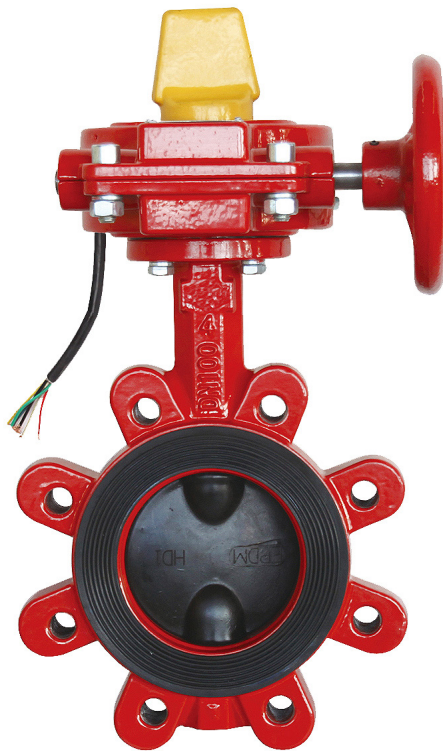




Control Valves & Devices | Butterfly Valves | Lugged PN16 - UL, FM, CE & VdS | BVL-1



SPECIFICATIONS	
Models	BVL-1: With switches - PN16
Sizes (nominal)	2"/DN50, 2-1/2"/DN65, 3"/DN80, 4"/DN100, 5"/DN125, 6"/DN150, 8"/DN200, 10"/DN250 & 12"/DN300
Approvals	
Max. working pressure	<ul style="list-style-type: none"> • 21.0 bar (300 psi) - FM: all sizes, UL: 2"/DN50 - 8"/DN200 • 17 bar (250 psi) - UL: 10"/DN250 & 12"/DN300 • 16 bar (232 psi) - VdS: all sizes
Test pressure	<ul style="list-style-type: none"> • Leak 1.1x working pressure • Shell 1.5x working pressure
Working temperature	0 °C - 80 °C
Connections	Lugged style, in accordance with: ASME B16.1 CL125, ASME B16.5 CL150, EN 1092 PN16, AS 2129 TABLE D/E, BS 10 TABLE D/E
Operation	Gear operated
Finish	Epoxy coated ductile iron
Supervisory switches	<ul style="list-style-type: none"> • The models BVL-1 is fitted with gearboxes with one internal supervisory position switch and one internal auxiliary switch. Switches are configured for normally-open operation. For normally-closed operation see BVL-1-MON
Notes	<ul style="list-style-type: none"> • The valves are suitable for use outdoors. Some degradation of the painted/coated surfaces may occur (including rusting) which will not affect the performance of the valve. The UL listing specifically ensures the switch operation is not affected by outdoor conditions providing the proper installation instructions are followed. • Butterfly valves should be installed a reasonable distance from pumps, elbows, expanders, reducers, or similar devices. Typical piping practices suggest a minimum distance of five times the pipe diameter for general use.

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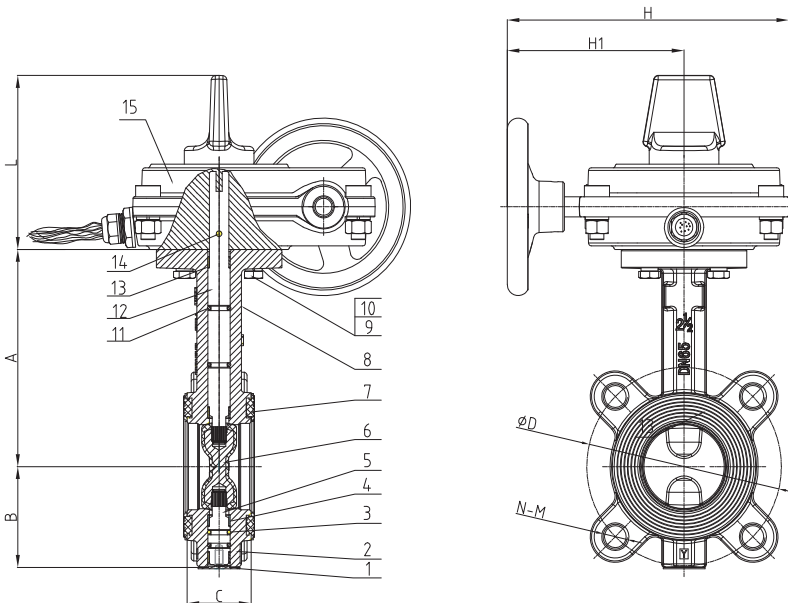


Control Valves & Devices | Butterfly Valves | Lugged PN16 - UL, FM, CE & VdS | BVL-1

Dimensions | BVL-1

Size	Dimensions											
	A (mm)	B (mm)	C (mm)	L (mm)	H1 (mm)	H (mm)	ØD (mm)		NxØ		ISO 5211 actuator	Flag (mm)
							PN16	ANSI	PN16	ANSI		
2"/DN50	141	65	43	123	127	202	125	121	4 x M16	4-5/8	F07	43 x 50
2-1/2"/DN65	153	71	46	123	127	202	145	140	4 x M16	4-5/8	F07	
3"/DN80	158	81	46	123	127	202	160	152	8 x M16	4-5/8	F07	
4"/DN100	176	95	52	123	127	202	180	191	8 x M16	8-5/8	F07	
5"/DN125	191	111	56	123	127	202	210	216	8 x M16	8-3/4	F07	
6"/DN150	203	133	56	123	127	202	240	241	8 x M20	8-3/4	F10	
8"/DN200	244	164	60	123	185	260	295	299	12 x M20	8-3/4	F10	
10"/DN250	273	196	68	123	185	260	355	362	12 x M24	12-7/8	F10	
12"/DN300	311	226	78	132	203	298	410	432	12 x M24	12-7/8	F10	

Dimensional drawing | BVL-1



Materials | BVL-1

Item	Description	Material	Specification
1	Plug	EPDM	EPDM
2	Valve body	Ductile iron	EN-GJS-450-10
3	O-Ring	NBR	NBR
4	Bushing	SS + PTFE	SS + PTFE
5	Stub shaft	Stainless steel	AISI 431
6	Disc	Ductile iron	EN-GJS-450-10
7	Gasket	EPDM	EPDM
8	Name plate	Stainless steel	Plate
9	Hex nut	Carbon steel	Zinc plated
10	Spring washer	Spring steel	65 Mn
11	O-Ring	NBR	NBR
12	Drive shaft	Stainless steel	AISI 431
13	Bushing	Stainless steel	AISI 304 + PTFE
14	Cylindrical pin	Stainless steel	AISI 304
15	Signal gear box	Ductile iron	EN-GJS-450-10

Part numbers & technical data | BVL-1

Size	BVL-1 & BVL-2 With supervisory switch		Weight (kg)
	Part number PN16	Approvals	
2"/DN50	BVL-1-050P	UL, FM, CE, VdS	9.85
2-1/2"/DN65	BVL-1-065P	UL, FM, CE, VdS	10.49
3"/DN80	BVL-1-080P	UL, FM, CE, VdS	11.14
4"/DN100	BVL-1-100P	UL, FM, CE, VdS	14.40
5"/DN125	BVL-1-125P	UL, FM, CE, VdS	17.09
6"/DN150	BVL-1-150P	UL, FM, CE, VdS	21.25
8"/DN200	BVL-1-200P	UL, FM, CE, VdS	28.07
10"/DN250	BVL-1-250P	UL, FM, CE, VdS	41.49
12"/DN300	BVL-1-300P	UL, FM, CE, VdS	59.66

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Control Valves & Devices | Butterfly Valves | Lugged PN16 - UL, FM, CE & VdS | BVL-1

Design requirements | BVL-1

The butterfly valve should be connected to the piping system with suitable flanges. Flow may be from either direction through the valve, and the valve may be positioned in any direction. The gearbox has been designed with a slow close handwheel operator that effectively minimizes water hammer during the opening or closing of valve during flow conditions. These valves feature minimum flow restriction and pressure loss when in the fully open position.

Installation | BVL-1

When the valves are received from Viking they should be handled carefully to avoid breakage and damage to the seating area. Before installation of the valve:

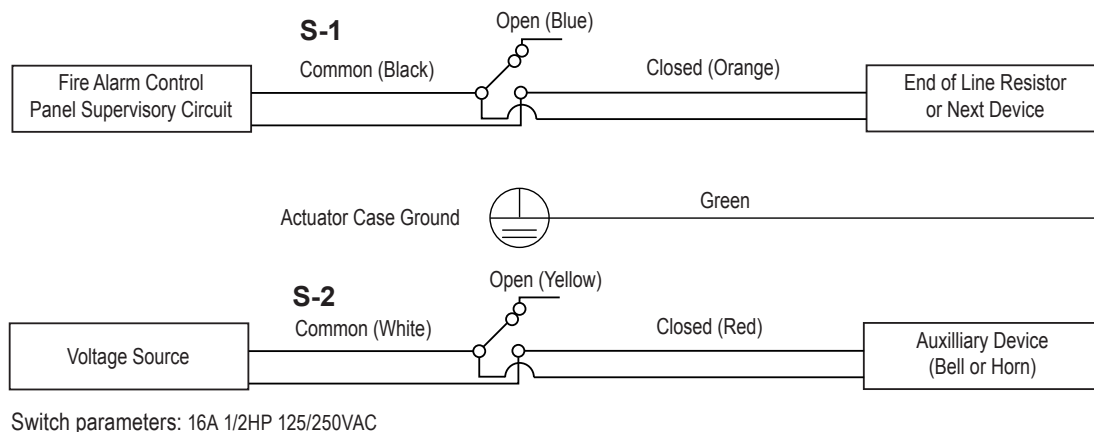
1. Check the valve pressure rating is compatible with service conditions.
2. Clean the piping and connecting couplings.
3. Position the valve centrally between mating pipes
4. Lubricate the coupling gaskets and slide them into position. Assemble the couplings according to their instructions.
5. The valve should be installed in an almost closed position.
6. Interference between the butterfly valve disc and the mating pipes should be avoided under all circumstances. Before fully tightening the coupling bolts, carefully open the valve to the open position and check for any disc interference.
7. To prevent distortion, properly support the piping adjacent to the inlet and outlet of the valve. Avoid damage and do not use the valve to force the piping into position.
8. The valve should never be forced to seat by applying excessive torque to the gearbox or through the use of a wrench. This may distort the valve components or score the sealing surface. The use of excessive force to open or close the valve violates all warranties whether express or implied.
9. Conduit and electrical connections to the supervisory/ auxiliary switches must be in accordance with the requirements of the Authority Having Jurisdiction.

Care & maintenance | BVL-1

Inspect and verify proper operation on an annual basis or according to the requirements of the Authority Having Jurisdiction. Check for leakage at the valve pipe connection and body-to-operator connection. Installation, inspection and maintenance should be performed by a qualified person certified by the Authority Having Jurisdiction. If the valve closes hard, check to make sure that there is no debris lodged in the waterway around the seating area. Backing off the handwheel and closing the valve again can often correct this condition. All replacement parts must be obtained from the manufacturer to assure proper operation of the valve and to maintain approval of the device.

Wiring instructions | BVL-1

The BVL-1 butterfly valves come complete with one internal supervisory position switch and one internal auxiliary switch. The supervisory/auxiliary switches operate by a cam connected to the valve stem and are designed to notify in the case of valve closure. Please refer to the relevant installation standard and Authority Having Jurisdiction. The switches will change position and close within two (2) full turns of the hand wheel from the fully open position.



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