



Butterfly Valve

Grooved end & Wafer Type 175Psi and 300Psi
2½" - 12" (DN65 - DN200)

TECHNICAL DATA

MODEL	FG-BFV-G, FG-BFV-W-175Psi FG-BO-G, FG-BO-W-300Psi 2½" (DN65), 3" (DN80) 4" (DN100), 6" (DN150), 8" (DN200), 10" (DN250) & 12" (300)
SIZE	ANSI inches/DN
APPROVALS	The 2½" through 8" Wafer type & Grooved End butterfly valves are UL Listed & FM Approved from 10" are UL approved only
MAX. WORKING PRESSURE	*2½" - DN65-DN300 300psi (20.7 bar)

MATERIAL OF CONSTRUCTION

BODY & COATING	Ductile iron conforming to ASTM A-395. Polyamide
DISC	Same as body
DISC SEAT	Grade EPDM "E" encapsulated rubber conforming to ASTM D-2000
UPPER & LOWER STEM	Type 416 stainless steel conforming to ASTM 582
LOWER PLUG	PVC Operator Gear operator with iron housing

ALL LABORATORY LISTINGS AND APPROVALS ARE FOR INDOOR AND OUTDOOR USE.

DESCRIPTION

The Grooved End & Wafer type Butterfly valves are indicating type designed for use in fire protection systems where a visual indication is required as to whether the valve is open or closed. They are used, for example, as system, sectional, and pump water control valves. They have cut groove inlet and outlet connections that are suitable for use with grooved end pipe couplings that are listed and approved for fire protection systems.

For applications requiring supervision of the open position of the valve, the Gear Operators for the Model BV-G Butterfly Valves are provided with two sets of factory installed internal switches each having SPDT contacts. The supervisory switches transfer their electrical contacts when there is movement from the valve's normal open position during the first two revolutions of the handwheel.



Friction loss

The approximate friction loss, based on the Hazen Williams formula and expressed in equivalent length of pipe with c=120, is as follows. The data is based on friction loss information collected at a typical flow rate of 15 feet per sec.

- *6.9 of 2'2" Sch. 40 pipe for the 2'2" valve
- * 8.7 of 3" Sch. 40 pipe for the 3" valve.
- * 4.5 of 4" Sch. 40 pipe for the 4" valve.
- * 11.1 of 6" Sch. 40 pipe for the 6" valve.
- * 10.2 of 8" Sch. 30 pipe for the 8" valve.

WARNINGS

The Model BV-G Grooved End Butterfly valves described herein must be installed and maintained in compliance with this documents, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operation condition. The installing contractor or sprinkler manufacturer should be contacted with and questions.

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INSTALLATION

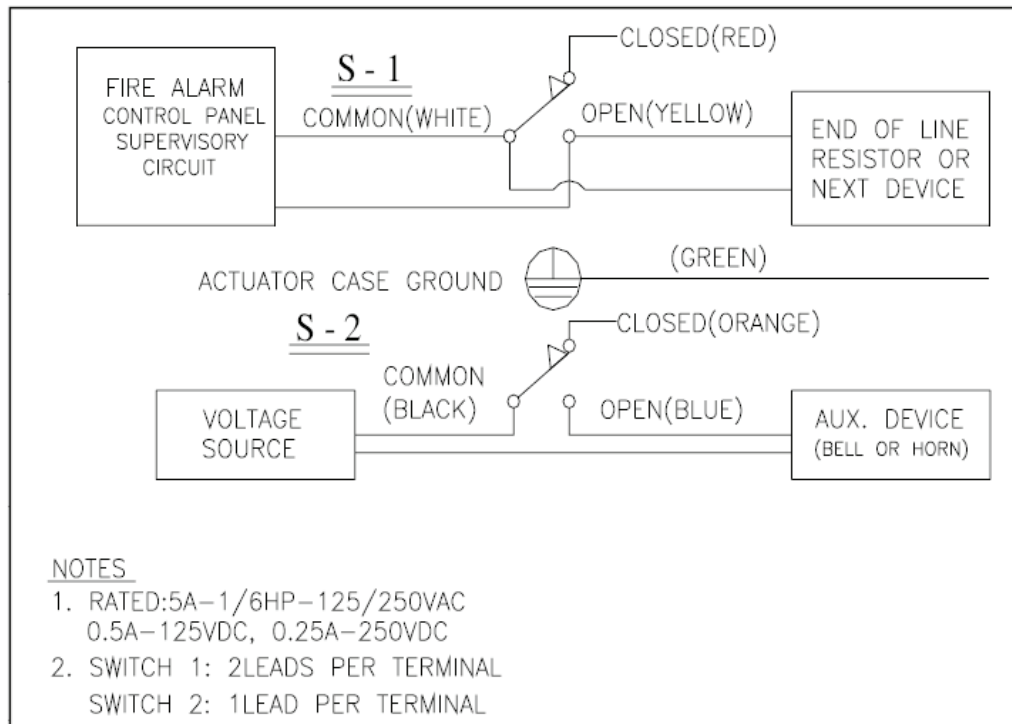
The Model BV-G Grooved End Butterfly valves may be installed with flow in either direction and can be positioned either horizontally or vertically. The grooved end pipe couplings used with the Model BV-G must be listed or approved for fire protection service and installed in accordance with the manufacturers instructions.

The Model BV-G Butterfly Valve may be installed with any schedule of pressure class of pipe or tubing that is listed or approved for fire protection. As applicable, refer to Figure 2 for the internal switch wiring diagram.

Conduit and electrical connections are to be made in accordance with the authority having jurisdiction and or the National Electrical Code. With reference to Figure 2, the "supervisory switch" is intended for connection to the supervisory circuit of a fire alarm control panel in accordance with NFPA 72. The "auxiliary switch" is intended for the unsupervised connection to auxiliary equipment in accordance with NFPA 70. National Electric code.

NOTE

For outdoor applications with internal supervisory switches, it is recommended that wiring connection be made at a temperature above 15?(-9?), in order to insure sufficient flexibility of the wire lead insulation.



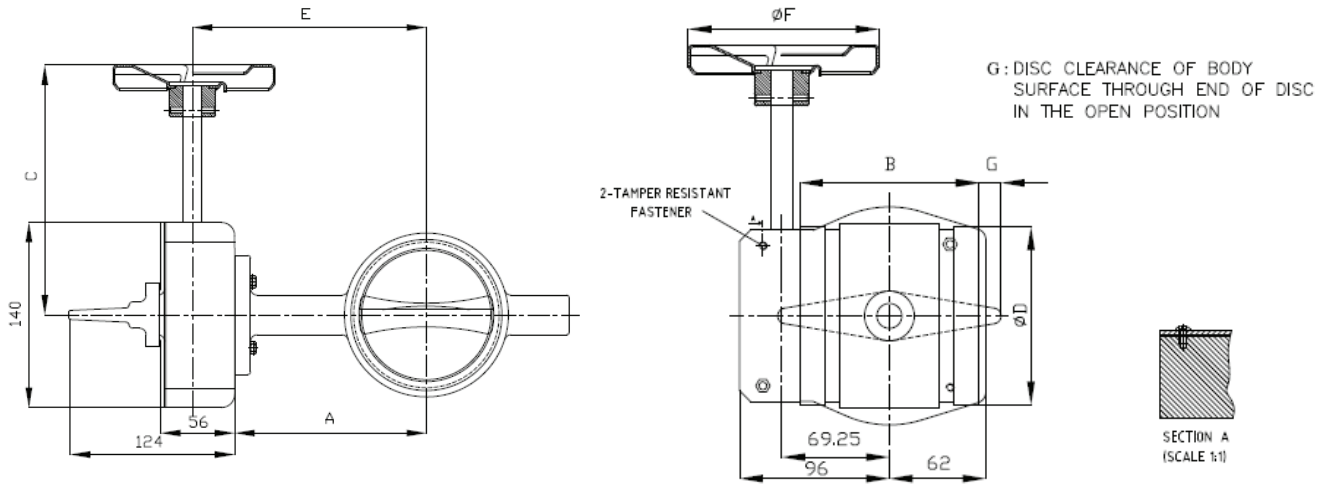
Care and Maintenance

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in accordance with the applicable standards of the National Fire Protection Association (e.g., NFPA 25), in addition to the standards of any authority having jurisdiction. The installing contractor or product manufacturer should be contacted. Sprinkler systems be inspected, tested, and maintained by a qualified inspection service relative to any questions. Any impairment must be immediately corrected. It is recommended that automatic systems be inspected, tested, by qualified service.

NOTE

Before closing a fire protection system control valve for maintenance or inspection work on either the valve or fire protection system which it controls, permission to shut down the affected fire protection systems must be obtained from the proper authorities and all personnel who may be affected by this decision must be notified.

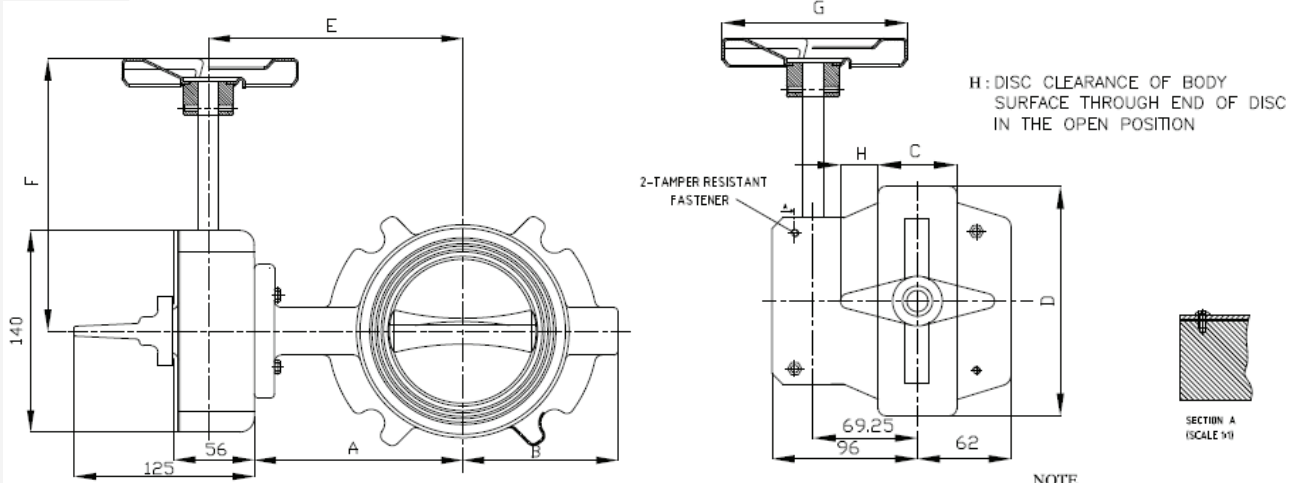
BO-G-300



NOTE
TAMPER FASTENER IS NOT TO EXTEND PAST THE END OF THE TAPPED HOLE WHEN ASSEMBLED

DESIGN DATA		MATERIAL SPEC		DIMENSIONAL DATA							UNIT(mm)	
				A	B	C	D	E	F	G		
DESIGN	GROOVED END	VALVE	BODY	ASTM A-536	2 1/2"	105	96.4	168	73.1	137	125	
SIZE	2 1/2" TO 8"		DISC	ASTM A-536 OR B-148 B-124 AISI 304	3"	112	96.4	168	88.9	144	125	
MAX. WORKING TEMP.	250°F	GEAR BOX	STEM	AISI 410	4"	145	115.4	168	114.3	177	125	
MAX. WORKING PRESS	300PSI		SEAT, BODY	NYLON 11 COATING	5"	166	132.4	208	141.3	198	225	
APPLICATION PIPE	SCH. 40	WORM	DISC	EPDM RUBBER	6"	179	132.4	208	168.3	211	225	6.8
FLANGE			GEAR BOX	ASTM A-536	DN125	166	132.4	208	139.7	198	225	
TEST PRESS.	600PSI	BOX	SEGMENT GEAR	ASTM A-536	8"	204	147.4	208	219.1	236	225	24.2
			WORM SHAFT	AISI 410	DN150	179	132.4	208	165.1	211	225	6.8
GENERAL TOLERANCE	RANGE	OVER 0.5	OVER 6	OVER 30	OVER 120	OVER 315	OVER 1000	GENERAL ROUGHNESS			▽ 100S	
		TO 6	TO 30	TO 120	TO 315	TO 1000	TO 2000				▽▽ 25S	
	TOLERANCE	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2				▽▽▽ 6.3S	

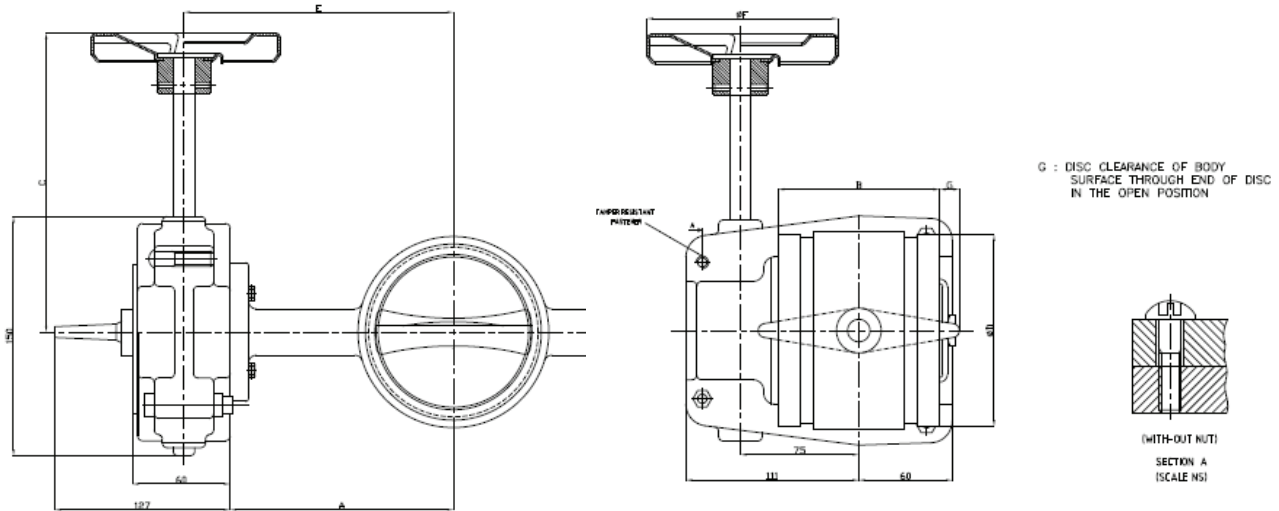
BO-W-300



NOTE
TAMPER FASTENER IS NOT TO EXTEND PAST THE END OF THE TAPPED HOLE WHEN ASSEMBLED

DESIGN DATA		MATERIAL SPEC		DIMENSIONAL DATA																
DESIGN	WAFER	VALVE	BODY	ASTM A-536	UNIT(mm)															
SIZE	2 1/2" TO 8"		DISC	ASTM B-148 OR B-124 A-536 AISI 304	A	B	C	D	E	F	G	H								
MAX. WORKING TEMP.	250°F	GEAR BOX	STEM	AISI 410	2 1/2"	120	85	46	116	152	168	125	9.5							
MAX. WORKING PRESS	300PSI		SEAT, BODY	DISC	Ni-PLATED	3"	127	92	46	132	159	168	125	16						
APPLICATION PIPE	SCH. 40	DISC	4"			145	108	52	152	177	168	125	25	6"	179	145	56	207	211	208
FLANGE	ANSI B 16.5 OR BS 4504	WORM	GEAR BOX	ASTM A-536	8"	204	170	60	262	236	208	225	68.5							
TEST PRESS.	600PSI		SEGMENT GEAR	ASTM A-536	DN65	120	85	46	116	152	168	125	9.5							
GENERAL TOLERANCE	RANGE TOLERANCE	OVER 0.5 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 315	OVER 315 TO 1000	OVER 1000 TO 2000	GENERAL ROUGHNESS	DN80	127	92	46	132	159	168	125	16	▽ 100S		
									DN100	145	108	52	152	177	168	125	25	▽ 25S		
									DN125	170	120	56	185	202	208	225	37	▽ 6.3S		
									DN150	179	145	56	207	211	208	225	45.4			
			WORM SHAFT	AISI 410	DN200	204	170	60	262	236	208	225	68.5							

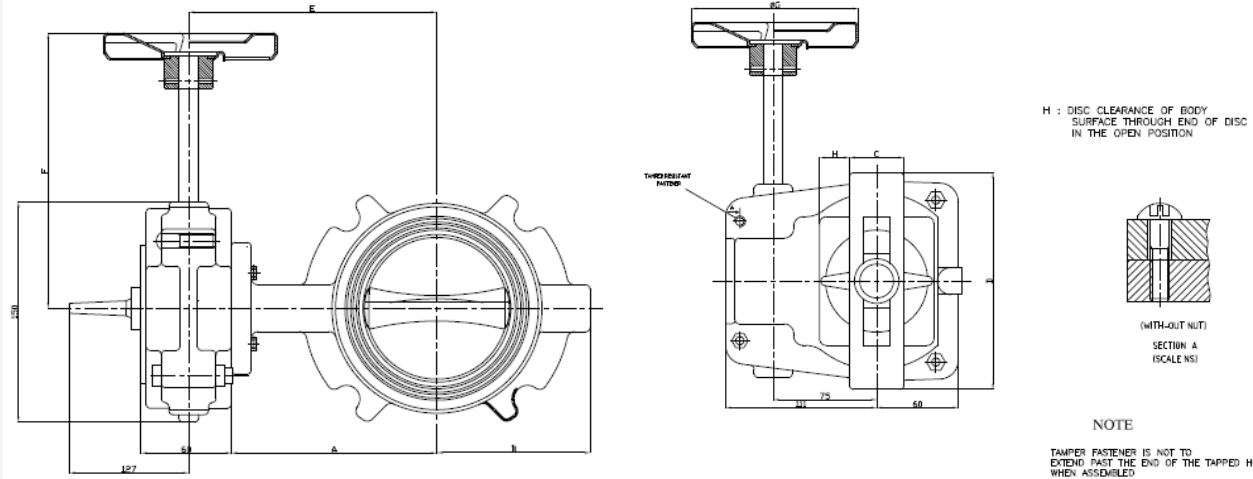
BV-G



NOTE
TAMPER FASTENER IS NOT TO EXTEND PAST THE END OF THE TAPPED HOLE, WHEN ASSEMBLED

DESIGN DATA		MATERIAL SPEC		DIMENSIONAL DATA									
		VALVE	BOX	UNIT(mm)	A	B	C	D	E	F	G		
DESIGN	GROOVED END	BODY	ASTM A-536										
SIZE	2 1/2" TO 8"	DISC	ASTM A-536 OR B-148 B-124 AISI 410										
MAX. WORKING TEMP.	250°F	STEM	AISI 410										
MAX. WORKING PRESS	175PSI	SEAT, BODY	POLYAMID COATING	2 1/2"	105	96.4	135	73.1	135	125			
APPLICATION PIPE	SCH. 40	DISC	EPDM RUBBER	DN65	105	96.4	135	76.1	135	125			
FLANGE		HOUSING	ASTM A-536	3"	112	96.4	135	88.9	142	125			
TEST PRESS.	350PSI	SEGMENT GEAR	ASTM B-124 OR B-148	4"	145	115.4	135	114.3	175	125			
		WORM	AISI 410	6"	179	132.4	193	168.3	210	225	6.8		
		WORM SHAFT	AISI 410	DN150	179	132.4	193	165.1	210	225	6.8		
		HANDLE WHEEL	ASTM A-536	8"	204	147.4	193	219.1	234	225	24.2		
GENERAL TOLERANCE	RANGE	OVER 0.5	OVER 6	OVER 30	OVER 120	OVER 315	OVER 1000	GENERAL ROUGHNESS		▽ 100S			
		TO 6	TO 30	TO 120	TO 315	TO 1000	TO 2000			▽▽ 25S			
	TOLERANCE	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2			▽▽▽ 6.3S			

BV-W



DESIGN DATA		MATERIAL SPEC		DIMENSIONAL DATA									
				UNIT(mm)									
DESIGN	WAFER	VALVE	BODY	ASTM A-536	2 1/2"	105	85	46	116	135	135	125	9.5
SIZE	2 1/2" TO 8"		DISC	ASTM B-148 OR B-124 A-536 AISI 304	3"	112	92	46	132	142	135	125	16
MAX. WORKING TEMP.	250°F		STEM	AISI 410	4"	145	108	52	152	175	135	125	25
MAX. WORKING PRESS	175PSI		SEAT, BODY	EPDM RUBBER	6"	180	145	56	207	211	193	225	45.3
APPLICATION PIPE	SCH. 40	DISC	Ni-PLATED	8"	204	170	60	262	232	198	225	68.5	
FLANGE	ANSI B 16.5	GEAR BOX	HOUSING	ASTM A-536	DN65	105	85	46	116	135	135	125	9.5
TEST PRESS.	350PSI		SEGMENT GEAR	ASTM B-124 OR B-148	DN80	112	92	46	132	142	135	125	16
			WORM	AISI 410	DN100	145	108	52	152	175	135	125	25
			WORM SHAFT	AISI 410	DN150	180	145	56	207	211	193	225	45.3
		HANDLE WHEEL	ASTM A-619	DN200	204	170	60	262	232	198	225	68.5	
GENERAL TOLERANCE	RANGE	OVER 0.5	OVER 6	OVER 30	OVER 120	OVER 315	OVER 1000	GENERAL ROUGHNESS				▽ 100S	
		TO 6	TO 30	TO 120	TO 315	TO 1000	TO 2000					▽▽ 25S	
	TOLERANCE	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2					▽▽▽ 6.3S	