Air Actuated Butterfly Valves

Ductile Iron Lug Body ANSI/ASME 150
2" to 6" Sizes

SERIES
5641

Features

- Lug body 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
- Actuator designed for extended cycle life (1 million cycles)
- Rugged rack and pinion design
- Highly visible valve position indicator
- Dry or lubricated pilot air supply
- Actuator factory lubricated for normal life
- Namur and ISO mounting standards

Applications

Air actuated Lug body butterfly valves are used to control the flow of water, oils, air, vacuum and other media compatible with the materials of construction. Valves available with either spring return or double acting actuators.

Three seal options are available:

EPDM: Water service, other compatible media.

NBR (Buna-N): Oils, air, vacuum, other compatible media.

FPM (Viton): Hydrocarbons, oils, other compatible chemicals/media.

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	Options: EPDM, NBR (Buna-N), FPM (Viton)
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

Air actuated direct mount butterfly valve with epoxy- coated ductile iron lug body are designed for commercial and industrial applications. Valve mounts between two standard ANSI/ASME Class 125/ 150 flanges. Integral 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/Standards

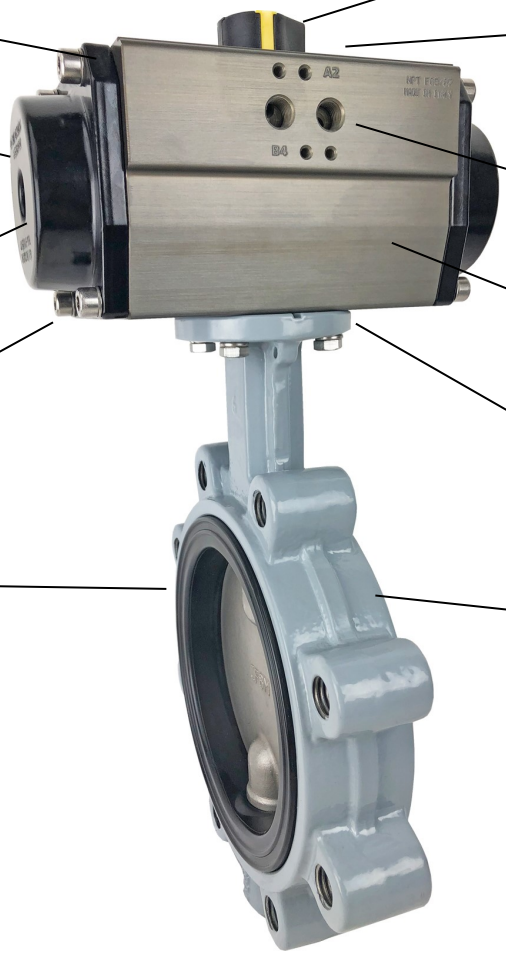
Actuator

- CE Declaration of conformity
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting
- ATEX-94-9-CEE standard for explosive environment II 2GD c Tmax = 95°C

Valve

- Design complies with API-609, MSS SP-67
- Tests per API-598, AWWA C502-87
- CE conformance– PED 2014/68/UE

Construction



Heavy duty rugged rack and pinion design

Aluminum alloy covers with 60-80 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

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

Extruded aluminum body with 50 micron hard anodizing

Direct mount lug butterfly valve with standard ISO5211 mount, no brackets required

Ductile iron body with epoxy coating

Pressure Rating /Temperature Range

Pressure Rating: 230 PSI (16 Bar), Vacuum 29in Hg, 2-8" sizes

Actuator Temperature Rating: -4 to 176° F (-20 to 80° C)

Valve Temperature Rating: EPDM seals 0 to 248° F (-18 to 120°C)
NBR seals 5 to 185° F (-15 to 85°C)
FPM seals 5 to 338° F (-15 to 170°C)

Options

- Namur direct mount pilot solenoid valves
- Limit switch/Visual valve position indicator
- Pneumatic valve positioners 4-20mA inputs

Specifications (English units)

Stock Number	Pipe Size (inch)	Orifice Diam. (inch)	Cv Flow Factor	Pressure Max. (PSI)	Fluid Media*	Cycle Time/90° (seconds)	Air Pilot Pressure (PSI)
Lug Body EPDM Seals: SPRING RETURN							
564102	2	2.00	124	230	Water	1	80-120
564103	2-1/2	2.50	247	230	Water	1 - 1.5	80-120
564104	3	3.00	470	230	Water	1 - 1.5	80-120
564105	4	4.00	929	230	Water	1 - 1.5	80-120
564107	6	6.00	2243	230	Water	1 - 1.5	80-120
Lug Body NBR (BUNA-N) Seals: SPRING RETURN							
564121	2	2.00	124	230	Air, Oil, Vacuum	1	80-120
564122	2-1/2	2.50	247	230	Air, Oil, Vacuum	1 - 1.5	80-120
564123	3	3.00	470	230	Air, Oil, Vacuum	1 - 1.5	80-120
564124	4	4.00	929	230	Air, Oil, Vacuum	1 - 1.5	80-120
564126	6	6.00	2243	230	Air, Oil, Vacuum	1 - 1.5	80-120
Lug Body FPM (VITON) Seals: SPRING RETURN							
564142	2	2.00	124	230	Hydrocarbon, Oil	1	80-120
564143	2-1/2	2.50	247	230	Hydrocarbon, Oil	1 - 1.5	80-120
564144	3	3.00	470	230	Hydrocarbon, Oil	1 - 1.5	80-120
564145	4	4.00	929	230	Hydrocarbon, Oil	1 - 1.5	80-120
564147	6	6.00	2243	230	Hydrocarbon, Oil	1 - 1.5	80-120

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 (English units)

Stock Number	Pipe Size (inch)	Orifice Diam. (inch)	Cv Flow Factor	Pressure Max. (PSI)	Fluid Media*	Cycle Time/90° (seconds)	Air Pilot Pressure (PSI)
Lug Body EPDM Seals: DOUBLE ACTING							
564112	2	2.00	124	230	Water	1	80-120
564113	2-1/2	2.50	247	230	Water	1	80-120
564114	3	3.00	470	230	Water	1	80-120
564115	4	4.00	929	230	Water	1 - 1.5	80-120
564117	6	6.00	2243	230	Water	1 - 1.5	80-120
Lug Body NBR (BUNA-N) Seals: DOUBLE ACTING							
564131	2	2.00	124	230	Air, Oil, Vacuum	1	80-120
564132	2-1/2	2.50	247	230	Air, Oil, Vacuum	1	80-120
564133	3	3.00	470	230	Air, Oil, Vacuum	1	80-120
564134	4	4.00	929	230	Air, Oil, Vacuum	1 - 1.5	80-120
564136	6	6.00	2243	230	Air, Oil, Vacuum	1 - 1.5	80-120
Lug Body FPM (VITON) Seals: DOUBLE ACTING							
564152	2	2.00	124	230	Hydrocarbon, Oil	1	80-120
564153	2-1/2	2.50	247	230	Hydrocarbon, Oil	1	80-120
564154	3	3.00	470	230	Hydrocarbon, Oil	1	80-120
564155	4	4.00	929	230	Hydrocarbon, Oil	1 - 1.5	80-120
564157	6	6.00	2243	230	Hydrocarbon, Oil	1 - 1.5	80-120

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)	Air Pilot Pressure (Bar)
Lug Body EPDM Seals: SPRING RETURN							
564102	50	50	107	16	Water	1	5.5 - 8
564103	65	65	212	16	Water	1 - 1.5	5.5 - 8
564104	80	80	404	16	Water	1 - 1.5	5.5 - 8
564105	100	100	799	16	Water	1 - 1.5	5.5 - 8
564107	150	150	1929	16	Water	1 - 1.5	5.5 - 8
Lug Body NBR (BUNA-N) Seals: SPRING RETURN							
564121	50	50	107	16	Air, Oil, Vacuum	1	5.5 - 8
564122	65	65	212	16	Air, Oil, Vacuum	1 - 1.5	5.5 - 8
564123	80	80	404	16	Air, Oil, Vacuum	1 - 1.5	5.5 - 8
564124	100	100	799	16	Air, Oil, Vacuum	1 - 1.5	5.5 - 8
564126	150	150	1929	16	Air, Oil, Vacuum	1 - 1.5	5.5 - 8
Lug Body FPM (VITON) Seals: SPRING RETURN							
564142	50	50	107	16	Hydrocarbon, Oil	1	5.5 - 8
564143	65	65	212	16	Hydrocarbon, Oil	1 - 1.5	5.5 - 8
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564145	100	100	799	16	Hydrocarbon, Oil	1 - 1.5	5.5 - 8
564147	150	150	1929	16	Hydrocarbon, Oil	1 - 1.5	5.5 - 8

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

Specifications (Metric units)

Stock Number	Pipe Size (DN)	Orifice Diam. (mm)	Kv Flow Factor	Pressure Max. (Bar)	Fluid Media*	Cycle Time/90° (seconds)	Air Pilot Pressure (Bar)
Lug Body EPDM Seals: DOUBLE ACTING							
564112	50	50	107	16	Water	1	5.5 - 8
564113	65	65	212	16	Water	1	5.5 - 8
564114	80	80	404	16	Water	1	5.5 - 8
564115	100	100	799	16	Water	1 - 1.5	5.5 - 8
564117	150	150	1929	16	Water	1 - 1.5	5.5 - 8
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564133	80	80	404	16	Air, Oil, Vacuum	1	5.5 - 8
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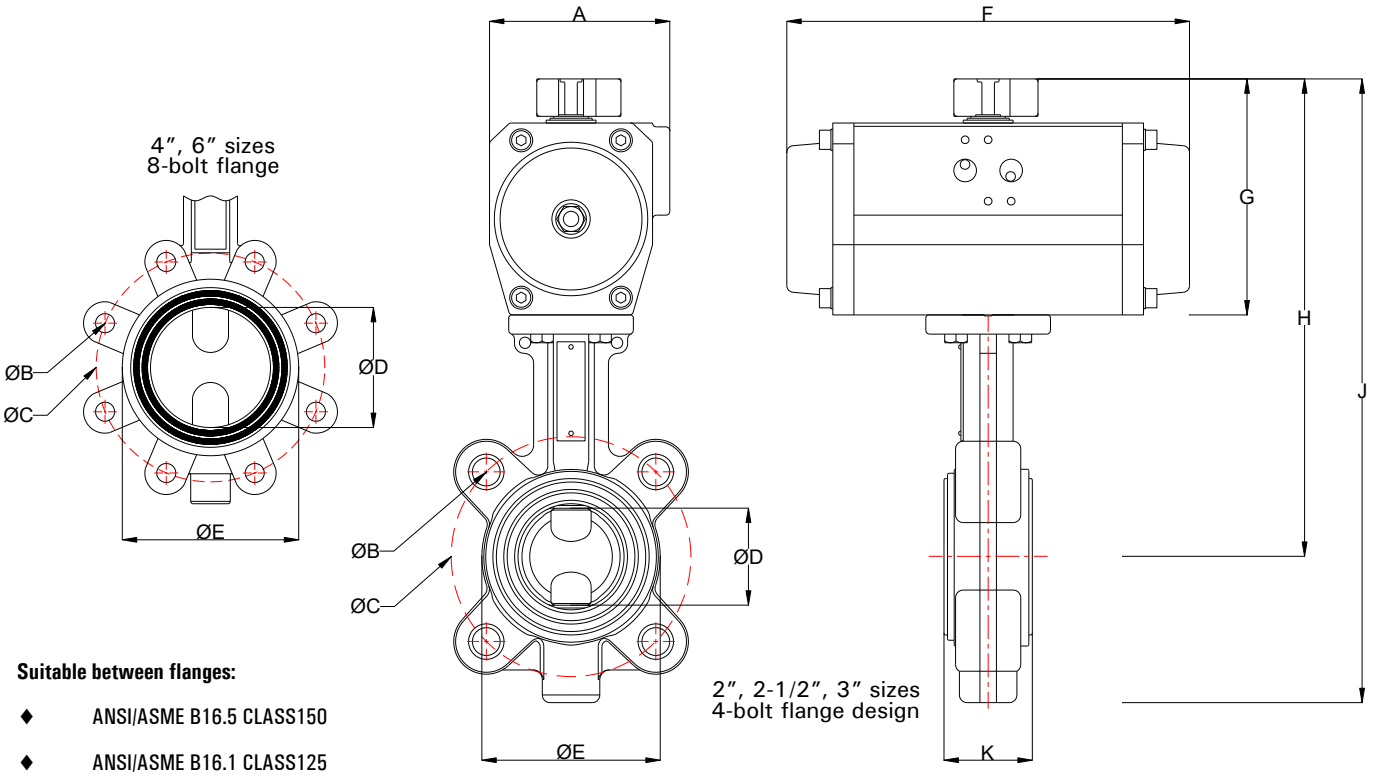
564152	50	50	107	16	Hydrocarbon, Oil	1	5.5 - 8
564153	65	65	212	16	Hydrocarbon, Oil	1	5.5 - 8
564154	80	80	404	16	Hydrocarbon, Oil	1	5.5 - 8
564155	100	100	799	16	Hydrocarbon, Oil	1 - 1.5	5.5 - 8
564157	150	150	1929	16	Hydrocarbon, Oil	1 - 1.5	5.5 - 8

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 6″ Sizes



Suitable between flanges:

- ANSI/ASME B16.5 CLASS150
- ANSI/ASME B16.1 CLASS125

Spring Return Dimensions: inches (mm)

Pipe Size (inch)	A	B	C	D	E	F	G	H	J	K	ISO	Weight lbs (kg)
2 (DN50)	3.39 (86)	5/8-11	4.75 (120.5)	1.97 (50)	3.74 (95)	6.14 (156)	4.25 (108)	9.21 (234)	12.20 (310)	1.81 (46)	F05	10.8 (5)
2-1/2 (DN65)	3.70 (94)	5/8-11	5.50 (139.7)	2.56 (65)	4.13 (105)	8.27 (210)	4.92 (125)	10.2 (259)	13.43 (341)	1.93 (49)	F05	15.7 (7)
3 (DN80)	4.09 (104)	5/8-11	6.00 (152.4)	3.15 (80)	4.72 (120)	9.06 (230)	5.31 (135)	11.5 (292)	15.28 (388)	1.93 (49)	F05	21.6 (10)
4 (DN100)	4.72 (120)	5/8-11	7.50 (190.5)	3.94 (100)	5.79 (147)	11.1 (281)	5.12 (130)	11.7 (297)	16.18 (411)	2.19 (56)	F05/07	30.7 (14)
6 (DN150)	5.28 (134)	3/4-10	9.50 (241.3)	5.91 (150)	8.07 (205)	12.2 (310)	5.79 (147)	15.2 (386)	20.85 (530)	2.31 (59)	F07	60.2 (27)

Double Acting Dimensions: inches (mm)

Pipe Size (inch)	A	B	C	D	E	F	G	H	J	K	ISO	Weight lbs (kg)
2 (DN50)	3.39 (86)	5/8-11	4.75 (120.5)	1.97 (50)	3.74 (95)	6.14 (156)	4.25 (108)	9.21 (234)	12.20 (310)	1.81 (46)	F05	10.1 (4.6)
2-1/2 (DN65)	3.39 (86)	5/8-11	5.50 (139.7)	2.56 (65)	4.13 (105)	6.14 (156)	4.25 (108)	9.21 (234)	12.20 (310)	1.93 (49)	F05	11.9 (5.4)
3 (DN80)	3.39 (86)	5/8-11	6.00 (152.4)	3.15 (80)	4.72 (120)	6.14 (156)	4.25 (108)	9.21 (234)	12.20 (310)	1.93 (49)	F05	14.7 (6.7)
4 (DN100)	3.70 (94)	5/8-11	7.50 (190.5)	3.94 (100)	5.79 (147)	8.27 (210)	4.92 (125)	10.2 (259)	13.43 (341)	2.19 (56)	F05/07	22.3 (10)
6 (DN150)	4.09 (104)	3/4-10	9.50 (241.3)	5.91 (150)	8.07 (205)	9.06 (230)	5.31 (135)	13.3 (337)	18.9 (480)	2.31 (59)	F07	39.1 (18)

Notes: Sizes 2, 2-1/2, 3 inch valves have 4-bolt flange mounting. Sizes 4 and 6 inch have 8-bolt mounting.