Air Actuated Butterfly Valves– Scotch Yoke

Ductile Iron Wafer Body ANSI/ASME 150

SERIES
5642

Features

- Wafer butterfly valve with ISO5211 direct mount actuator
- Unique wave line seat reduces torque and extends seal life
- Ductile iron body with epoxy coating and 316SS disc
- 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

EPDM seals typically used for on-off control of water and other media compatible with the materials of construction. NBR (Buna-N) seals typically used for air, oil, vacuum and other media compatible with the materials of construction. Available in either failsafe spring return or double acting designs. Multi-standard alignment holes, suitable for flanges: ANSI/ASME Class 125/150, EN1092 PN10,PN16, BS10 Table D, E and JIS B2239 10K,16K

Scotch Yoke actuators should not be used for positioning 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	Epoxy coated ductile iron
Disc	316 stainless steel CF8M
Disc Seat/Liner	EPDM or NBR (Buna-N)
Stem/Stem Seals	420 stainless steel / V-ring (same material as seat)
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 valves with epoxy-coated ductile iron lug body are designed for commercial and industrial applications. Valve mounts between two standard ANSI/ASME Class 125/ 150 and other international flanges. Seat to flange seal, eliminates the need for flange gaskets. Disc is precision machined 316SS. Two piece stem and disc design enhances the flow capacity and reduces turbulence.

Approvals

- CE Declaration of conformity
- EN ISO 12100:2010
- EN ISO 4414:2010
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting

Options

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

Construction Features

Heavy duty rugged scotch yoke design

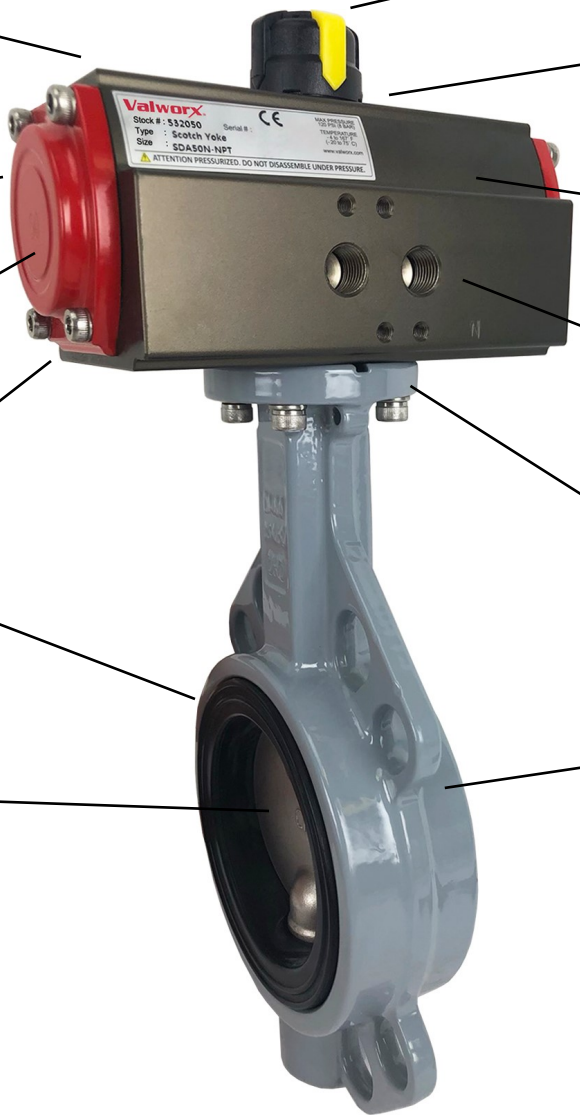
Anodized aluminum alloy covers with 40 micron polyester powder coating

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

Stainless steel fasteners

Unique wave line seat reduces torque and extends seal life

316SS disc with 2-piece stem design enhances flow capacity, reduces pressure drop



Visual valve position indicator

Standard Namur top mounting for optional switches and positioners

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 brackets required

Ductile iron body with epoxy coating

Pressure Rating

Pressure Rating: 230 PSI (16 Bar), Vacuum 29in Hg, 145 PSI (10 Bar) 12" size

International standard ISO5211 valve mounting pad

Temperature Range

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

Valve Temperature Rating: EPDM seals 0 to 248° F (-18 to 120°C)

NBR seals 5 to 185° F (-15 to 85°C)

Specifications (English units)

Stock Number	Pipe Size (inch)	Orifice Diam. (inch)	Cv Flow Factor	Pressure Max.(PSI)	Fluid Media*	Cycle Time/90° (seconds)	Recommended Air Pilot Pressure
Wafer Body EPDM Seals: SPRING RETURN							
564202	2	2.0	124	230	Water	0.3 - 0.5	58-87
564203	2-1/2	2.5	247	230	Water	0.4 - 0.6	58-87
564204	3	3.0	470	230	Water	0.4 - 0.6	58-87
564205	4	4.0	929	230	Water	0.4 - 0.6	58-87
564207	6	6.0	2243	230	Water	0.7 - 1.2	58-87
564208	8	8.0	3854	230	Water	1.0—2.3	58-87
564210	10	10.0	4498	145	Water	1.3—3.1	58-87
564209	12	12.0	8498	145	Water	1.3 - 3.1	58-87
Wafer Body EPDM Seals: DOUBLE ACTING							
564212	2	2.0	124	230	Water	0.3	58-87
564213	2-1/2	2.5	247	230	Water	0.3	58-87
564214	3	3.0	470	230	Water	0.3	58-87
564215	4	4.0	929	230	Water	0.4	58-87
564217	6	6.0	2243	230	Water	0.6	58-87
564218	8	8.0	3854	230	Water	0.8	58-87
564211	10	10.0	4498	145	Water	1.2	58-87
564219	12	12.0	8498	145	Water	1.6	58-87
Wafer Body NBR (Buna- N) Seals: SPRING RETURN							
564221	2	2.0	124	230	Air, Oil, Vacuum	0.3 - 0.5	58-87
564222	2-1/2	2.5	247	230	Air, Oil, Vacuum	0.4 - 0.6	58-87
564223	3	3.0	470	230	Air, Oil, Vacuum	0.4 - 0.6	58-87
564224	4	4.0	929	230	Air, Oil, Vacuum	0.4 - 0.6	58-87
564226	6	6.0	2243	230	Air, Oil, Vacuum	0.7-1.2	58-87
Wafer Body NBR (Buna- N) Seals: DOUBLE ACTING							
564231	2	2.0	124	230	Air, Oil, Vacuum	0.3	58-87
564232	2-1/2	2.5	247	230	Air, Oil, Vacuum	0.3	58-87
564233	3	3.0	470	230	Air, Oil, Vacuum	0.3	58-87
564234	4	4.0	929	230	Air, Oil, Vacuum	0.4	58-87
564236	6	6.0	2243	230	Air, Oil, Vacuum	0.6	58-87

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

* Consult compatibility chart for other fluid media. Suitable for vacuum up to 29 inHg

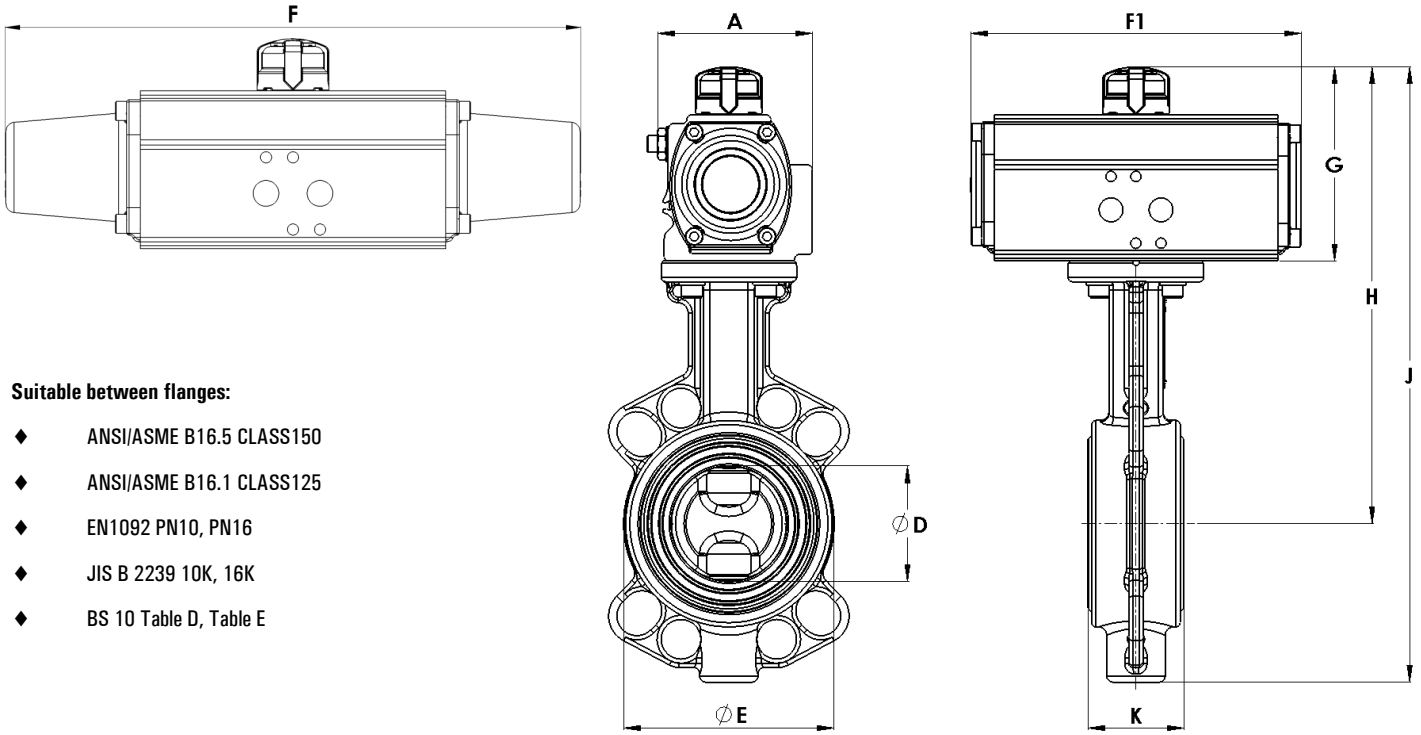
Specifications (Metric units)

Stock Number	Pipe Size (DN)	Orifice Diam. (mm)	Kv Flow Factor	Pressure Max.(Bar)	Fluid Media*	Cycle Time/90° (seconds)	Recommended Air Pilot Pressure
Wafer Body EPDM Seals: SPRING RETURN							
564202	50	50	107	16	Water	0.3 - 0.5	4-6
564203	65	65	212	16	Water	0.4 - 0.6	4-6
564204	80	80	404	16	Water	0.4 - 0.6	4-6
564205	100	100	799	16	Water	0.4 - 0.6	4-6
564207	150	150	1929	16	Water	0.7 - 1.2	4-6
564208	200	200	3100	16	Water	1.0—2.3	4-6
564210	250	250	5200	10	Water	1.3—3.1	4-6
564209	300	300	7350	10	Water	1.3 - 3.1	4-6
Wafer Body EPDM Seals: DOUBLE ACTING							
564212	50	50	107	16	Water	0.3	4-6
564213	65	65	212	16	Water	0.3	4-6
564214	80	80	404	16	Water	0.3	4-6
564215	100	100	799	16	Water	0.4	4-6
564217	150	150	1929	16	Water	0.6	4-6
564218	200	200	3100	16	Water	0.8	4-6
564211	250	250	5200	10	Water	1.2	4-6
564219	300	300	7350	10	Water	1.6	4-6
Wafer Body NBR (Buna- N) Seals: SPRING RETURN							
564221	50	50	107	16	Air, Oil, Vacuum	0.3 - 0.5	4-6
564222	65	65	212	16	Air, Oil, Vacuum	0.4 - 0.6	4-6
564223	80	80	404	16	Air, Oil, Vacuum	0.4 - 0.6	4-6
564224	100	100	799	16	Air, Oil, Vacuum	0.4 - 0.6	4-6
564226	150	150	1929	16	Air, Oil, Vacuum	0.7-1.2	4-6
Wafer Body NBR (Buna- N) Seals: DOUBLE ACTING							
564231	50	50	107	16	Air, Oil, Vacuum	0.3	4-6
564232	65	65	212	16	Air, Oil, Vacuum	0.3	4-6
564233	80	80	404	16	Air, Oil, Vacuum	0.3	4-6
564234	100	100	799	16	Air, Oil, Vacuum	0.4	4-6
564236	150	150	1929	16	Air, Oil, Vacuum	0.6	4-6

Kv = The number of m^3 per hour of 20° C water at 1 bar pressure drop

* Consult compatibility chart for other fluid media. Suitable for vacuum up to 29 inHg

Dimensions 2" to 12" Sizes



Suitable between flanges:

- ANSI/ASME B16.5 CLASS150
- ANSI/ASME B16.1 CLASS125
- EN1092 PN10, PN16
- JIS B 2239 10K, 16K
- BS 10 Table D, Table E

Spring Return Dimensions: inches (mm)

Pipe Size	A	D	E	F–SR	G	H	J	K	Weight lbs (kg)
2 (DN50)	2.9 (75)	2.0 (50)	3.9 (99)	10.1 (257)	3.7 (93)	8.6 (219)	11.6 (295)	1.8 (46)	7.9 (3.6)
2-1/2 (DN65)	3.5 (89)	2.6 (65)	4.5 (113)	12.4 (314)	4.3 (110)	9.6 (244)	12.8 (325)	1.9 (49)	12.1 (5.5)
3 (DN80)	3.5 (89)	3.2 (80)	5.1 (129)	12.4 (314)	4.3 (110)	10.5 (267)	14.3 (362)	1.9 (49)	13.9 (6.3)
4 (DN100)	3.5 (89)	3.9 (100)	6.2 (157)	12.4 (314)	4.3 (110)	10.9 (277)	15.4 (390)	2.2 (56)	17.4 (7.9)
6 (DN150)	5.1 (129)	5.9 (150)	8.4 (213)	19.7 (500)	5.9 (151)	13.9 (354)	19.7 (500)	2.3 (59)	47.4 (21.5)
8 (DN 200)	5.9 (150)	7.9 (200)	10.67 (271)	23.8 (605)	6.7 (170)	15.7 (398.8)	22.5 (571.5)	2.5 (64)	63.0 (28.6)
10 (DN 250)	6.5 (164)	9.8 (250)	13.0 (329)	26.9 (682)	7.6 (193)	18.1 (459.7)	26.5 (673.1)	2.7 (68)	80.7 (36.6)
12 (DN 300)	6.5 (164)	11.8 (300)	15.0 (382)	26.9 (682)	7.6 (193)	19.1 (484)	28.6 (726)	3.4 (85)	110 (49.9)

Double Acting Dimensions: inches (mm)

Pipe Size	A	D	E	F1– DA	G	H	J	K	Weight bs (kg)
2 (DN50)	2.9 (75)	2.0 (50)	3.9 (99)	6.4 (162)	3.7 (93)	8.6 (219)	11.6 (295)	1.8 (46)	7.5 (3.4)
2-1/2 (DN65)	2.9 (75)	2.6 (65)	4.5 (113)	6.4 (162)	3.7 (93)	8.9 (227)	12.2 (309)	1.9 (49)	8.6 (3.9)
3 (DN80)	2.9 (75)	3.2 (80)	5.1 (129)	6.4 (162)	3.7 (93)	9.8 (250)	13.6 (346)	1.9 (49)	10.4 (4.7)
4 (DN100)	3.5 (89)	3.9 (100)	6.2 (157)	7.9 (202)	4.3 (110)	10.9 (277)	15.4 (390)	2.2 (56)	15.9 (7.2)
6 (DN150)	3.9 (101)	5.9 (150)	8.4 (213)	9.9 (253)	5.1 (129)	13.1 (332)	18.8 (478)	2.3 (59)	25.6 (11.6)
8 (DN 200)	5.1 (129)	7.9 (200)	10.67 (271)	12.2 (311)	5.9 (151)	14.9 (379)	21.7 (551)	2.5 (64)	41.6 (18.9)
10 (DN 250)	5.9 (151)	9.8 (250)	13.0 (329)	15.3 (390)	6.7 (170.2)	17.2 (436.9)	25.6 (650.2)	2.7 (68)	63.2 (28.7)
12 (DN 300)	6.5 (164)	11.8 (300)	15.0 (382)	16.9 (431)	7.6 (193)	19.1 (484)	28.6 (726)	3.4 (85)	93.9 (42.4)