Air Actuated Butterfly Valves- Scotch Yoke

PVC Wafer Body ANSI 150

SERIES
5423
5424

Features

- Wafer butterfly valve with ISO5211 direct mount actuator
- Industrial grade PVC body with Polypropylene (PP) disc
- 316 Stainless Steel shaft
- Type IP66 & IP68 weatherproof actuator
- Rugged scotch yoke construction tested for 1 million+ cycles
- Highly visible valve position indicator
- Anodized aluminum body with epoxy-polyester end covers
- Factory lubricated for long life
- Namur and ISO mounting standards
- Dry or lubricated pilot air supply

Applications

PVC body valves with EPDM seals are typically used for on-off control of water and other media compatible with the materials of construction. NSF approved material for use in conditions requiring potable water. Available in either failsafe spring return or double acting designs. Multi-standard alignment holes, suitable for ISO or ANSI flanges.

PVC butterfly valves should never be used for compressed gas applications.

Operation

Spring return valves use a pilot air pressure signal to open the valve and springs (failsafe) to close the valve when exhausting of the pilot signal. Double acting valves use air pressure to open the valve and air pressure to close the valve.

Construction

Valve Body	PVC (dark gray)
Disc	PP (Polypropylene
Primary Liner	EPDM
Stem	316 SS
Stem Seals	EPDM
Shaft O-Rings/Anti Friction Rings	EPDM/PTFE
Actuator Body/End Covers	Hard anodized aluminum/Polyester coated aluminum
Valve Position Indicator	Glass filled Polyamide
Fasteners	Stainless Steel
Actuator Seals	NBR

Description

Direct mount butterfly valve with PVC wafer body are designed for commercial and industrial applications. Valve mounts between two standard ANSI/ISO Class 150 flanges. Integral molded EPDM flange gaskets. Disc is Polypropylene.

Approvals

- NSF International certified to:
  - NSF/ANSI 372 Drinking Water
  - NSF/ANSI 61 G
  - ANSI B16.5
- Disc PP Type 1 homopolymer per ASTM D4101

Options

- Namur direct mount pilot solenoid valves
- Limit switch/Visual valve position indicator

Specifications (English units)

Heavy duty rugged scotch yoke design

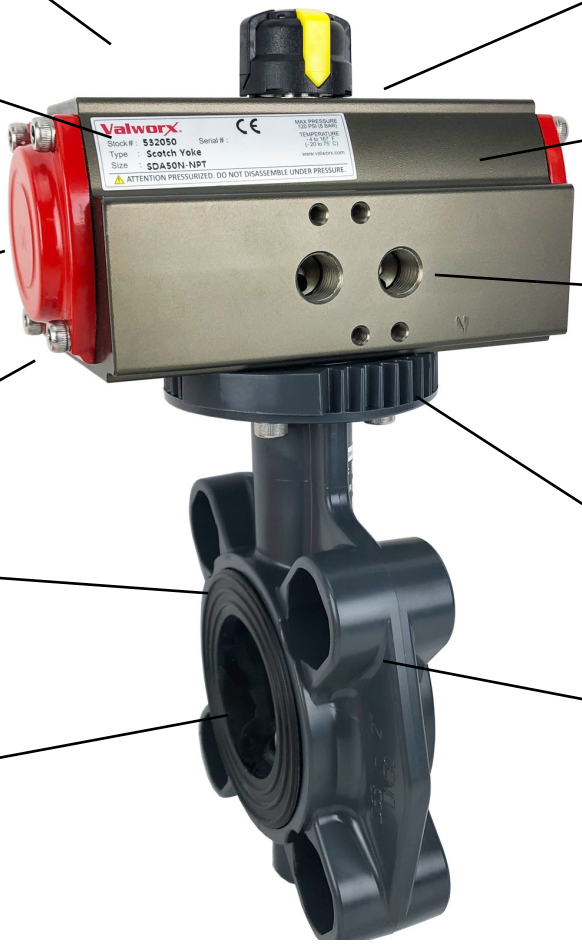
Anodized aluminum alloy covers with 40 micron polyester powder coating

Spring return models use multiple pre-compressed spring cartridges with polyester coating

Stainless steel fasteners

Disc, seat and seals are only components that contact media flow isolating PVC valve body**

PP (Polypropylene) disc suitable for use with clean or dirty fluids (refer to installation guidelines)



Visual valve position indicator

Standard Namur top mounting for optional switches

Extruded aluminum body with 35 micron hard anodizing

NPT pilot air ports and additional Namur VDI/VDE-3845 solenoid mounting pad

Direct mount wafer butterfly valve with standard ISO5211 mount, no additional brackets required

Valve certified per NSF 372 and NSF 61 for potable/drinking water

International standard ISO5211 valve mounting pad

Temperature Range

Actuator Temperature Rating: -4 to 167° F (-20 to 75° C)

Valve Temperature Rating: 32 to 140° F (0 to 60°C)

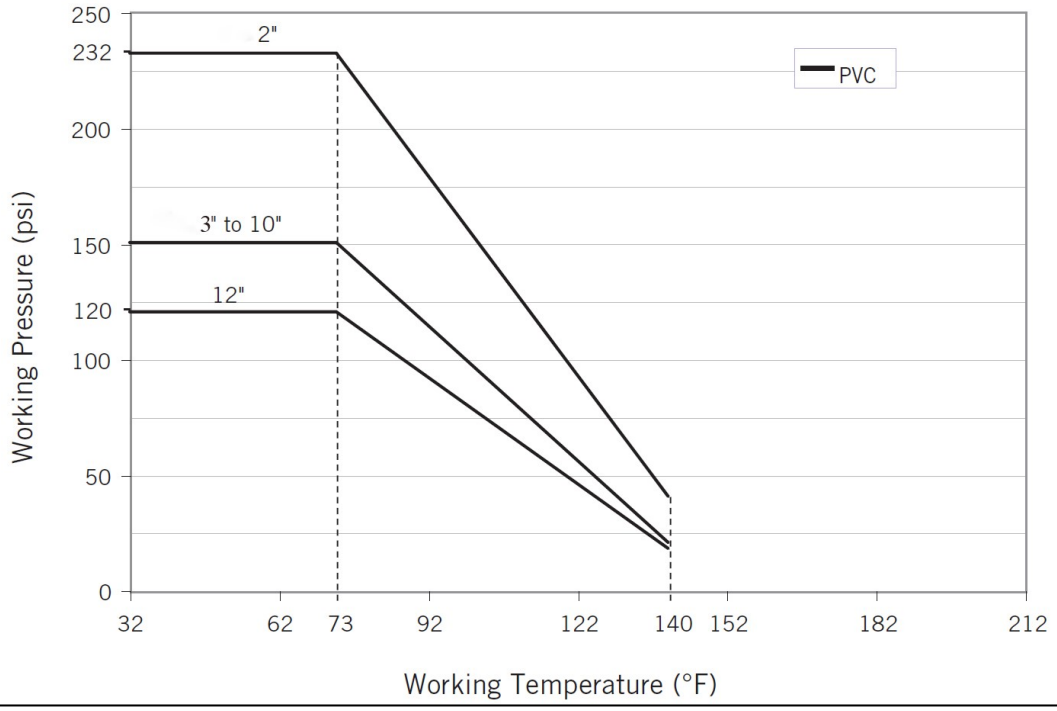
Specifications (English units)

Stock Number	Pipe Size (inch)	Disc Diam. (inch)	Cv Flow Factor	Pressure Max. (PSI)*	Fluid Media**	Cycle Time/90° (seconds)	Recommended Air Pilot Pressure (PSI)
Wafer Body EPDM Seals: SPRING RETURN							
542402	2	1.97	90	232	Water	0.3-0.5	58-87
542404	3	3.15	249	150	Water	0.4-0.6	58-87
542406	4	3.94	413	150	Water	0.6-0.9	58-87
542408	6	5.91	1309	150	Water	1.0-2.3	58-87
542410	8	7.87	2135	150	Water	1.0-2.3	58-87
542412	10	9.84	3724	150	Wafer	1.3-3.1	58-87
542414	12	11.81	5712	120	Wafer	1.3-3.1	58-87
Wafer Body EPDM Seals: DOUBLE ACTING							
542302	2	1.97	90	232	Water	0.3	58-87
542304	3	3.15	249	150	Water	0.4	58-87
542306	4	3.94	413	150	Water	0.4	58-87
542308	6	5.91	1309	150	Water	0.6	58-87
542310	8	7.87	2135	150	Water	0.8	58-87
542312	10	9.84	3724	150	Wafer	1.6	58-87
542314	12	11.81	5712	120	Wafer	1.6	58-87

Cv is the GPM of water at 60° F that will pass through the valve with 1 PSI pressure drop

* See P/T Chart below for more detail

Pressure Temperature



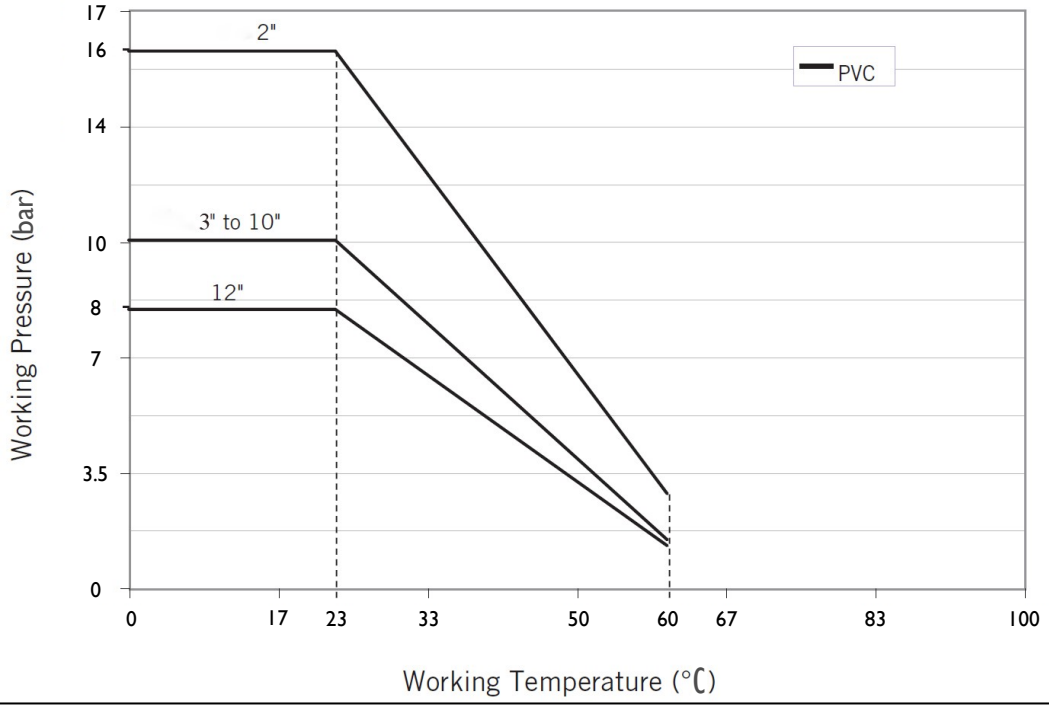
Specifications (Metric units)

Stock Number	Pipe Size (DN)	Disc Diam. (mm)	Kv Flow Factor	Pressure Max. (Bar)*	Fluid Media**	Cycle Time/90° (seconds)	Recommended Air Pilot Pressure (Bar)
Wafer Body EPDM Seals: SPRING RETURN							
542402	50	50	78	16	Water	0.3-0.5	4-6
542404	80	80	215	10	Water	0.4-0.6	4-6
542406	100	100	357	10	Water	0.6-0.9	4-6
542408	150	150	1132	10	Water	1.0-2.3	4-6
542410	200	200	1847	10	Water	1.0-2.3	4-6
542412	250	250	3221	10	Wafer	1.3-3.1	4-6
542414	300	300	4940	8	Wafer	1.3-3.1	4-6
Wafer Body EPDM Seals: DOUBLE ACTING							
542302	50	50	78	16	Water	0.3	4-6
542304	80	80	215	10	Water	0.4	4-6
542306	100	100	357	10	Water	0.4	4-6
542308	150	150	1132	10	Water	0.6	4-6
542310	200	200	1847	10	Water	0.8	4-6
542312	250	250	3221	10	Wafer	1.6	4-6
542314	300	300	4940	8	Wafer	1.6	4-6

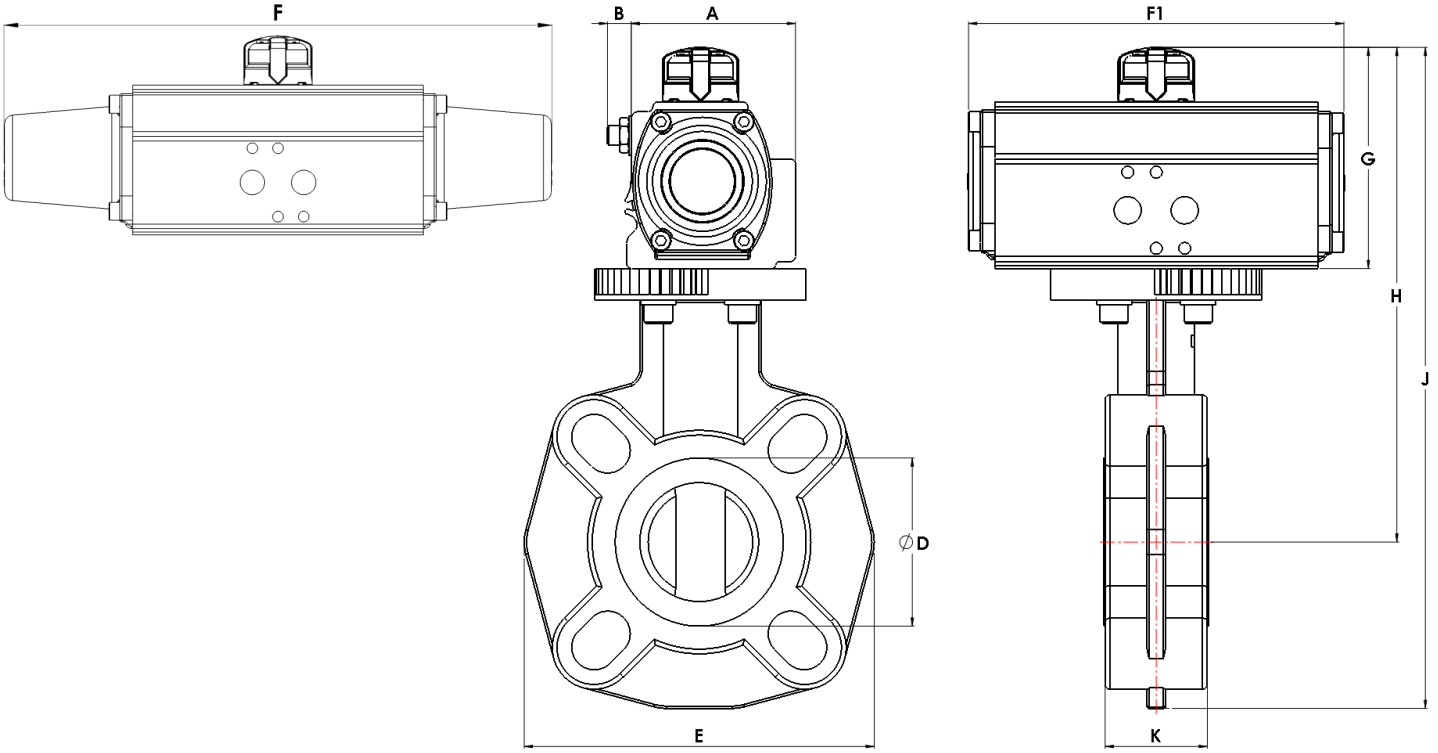
Kv = The number of m³ per hour of 20° C water at 1 bar pressure drop

* See P/T Chart below for more detail

Pressure Temperature



Dimensions 2" to 12" Sizes



Spring Return Dimensions: inches (mm)										
Pipe Size	A	B	D	E	F-SR	G	H	J	K	Weight lbs (kg)
2 DN50)	2.9 (75)	0.3 (9)	1.97 (50)	5.80 (147)	10.1 (257)	3.7 (93)	8.2 (208)	11.0 (278)	1.81 (46)	5.2 (2.4)
3 (DN80)	3.5 (89)	0.4 (11)	3.15 (80)	7.30 (185)	12.4 (314)	4.3 (110)	9.3 (236)	13.2 (336)	1.93 (49)	9.9 (4.5)
4 (DN100)	3.9 (101)	0.4 (12)	3.94 (100)	8.31 (211)	16.6 (421)	5.1 (129)	10.2 (258)	14.3 (364)	2.19 (56)	15.8 (7.2)
6 (DN150)	5.9 (151)	1.1 (28)	5.91 (150)	5.91 (150)	23.9 (606)	7.0 (178)	12.2 (309)	17.4 (443)	2.31 (59)	46.9 (21.3)
8 (DN200)	5.9 (151)	1.1 (28)	7.87 (200)	12.71 (323)	23.9 (606)	7.0 (178)	14.9 (379)	21.3 (540)	2.80 (71)	53.1 (24.1)
10 (DN250)	6.5 (164)	1.1 (30)	9.84 (250)	15.94 (405)	26.9 (682)	7.6 (193)	17.5 (444)	25.7 (653)	4.5 (114)	82.2 (37.3)
12 (DN300)	6.5 (164)	1.1 (30)	11.81(300)	18.70 (475)	26.9 (682)	7.6 (193)	19.7 (500)	29.6 (751)	4.5 (114)	92.8 (42.0)

Double Acting Dimensions: inches (mm)										
Pipe Size	A	B	D	E	F1-DA	G	H	J	K	Weight lbs (kg)
2 (DN50)	2.9 (75)	0.3 (9)	1.97 (50)	5.80 (147)	6.4 (162)	3.7 (93)	8.2 (208)	11.0 (278)	1.81 (46)	4.8 (2.2)
3 (DN80)	3.5 (89)	0.4 (11)	3.15 (80)	7.30 (185)	7.9 (202)	4.3 (110)	9.3 (236)	13.2 (336)	1.93 (49)	8.4 (3.8)
4 (DN100)	3.5 (89)	0.4 (11)	3.94 (100)	8.31 (211)	7.9 (202	4.3 (110)	10.2 (258)	14.3 (364)	2.19 (56)	9.2 (4.2)
6 (DN150)	3.9 (101)	0.4 (12)	5.91 (150)	5.91 (150)	9.9 (253)	5.1 (129)	12.2 (309)	17.4 (443)	2.31 (59)	16.7 (7.6)
8 (DN200)	5.1 (129)	0.6 (17)	7.87 (200)	12.71 (323)	12.2 (311)	5.9 (151)	14.9 (379)	21.3 (540)	2.80 (71)	29.1 (13.2)
10 (DN250)	6.5 (164)	1.1 (28)	9.84 (250)	15.94 (405)	16.9 (431)	7.6 (193)	17.5 (444)	25.7 (653)	4.5 (114)	65.7 (29.8)
12 (DN300)	6.5 (164)	1.1 (28)	11.81 (300)	18.70 (475)	16.9 (431)	7.6 (193)	19.7 (500)	29.6 (751)	4.5 (114)	76.3 (34.5)