Model REL363VO & REL363VC
Butterfly Valve / Grooved Tapped Body

VdS-Certified
363 psi (25 bar)

Product Description

The Reliable Model REL363VO and REL363VC supervised butterfly valves are VdS-Certified control valves for fire protection systems. The valves have AWWA C606/ISO 6182 grooved end connections. They are available in 2” (60.3 mm), 2-1/2” (76.1 mm), 3” (88.9 mm), 4” (114.3 mm), 5” (139.7 mm), 6” (168.3 mm), 8” (219.1 mm), and 10” (273 mm) sizes. The valves are listed for 363 psi (25 bar) working pressure. The maximum working temperature for the valves is 212°F (100°C). The valve bodies come equipped with a plugged, tapped port on the supply and discharge side of the disc. These valves are available with two options for the wire harness; a standard 9” (0.23 m) set of wire leads, and a 39” (1 m) extended-length set of wire leads where required for international use. These valves are intended for pressure pipe applications.

Verify compatibility of the Model 363VO/VC materials with the water supply and the environment where the valve will be used prior to installation.

Partially close the valve during installation, so that the butterfly seal does not extend past the end of the housing.

Maintenance

The owner is responsible for maintaining the fire protection system in proper operating condition. Any system maintenance or testing that involves placing a control valve out of service will eliminate the fire protection that is provided by the fire protection system.

Reliable Butterfly valves and associated equipment shall periodically be given a thorough inspection and test. NFPA 25, “Inspection, Testing and Maintenance of Water Based Fire Protection Systems,” provides minimum maintenance requirements.

2” (60.3 mm) through 10” (273 mm) valves require approximately 10 full turns to move the valve from fully open to closed (or vice versa), at which time a mechanical stop will be encountered. Any attempt to further open or close the valve beyond the mechanical stop may result in damage to the valve. (Note: 10” (273 mm) valve will require approximately 15 full turns.)

See Technical Bulletin 840 for instructions on adjustment of mechanical stops if the butterfly seal does not fully seat with the valve handle in the closed position.

Guarantee

For Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Model REL363VO Butterfly Valve - Supervised Normally Open

Model REL363VC Butterfly Valve - Supervised Normally Closed

Ordering Information

Specify the following when ordering:

Service
- Normally Open (Yellow Indicator, Red Actuator)
- Normally Closed (Red Indicator, Yellow Actuator)

Valve Size
- 2” (60.3 mm)
- 2-1/2” (76.1 mm)
- 3” (88.9 mm)
- 4” (114.3 mm)
- 5” (139.7 mm)
- 6” (168.3 mm)
- 8” (219.1 mm)
- 10” (273 mm)

Wire Harness Length
- Standard: 9” (0.23 m)
- Optional [not available in US]: 39” (1 m)

Reliable Model REL363VO and REL363VC Butterfly Valve

Technical Specifications
Pressure Rating:
363 psi (25 bar)

Material Specifications
Upper Stem: Stainless Steel ASTM A 276 Type 420
Upper Bearing: PTFE Bronze Sintered on Steel
Stem Seal O-Ring: EPDM
Body: Ductile Iron ASTM A 395, Epoxy Coated
Disc: Ductile Iron ASTM A 395 with EPDM Encapsulation
Lower Bearing: PTFE Bronze Sintered on Steel
Lower Stem: Stainless Steel ASTM A 276 Type 420
Dust Plug: PVC
Name Plate: Aluminum
Gear Operator: Cast Iron and Steel
Indicator Flag: Steel
Handwheel: Cast Iron
Cable Gland: Nickel plated brass
Plug: Carbon Steel (Zinc-plated)

Maximum Flow Velocity
• 6.1 m/s

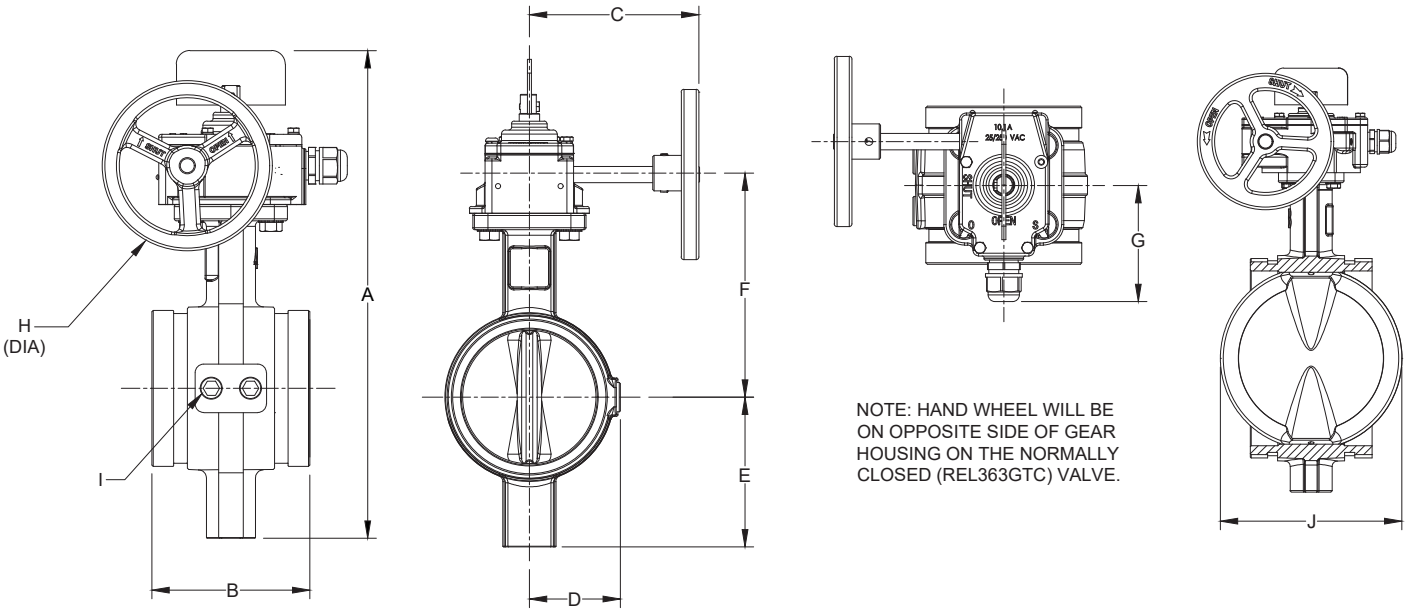
Specifications
Valve B16.34
Pipe Flanges B16.5, B1.1, B16.42

Listings and Approvals
VdS 2011-08en Certified

Applications
• Pressure pipe use
• Indoor and outdoor use
• Aboveground use only
• For use with grooved-end steel pipe of any schedule or wall thickness
• Not for submersible service

Reliable Model REL363VO and REL363VC Butterfly Valve Dimensions

Figure 1



Grooved Dimensions - in. (mm)

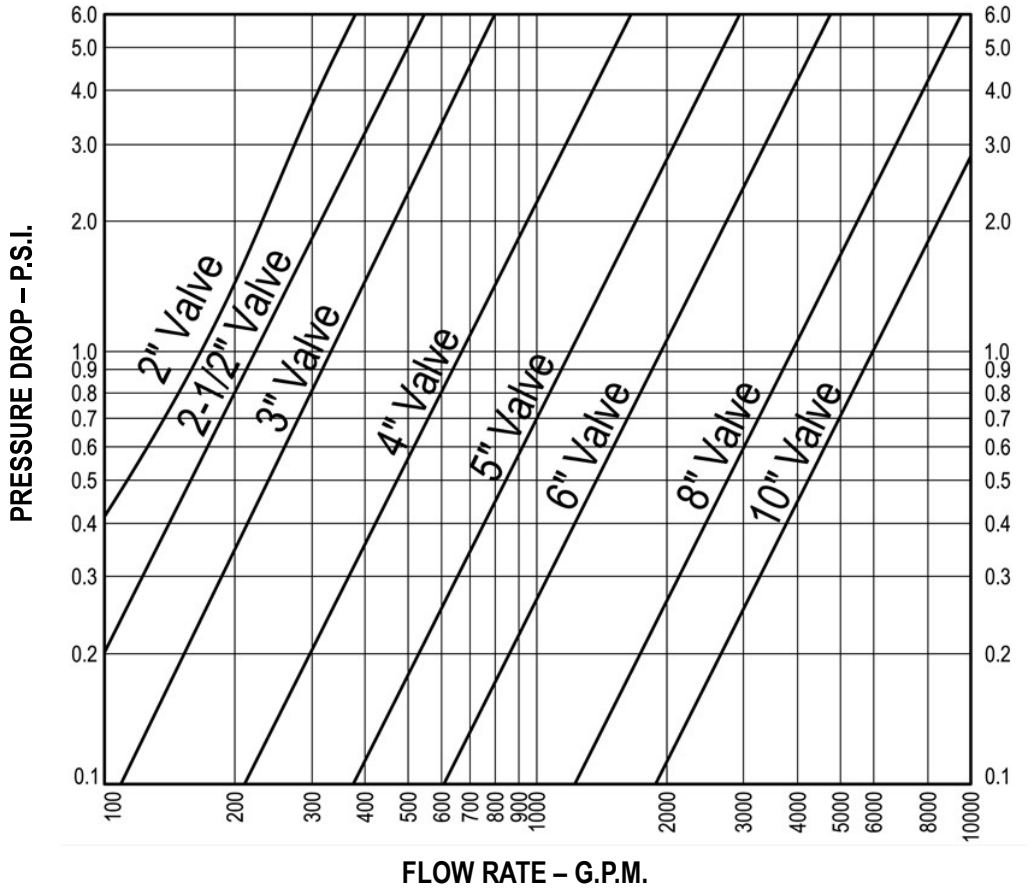
Table A

Size	A	B	C	D	E	F	G	H	I	J	Weight lb (kg)
2” (60.3)	9-13/16 (250)	3-7/8 (98)	4-15/16 (125)	1-9/16 (40)	2-1/4 (58)	4-1/4 (108)	3-3/8 (85)	4-1/4 (108)	1/4 NPT	2-1/6 (53)	9.9 (4.5)
2-1/2” (76.1)	10-7/8 (276)	3-7/8 (98)	4-15/16 (125)	2 (50)	2-7/8 (74)	4-15/16 (125)	3-3/8 (85)	4-1/4 (108)	1/4 NPT	2-1/2 (64)	10.4 (4.7)
3” (88.9)	11-1/2 (291)	3-7/8 (98)	4-15/16 (125)	2 (52)	2-7/8 (74)	5-1/4 (134)	3-3/8 (85)	4-1/4 (108)	1/4 NPT	2-15/16 (75)	11.2 (5.1)
4” (114.3)	13-1/2 (342)	4-9/16 (116)	4-15/16 (125)	2-1/2 (63)	3-3/4 (95)	6-1/2 (164)	3-3/8 (85)	4-15/16 (125)	1/4 NPT	3-15/16 (100.5)	15 (6.8)
5” (139.7)	14-7/8 (378)	5-7/8 (149)	6-5/8 (168)	3-1/8 (79)	4-3/8 (110)	7-3/16 (182)	3-3/8 (92)	5-7/8 (150)	1/4 NPT	4-15/16 (125)	26.2 (11.9)
6” (168.3)	15-13/16 (402)	5-7/8 (149)	6-5/8 (168)	3-9/16 (91)	4-13/16 (122)	7-13/16 (199)	3-5/8 (92)	5-7/8 (150)	1/4 NPT	5-15/16 (150)	32.4 (18.8)
8” (219.1)	18-3/8 (466)	5-1/4 (134)	6-5/8 (168)	4-5/8 (118)	5-3/4 (147)	9-3/8 (238)	3-5/8 (92)	5-7/8 (150)	1/4 NPT	7-7/18 (200)	41.4 (18.8)
10” (273)	21-5/8 (549)	6-5/16 (160)	9-7/16 (240)	5-11/16 (144)	7-1/8 (181)	11-3/16 (284)	3-15/16 (100)	9-13/16 (250)	1/4 NPT	9-3/4 (247)	78 (35.4)

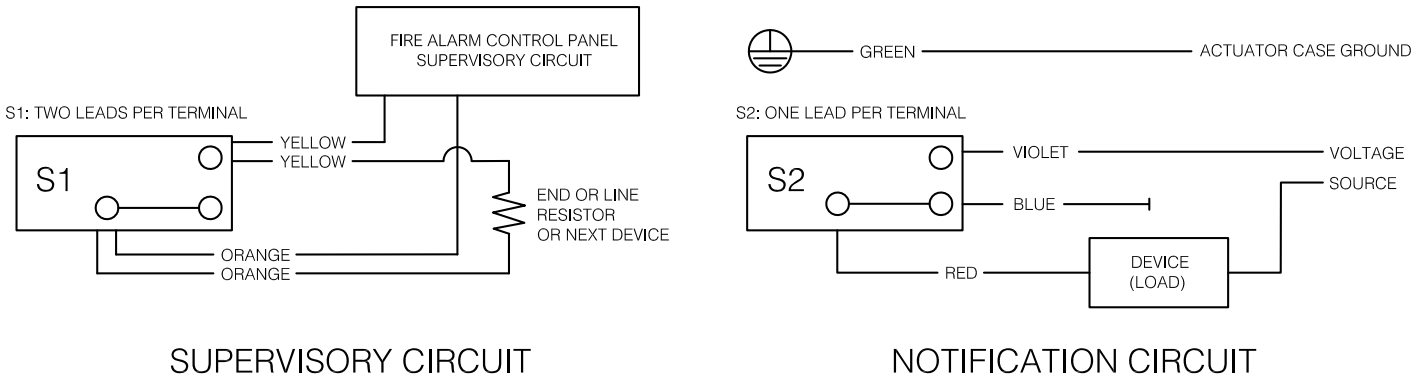
Valve Flow Characteristics **Table B**

Pipe Size NPS (DN)	Full-Open Flow Coefficient (Cv) Calculated using GPM and PSI units	Pressure Loss at Flow Velocity of 5.0 m/s psi (mbar)
2 (60.3)	155	2.2 (150)
2-1/2 (76.1)	225	1.7 (116)
3 (88.9)	374	1.6 (110)
4 (114.3)	710	1.1 (75)
5 (139.7)	1200	1.0 (70)
6 (168.3)	1640	0.9 (60)
8 (219.1)	3874	0.8 (53)
10 (273)	5995	0.7 (50)

Reliable Model REL363VO and REL363VC Performance Data **Figure 2**

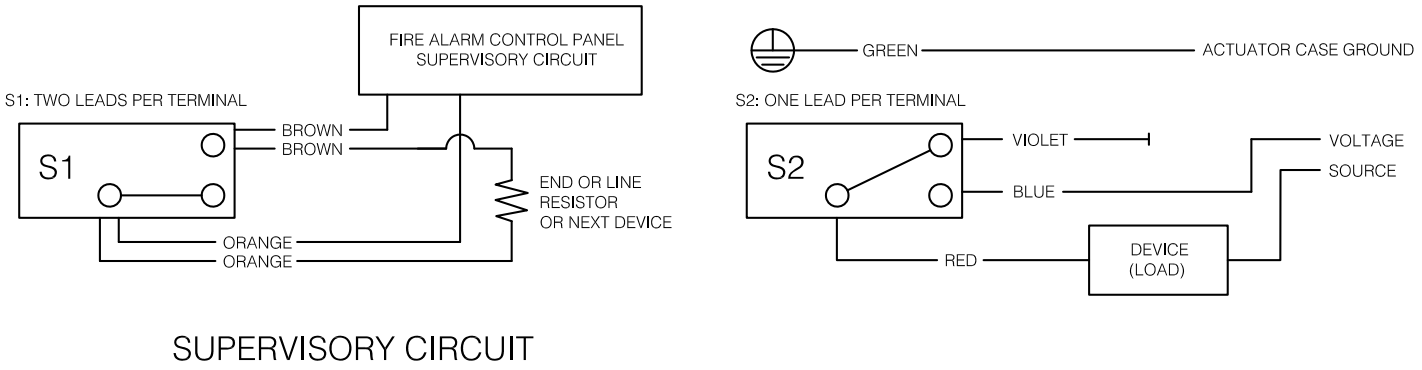


Reliable Model REL363VO Wiring Diagram - Supervised Normally Open **Figure 3**



NOTES:
1. WIRING SHOWN IS FOR NORMALLY OPEN CIRCUITS.
2. CAP ALL ENDS OF UNUSED WIRES.
3. SWITCH RATING: 10.1A, 125/250 VAC

Reliable Model REL363VC Wiring Diagram - Supervised Normally Closed **Figure 4**



NOTES:
1. WIRING SHOWN IS FOR NORMALLY OPEN CIRCUITS.
2. CAP ALL ENDS OF UNUSED WIRES.
3. SWITCH RATING: 10.1A, 125/250 VAC

Installation / User Guide

1. This valve is intended for use in fire protection systems ONLY.
2. Note that a “normally-open” valve (red gearbox / tamper switch housing with yellow flag) will provide no signal to the fire protection system control panel when fully open, when the valve is partially closed it will send a signal and cause an alarm code to display on the fire protection system control panel.
3. Note that a “normally-closed” valve (yellow gearbox / tamper switch housing with red flag) will provide no signal to the fire protection system control panel when fully closed, when the valve is partially open it will send a signal and cause an alarm code to display on the fire protection system control panel.
4. Valve outlets are grooved and shall be connected to pipe or fittings with a compatible grooved interface manufactured to the latest edition of either AWWA C606 or ISO 6182.
5. Grooved interface (including both groove and pipe-end seal surface features) shall be inspected for injurious defects or damage that will prevent sealing prior to installation.
6. Grooved couplings used to connect these butterfly valves to pipe or fittings shall be installed using instructions provided by the grooved coupling manufacturer including torque applied to threaded fasteners, lubricants to gasket, etc.
7. It is recommended that grooved coupling gaskets be molded from an EPDM elastomer compound suitable for use in a fire-protection system.
8. It is recommended that grooved couplings used to connect this butterfly valve to pipe or fittings be UL-listed, FM-approved, or VdS-certified.
9. Valve contains no user-serviceable parts. For concerns relating to replacement of drive key, factory-installed tamper switch, valve disc, or other factory-installed components, please contact Reliable Automatic Sprinkler Company for a replacement product.

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