR
	3"	12.19	4.17	1.81	9.35	15.93	2.30	PN-85SR
	4"	14.07	4.85	2.05	10.69	18.56	2.68	PN-100SR
	5"	14.59	4.85	2.20	10.69	19.59	2.68	PN-100SR
	6"	17.64	6.45	2.20	16.85	23.11	3.44	PN-145SR
	8"	19.61	7.35	2.36	16.93	26.50	3.94	PN-161SR
	10"	23.17	8.82	2.68	20.94	31.16	4.41	PN-201SR
	12"	29.79	10.48	3.07	26.06	39.32	5.24	PN-241SR*

\*INCLUDES CARBON STEEL MOUNTING KIT



### ELECTRIC ACTUATORS

	A	B	C	D	E	F	ACTUATOR
2"	12.22	4.25	1.69	6.88	15.37		BI-200-A-4-P1
2-1/2"	12.77	4.25	1.81	6.88	16.27		BI-200-A-4-P1
3"	13.01	4.25	1.81	6.88	16.75		BI-300-A-4-P1
4"	16.50	7.00	2.05	7.00	20.99		BI-675-A-4-P1
5"	17.02	7.00	2.20	7.00	22.02		BI-1000-A-4-P1*
6"	17.53	7.00	2.20	7.00	23.00		BI-1500-A-4-P1*
8"	22.50	10.00	2.36	10.00	29.39		BI-3800-A-4-P1*
10"	27.13	10.00	2.68	10.00	35.12		BI-3800-A-4-P1**
12"	28.91	11.42	3.07	17.60	38.44		BI-5310-A-4***

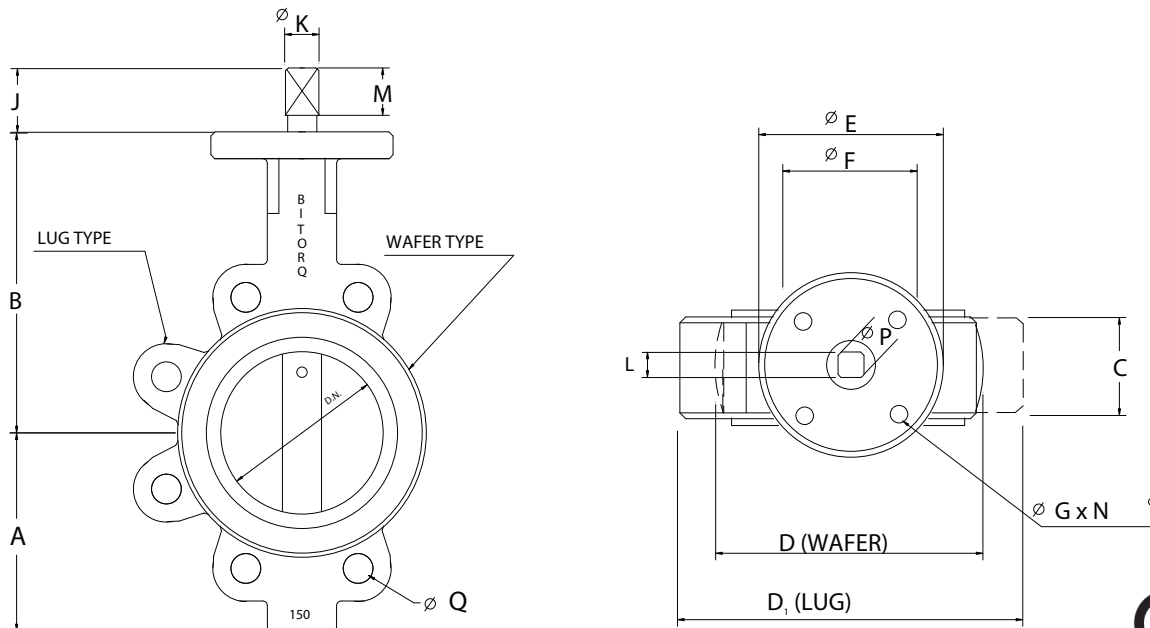
ALL ELECTRIC ACTUATOR DIMENSIONS ARE FOR NEMA 4 ENCLOSURES. FOR NEMA 7 ENCLOSURE DIMENSIONS, PLEASE CONSULT OUR SALES STAFF.

\*INCLUDES DECLUTCHABLE MANUAL OVERRIDE

\*\*INCLUDES DECLUTCHABLE MANUAL OVERRIDE AND MOUNTING KIT

\*\*\* INCLUDES MANUAL OVERRIDE AND MOUNTING KIT. THIS MODEL IS OUR BH SERIES - SEE SALES FOR LOOK OF ACTUATOR.

## Dimensions and Materials



THE BY SERIES IS DESIGNED TO FIT BETWEEN ANSI CLASS 125# AND 150# FLANGES

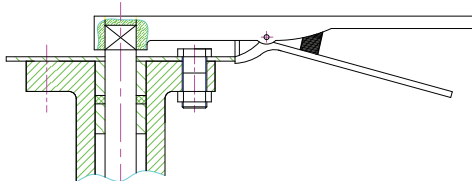


### DIMENSIONS

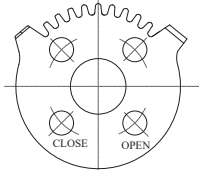
SIZE	ISO	A	B	C	D (WAFER)	D (LUG)	EØ	FØ	G x No.	J	KØ	L	M	Q (LUG ONLY)	WEIGHT (LBS.) LUG	WEIGHT (LBS.) WAFER
2"	F07	3.15	6.34	1.69	4.02	5.98	3.54	2.76	0.354 x 4	1.023	0.551	0.433	0.669	4 x 5/8-11	8.4	5.5
2-1/2"	F07	3.50	6.89	1.81	4.76	6.74	3.54	2.76	0.354 x 4	1.023	0.551	0.433	0.669	4 x 5/8-11	9.2	7.0
3"	F07	3.74	7.13	1.81	5.47	7.87	3.54	2.76	0.354 x 4	1.023	0.551	0.433	0.669	4 x 5/8-11	10.3	7.9
4"	F07	4.49	7.87	2.05	6.30	9.02	3.54	2.76	0.354 x 4	1.181	0.709	0.551	0.826	8 x 5/8-11	15.8	10.8
5"	F07	5.00	8.39	2.20	7.48	10.00	3.54	2.76	0.354 x 4	1.181	0.709	0.551	0.826	8 x 3/4-10	21	15.4
6"	F07	5.47	8.90	2.20	8.46	11.02	3.54	2.76	0.354 x 4	1.299	0.866	0.669	0.945	8 x 3/4-10	23	17.2
8"	F07	6.89	10.24	2.36	10.59	13.50	3.54	2.76	0.472 x 4	1.299	0.866	0.669	0.945	8 x 3/4-10	40	29
10"	F10	7.99	11.50	2.68	13.11	15.98	4.92	4.02	0.472 x 4	1.850	1.102	0.866	0.945	12 x 7/8-9	59	42.2
12"	F10	9.53	13.27	3.07	15.08	19.02	4.92	4.02	0.472 x 4	1.850	1.102	0.866	0.945	12 x 7/8-9	88	71.5

OPTIONAL BUTTERFLY VALVES AVAILABLE THROUGH 24". HIGH PERFORMANCE, ALL STAINLESS AND SANITARY VALVES ALSO AVAILABLE.

### 10 POSITION HANDLE



WITH 10 POSITION PLATE



ALL MANUAL VALVES INCLUDE A 10-POSITION HANDLE.  
CAST IRON GEAR OPERATORS ARE ALSO AVAILABLE.

### BILL OF MATERIALS

DESCRIPTION	QTY	MATERIAL
BODY	1	CAST IRON
BOTTOM BUSHING	1	BRONZE
SHAFT	1	316 SS
SEAT	1	EPDM, BUNA, VITON, PTFE
DISC	1	316 SS
TAPER PINS	1-2	316 SS
NAME PLATE	1	316 SS
RIVETS	2	316 SS
TOP BUSHING	1	BRONZE
O-RING	1	EPDM

### SPECIFICATIONS

#### DESIGN AND STANDARDS:

MSS-SP67, API 609  
FLANGE ENDS ANSI B16.1

#### WORKING PRESSURE:

225 PSI TO 8"  
150 PSI 10"-12"

#### SHELL TEST:

350 PSI

#### SEAL TEST:

250 PSI

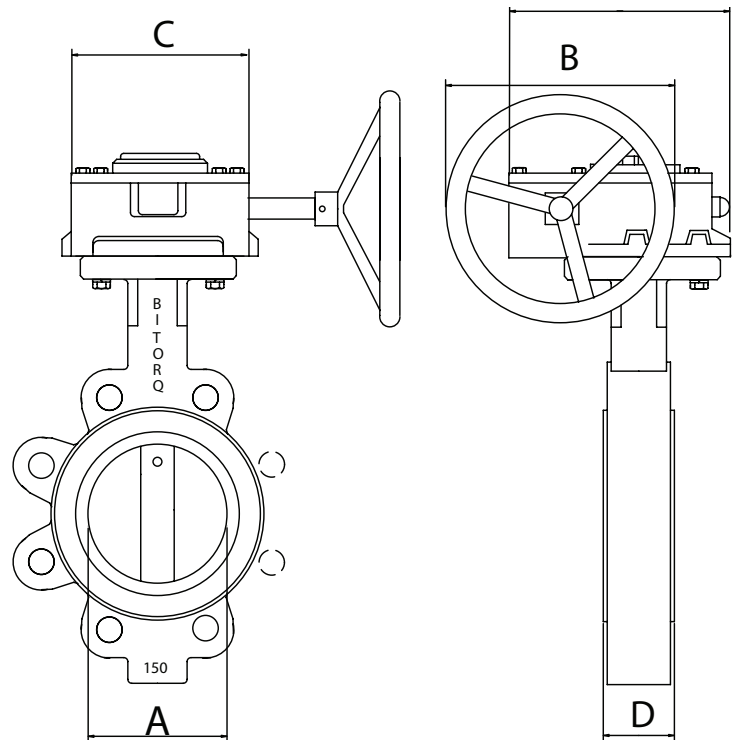
#### WORKING TEMPERATURE:

EPDM: -30°F TO +275°F  
BUNA-N: +10°F TO +180°F  
VITON®: 0°F TO 350°F  
PTFE: -20°F TO +250°F

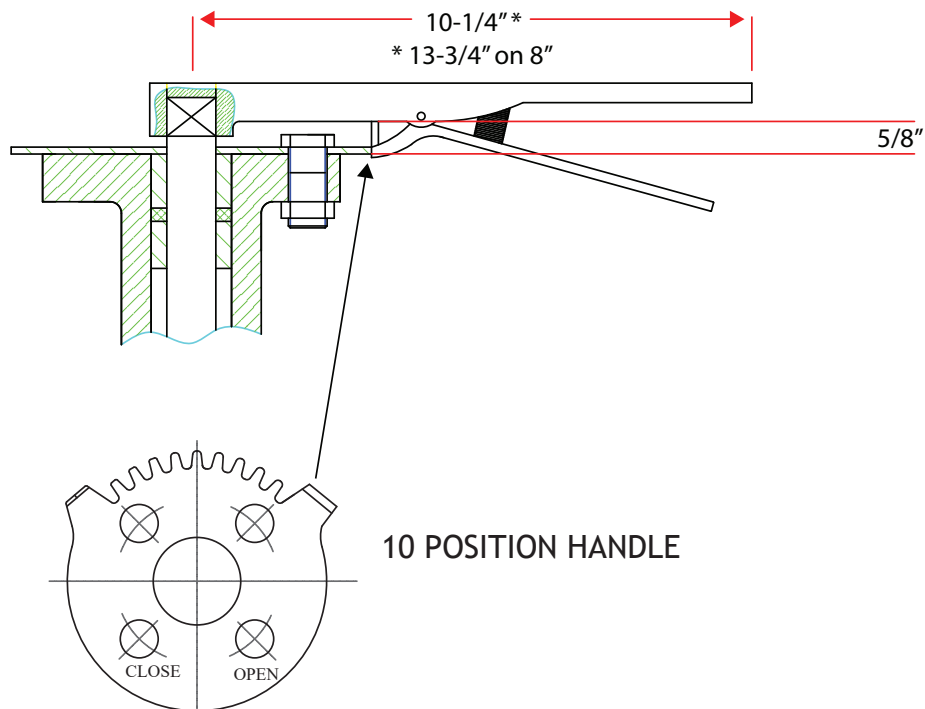
## Gear Operated Butterfly Valves

**MY SERIES BFV WITH DN SERIES  
CAST IRON GEAR OPERATOR**

A	B	C	D	E	GEAR
2"	6.00	4.13	1.69	5.00	DN50
2-1/2"	6.00	4.13	1.81	5.00	DN65
3"	6.00	4.13	1.81	5.00	DN80
4"	6.00	4.13	2.05	5.00	DN100
5"	8.00	4.13	2.20	5.00	DN125
6"	8.00	4.13	2.20	5.00	DN150
8"	9.45	6.00	2.36	6.96	DN200
10"	9.45	6.00	2.68	6.96	DN250
12"	9.45	6.00	3.07	6.96	DN300



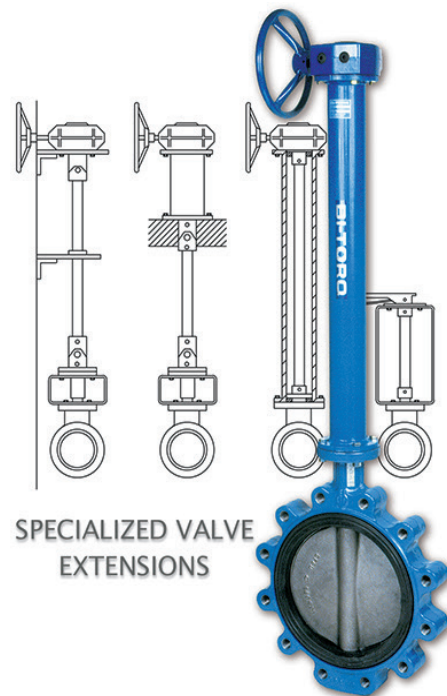
## Lever Handle Butterfly Valves 2" Through 8"



## Butterfly Valve Extensions

Customized stem extensions are designed for use inside tanks, coffer dams, tank sides or catwalks where the valve handwheel, gear operator or actuator must be extended for operator accessibility. A mounting bracket complete with thrust bearing is furnished to carry the weight of the extension and eliminate load on the valve stem. All extensions over three feet are supplied with universal couplings to compensate for misalignment at installation. One additional mounting bracket is provided at the top of the extension for the operator plus one stabilizing bracket per six feet of extension.

BI-TORQ also offers a complete line of free standing extensions and stem extensions with a steadying pedestal for use in buried or underwater service lines. These extensions are ideal for marine or agricultural applications. As is the case with our standard stem extensions, we offer both epoxy coated carbon and stainless steel construction.



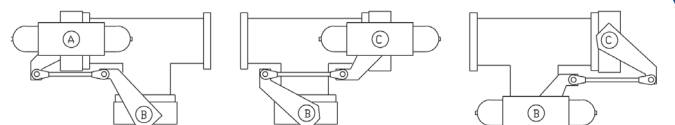
## Three Way Tee-Linkage Assemblies

*An economic alternative to large multi-port ball valves*

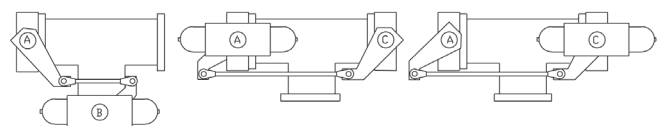


*Available with pneumatic and electric actuators*

Our unique 3-way tee-linkages utilize quality products and superior engineering to create an economic and effective assembly. Ideal for HVAC and diverting applications, our tee-linkage assembly is a big cost saver over expensive three-way ball valves. Add a positioner or fieldbus system and you can create a fully modulating system. All of our assemblies come complete with butterfly valves, actuators, tees and full mounting hardware. As is the case with all of our automated products, we will assemble and test the complete package for your convenience.

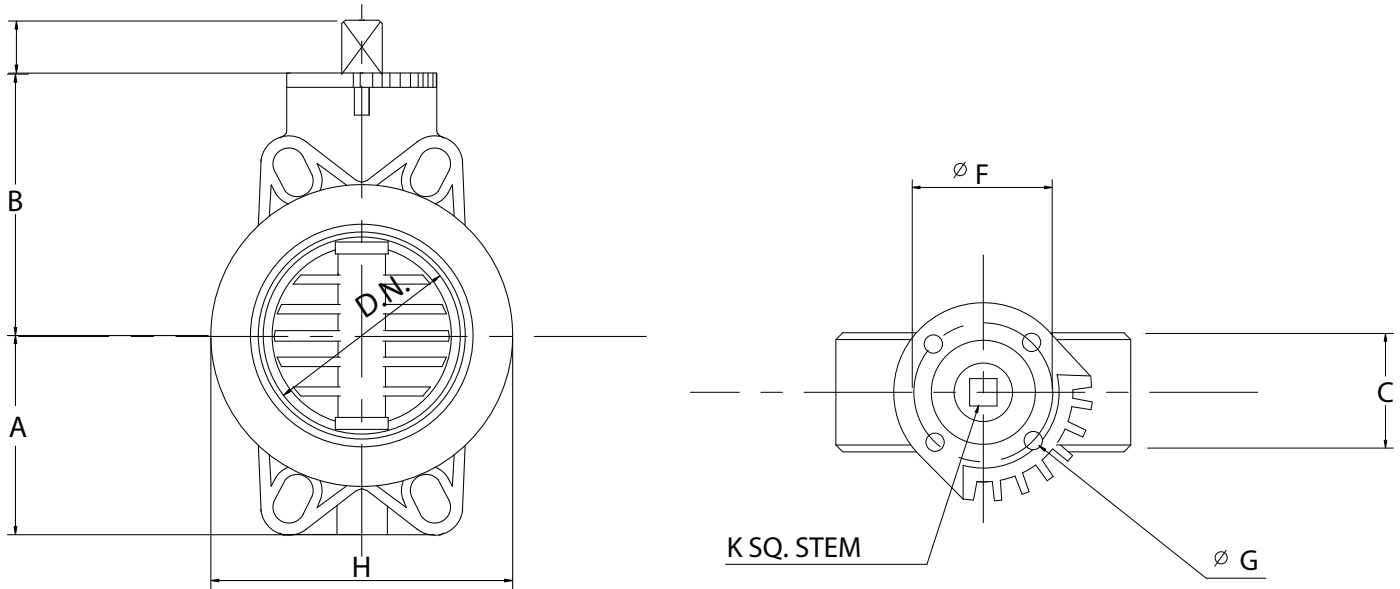


ARRANGEMENT #1 ARRANGEMENT #2 ARRANGEMENT #3



ARRANGEMENT #4 ARRANGEMENT #5 ARRANGEMENT #6

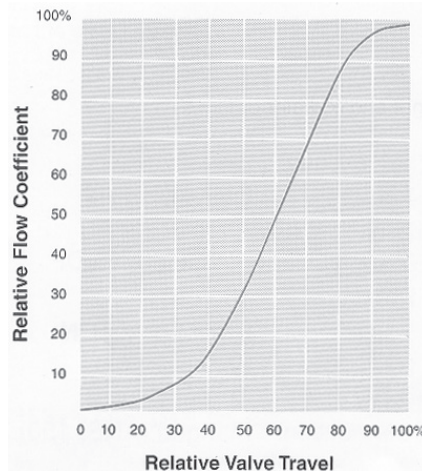
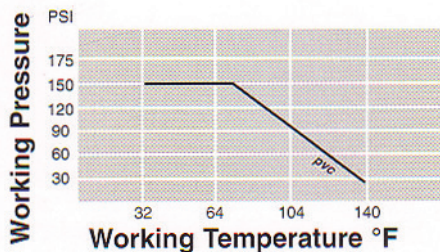
## AUTOMATED PVC BUTTERFLY VALVES



### DIMENSIONS

SIZE	ISO	A	B	C	F	G	H	J	K
2-1/2"	F07	3.34	4.30	1.81	2.76	0.35	6.50	0.47	0.433
3"	F07	3.96	4.82	1.93	2.76	0.35	7.28	0.63	0.551
4"	F07	4.47	5.45	2.20	2.76	0.35	8.31	0.63	0.551
5"	F07	5.11	6.23	2.52	2.76	0.35	9.45	0.75	0.669
6"	F07	5.53	6.75	2.76	2.76	0.35	10.60	0.75	0.669

### TECHNICAL DATA



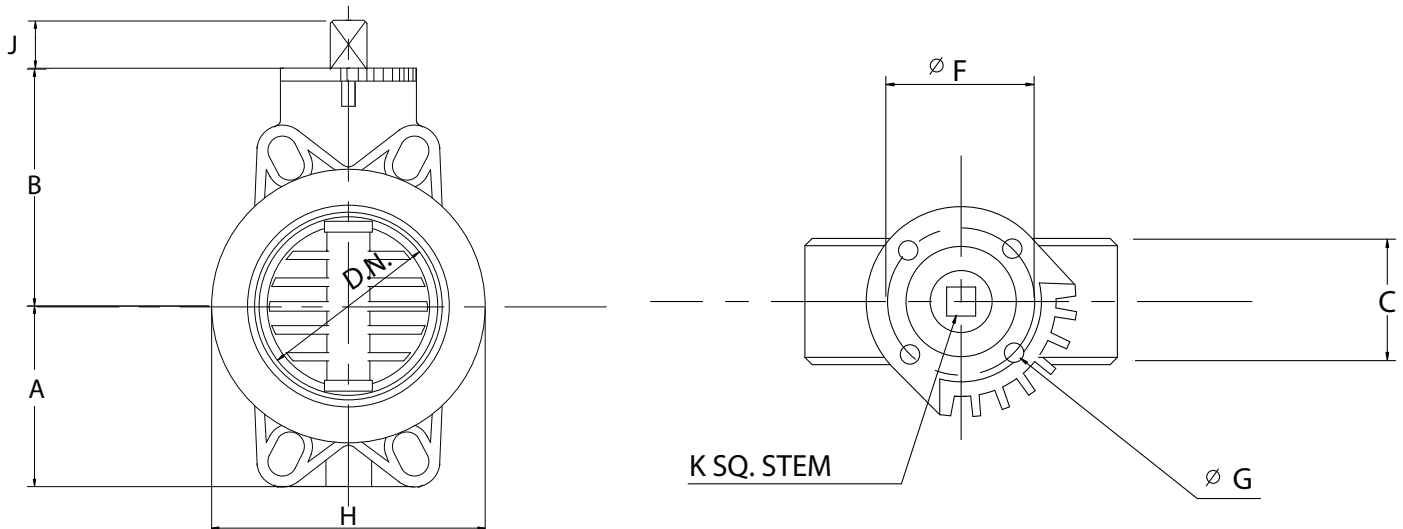
### VALVE CHARACTERISTICS

SIZE	WEIGHT (LBS.)	CV
2-1/2"	3.19	119
3"	3.59	248
4"	4.40	413
5"	6.16	692
6"	8.14	1309

- WORKING PRESSURE: 150 PSI 2-1/2"-6"
- WORKING TEMPERATURE: 73°F @ 150 PSI



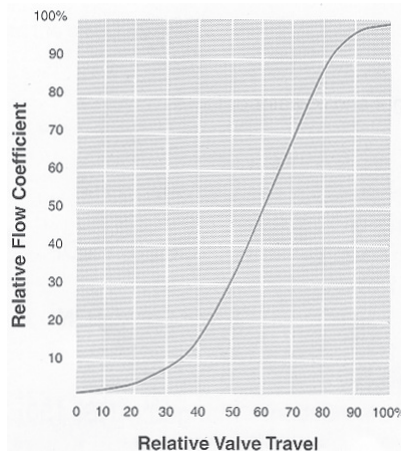
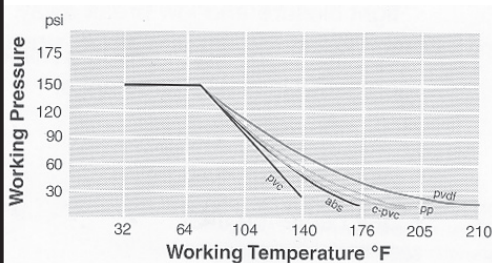
## AUTOMATED POLYPROPYLENE BUTTERFLY VALVES



### DIMENSIONS

SIZE	ISO	A	B	C	F	G	H	J	K
2-1/2"	F07	3.15	4.69	1.81	2.76	0.35	6.50	0.47	0.433
3"	F07	3.66	5.24	1.93	2.76	0.35	7.28	0.63	0.551
4"	F07	4.21	5.79	2.20	2.76	0.35	8.31	0.63	0.551
5"	F07	4.72	6.57	2.52	2.76	0.35	9.45	0.75	0.669
6"	F07	5.30	7.10	2.80	2.76	0.35	10.60	0.75	0.669
8"	F10	6.35	8.94	2.80	4.02	0.43	12.72	0.94	0.860
10"	F10/12/14	8.27	9.77	4.49	4.02/4.92/5.51	0.67	15.95	1.14	1.063
12"	F10/12/14	9.65	12.01	4.49	4.02/4.92/5.51	0.67	18.70	1.14	1.063

### TECHNICAL DATA



### VALVE CHARACTERISTICS

SIZE	WEIGHT (LBS.)	CV
2-1/2"	3.23	119
3"	4.11	248
4"	4.88	413
5"	6.82	692
6"	8.47	1309
8"	14.35	2135
10"	21.52	4440
12"	31.60	6903

- WORKING PRESSURE: 150 PSI 2-1/2"-12"
- WORKING TEMPERATURE: 73°F @ 150 PSI



# MORE QUALITY VALVE AUTOMATION PRODUCTS



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