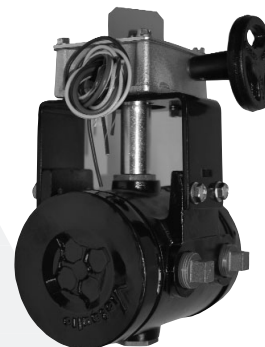


BFG
8" – 10" (200 – 250mm)



BFG
2½" – 6" (65 – 150mm)

Gear Operated Butterfly Valves

Sizes: 2½" – 10" (65 – 250mm)

- Installation
- Service
- Repair Kits
- Maintenance

For other repair kits and service parts, send for Ames Repair Parts Price List, PL-A-RP-BPD.

For technical assistance, contact your local Ames representative.

IMPORTANT: Inquire with governing authorities for local installation requirements.

Limited Warranty: Ames Company warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge.

THE WARRANTY SET FORTH HEREIN IS GIVEN EXPRESSLY AND IS THE ONLY WARRANTY GIVEN BY THE COMPANY WITH RESPECT TO THE PRODUCT. THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE COMPANY HEREBY SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The remedy described in the first paragraph of this warranty shall constitute the sole and exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental, special or consequential damages, including without limitation, lost profits or the cost of repairing or replacing other property which is damaged if this product does not work properly, other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, or any other circumstances over which the Company has no control.

This warranty shall be invalidated by any abuse, misuse, misapplication, improper installation or improper maintenance or alteration of the product.

Some States do not allow limitations on how long an implied warranty lasts, and some States do not allow the exclusion or limitation of incidental or consequential damages. Therefore the above limitations may not apply to you. This Limited Warranty gives you specific legal rights, and you may have other rights that vary from State to State. You should consult applicable state laws to determine your rights. **SO FAR AS IS CONSISTENT WITH APPLICABLE STATE LAW, ANY IMPLIED WARRANTIES THAT MAY NOT BE DISCLAIMED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL SHIPMENT.**

All products shall be installed in accordance with current Ames installation/assembly instructions. Ames reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

CALIFORNIA PROPOSITION 65 WARNING

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (California law requires this warning to be given to customers in the State of California.)

For more information: www.watts.com/prop65

Product Description

The Series BFG butterfly valve features a weatherproof actuator housing approved for indoor or outdoor use. It has a ductile iron body and disc with EPDM disc coating. The body is coated with a heat fused polyphenylene sulfide blend to meet FM requirements and the new coating requirements for the 5th edition of UL-1091. For fire protection services, Series 702 valve is UL Listed and FM Approved for 175psi (1206 kPa) service. Flow performance exceeds UL Specification 1091 and FM Approval Standard 1112.

Weatherproof Actuator

Supervisory switches for valves are available 2½" - 10" (65 - 250mm) pre-wired (PW).

Tapped Outlets

Series BFG valves are available with four ¾" (20mm) NPT tapped outlets, two upstream and two downstream of the disc. Locations of these ports are detailed by the diagram on page 3.

Material Specifications

Body: Ductile iron conforming to ASTM A-395, grade 65-45-15, and ASTM A-536, grade 65-45-12, coated with polyphenylene sulfide blend.

Disc: Ductile iron conforming to ASTM A-395 or ASTM A-536, EPDM coating.

Disc Coating: Grade "E" EPDM EPDM (Green color code). Temperature range -30°F to +230°F (-34°C to +110°C). Recommended for cold and hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. UL classified in accordance with ANSI/NSF 61 for cold +86°F (+30°C) and hot +180°F (+82°C) potable water service. **Not recommended for petroleum services.**

Stem Bearings: Teflon® impregnated fiberglass with stainless steel backing.

Stem Bearing Nuts: Carbon steel, nickel plated.

Tap Plugs: Carbon steel, plated.

Bracket: Carbon steel, painted.

Actuator: 2½" - 6" (65 - 150mm): Bronze traveling nut on a steel lead screw, in a steel housing.

8" - 10" (200 - 250mm): Steel worm and cast iron quadrant gear, in a cast iron housing.

Switch and Wiring

Supervisory Switch

2½" - 10" (65 - 250mm) sizes:

Series 702 PW - Two, single pole, double throw, pre-wired switches. Switches are rated 10A @ 125 or 250 VAC 60 Hz and 0.25A @ 250 VDC, 0.50A @ 125 VDC

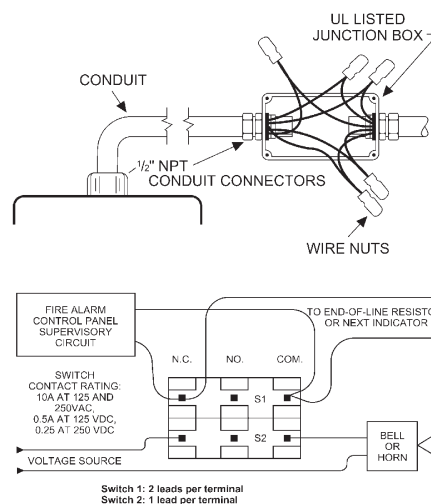
Supervisory Switch Wiring

A. Pre-wired Switches

- (1) Switches Supervise Open Valve
- (2) One switch has two #18 MTW wires per terminal. Permits complete supervision of leads (see diagrams below). Second switch has one #18MTW wire per terminal. This double circuit provides flexibility to operate two electrical devices at separate locations such as an indicating light and an audible alarm in the area at the valve installation.

- | | | |
|----|---|-----------------------------------|
| S1 | { | Switch #1 S1 |
| | | Switch #2 S2 |
| | | Normally Closed: (2) Blue |
| S2 | { | Normally Open: (2) Brown |
| | | Common: (2) Yellow |
| | | Normally Closed: Blue with Stripe |
| S2 | { | Normally Open: Brown with Stripe |
| | | Common: Yellow with Stripe |
| | | |

- (3) A ground lead, #14MTW is provided (green)



Actuator Repair

In the unlikely event of an actuator failure, complete actuation replacement is required. **All replacement parts must be obtained from the manufacturer to assure proper operation of the valve.**

NOTE: Connecting to Common Terminals (Yellow S1 and Yellow with Orange Stripe - S2), and Normally Closed Terminals (Blue S1 and Blue with Orange Stripe - S2); e.g., indicator light and alarm stays on until valve is fully opened; then indicator light and alarm go out. Cap off unused wire, e.g., Brown and Brown with Orange Stripe.

Performance

The chart expresses the frictional resistance of Ames Series BFG in equivalent feet/meters of straight pipe.

Valve Size		
Nominal Outside Diameter Inches mm	Actual Diameter Inches mm	Equiv. Feet/m of Pipe
2½ 65	2.875 73.0	5 1.6
3 80	3.500 88.9	5 1.6
4 100	4.500 114.3	12 3.7
6 150	6.625 168.3	8 2.5
8 200	8.625 219.1	11 3.4
10 250	10.75 273	8 2.5

Cv Values

Cv values for flow of water at 60°F (16°C) with a fully open valve are shown in the table below:

Where

Q = Flow (gpm)
 ΔP = Pressure Drop (psi)
 Cv = Flow Coefficient

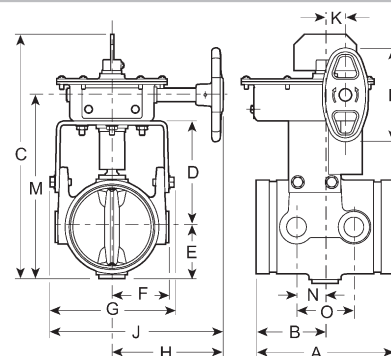
Formulas for Cv Values:

$$\Delta P = \frac{Q^2}{C_v^2}$$

$$Q = C_v \times \sqrt{\Delta P}$$

Valve Size			Valve Size		
Nominal Outside Diameter Inches/ mm	Actual Outside Diameter Inches/ mm	Cv (Full Open)	Nominal Outside Diameter Inches/ mm	Actual Outside Diameter Inches/ mm	Cv (Full Open)
2½ 65	2.875 73.0	325	6 150	6.625 168.3	1850
3 80	3.5 88.9	482	8 200	8.625 219.1	3400
4 100	4.5 114.3	600	10 250	10.75 273.0	5750

Dimensions — Weights



Valve Size		Dimensions — inches/millimeters														
Nominal Outside Diameter Inches mm	Actual Outside Diameter Inches mm	E to E A	B	Height C	D	E	F	G*	H	J	K	L	M	N	O	Approx. Weight Ea. Lbs./kgs.
2½ 65	2.875 73.0	6.00 152	3.00 76	9.80 249	3.92 100	1.80 46	1.78 45	5.30 135	5.45 138	8.10 206	0.97 25	4.50 114	6.97 177	1.13 29	2.25 57	9.4 4.2
3 80	3.500 88.9	6.25 159	3.12 79	10.48 266	4.28 109	2.14 54	2.10 53	5.30 135	5.45 138	8.10 206	0.97 25	4.50 114	7.61 193	1.28 83	2.56 65	10.2 4.6
4 100	4.500 114.3	6.63 168	3.32 84	11.89 302	4.65 118	2.71 69	2.60 66	5.88 149	5.45 138	8.39 213	0.97 25	4.50 114	9.05 230	1.38 35	2.75 70	15.8 7.1
6 150	6.625 168.3	7.00 178	3.50 89	13.74 349	5.65 144	3.61 92	3.60 91	7.63 194	5.45 138	9.27 236	0.97 25	4.50 114	10.92 277	1.67 42	3.33 85	26.0 11.7
8 200	8.625 219.1	8.00 203	4.00 102	16.92 430	7.94 202	5.00 127	5.40 137	10.80 274	8.28 210	13.68 348	2.05 52	6.00 152	14.06 357	1.84 47	3.69 94	54.0 24.3
10 250	10.75 273.0	10.00 254	5.00 127	19.19 487	8.69 221	5.81 148	6.19 157	12.36 325	8.31 212	14.50 369	2.06 52	9.00 229	15.88 404	2.81 72	5.69 144	86.0 39.0

* Indicates maximum envelope width. ‡ Contact Ames Company for ULC Listings.

- To prevent rotation of valves, it is recommended that Series BFG be installed with Ames Style 07 Zero-Flex®, Style 005 FireLock™ or Style HP-70 Rigid Couplings. If Ames flexible couplings are used, additional support may be required.
- Ames grooved end butterfly valves are permitted for use with grooved end pipe (IPS) only. Not permitted for use with plain end (IPS) or grooved end cast ductile iron pipe.
- Series 702 valves are designed for ambient weather conditions as opposed to submersible service.

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For additional information, visit our web site at: www.amesfirewater.com



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