Air Actuated High Performance Butterfly Valves–Scotch Yoke

Stainless Steel Lug Body ANSI/ASME 150

3" to 6" Sizes

SERIES
5477
5478

Features

- Double offset design reduces torque and seal wear
- High quality, passivated 316SS (CF8M) construction for superior corrosion protection
- Multiple RPTFE V-type rings for superior shaft sealing
- Bolted seat retainer keeps seat stable and allows easy changeout
- Belleville washers for consistent, self-adjusting stem seal pressure
- One piece, reinforced Teflon (RPTFE) seal
- Bi-directional seal design ensures increased sealing force in either flow direction
- 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

Description

Air actuated mount high performance butterfly valves with 316 stainless steel lug body are designed for commercial and industrial applications. Valve mounts between two standard ANSI/ASME Class 125/ 150 flanges. Disc is spherically machined 316SS. Flange gaskets required. Double offset design to reduce seal wear.

Applications

High performance lug butterfly valves are used to control the flow of waters, oils, air, certain caustics, and other media compatible with the materials of construction for general service and where an expanded temperature range or higher pressure is required. Available in either failsafe spring return or double acting designs.

Also suitable for end of line 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	316 stainless steel CF8M
Disc	316 stainless steel CF8M
Disc Seat/Liner	RPTFE
Stem/Stem Seals	17-4PH SS
Actuator Body/End Covers	Hard anodized aluminum/Polyester coated aluminum
Valve Position Indicator	Glass filled Polyamide
Fasteners	Stainless Steel
Actuator Seals	NBR

Approvals– Actuators

- CE conformity–MC 2006/42/CE
- EN ISO 12100:2010
- EN ISO 4414:2010
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting

Standards– Valves

- Pressure- ANSI/ASME B16.5 CLASS150
- JIS B 2239 10K, 16K
- Top Flange– ISO 5211
- Face– API 609 Class B
- Leakage- ISO 5208 Category 3, API 598 Table 5
- CE Conformance– PED 2014/68/EU Annex III Module B

Construction Features

Heavy duty rugged scotch yoke design

Anodized aluminum alloy covers with 40 micron polyester powder coating

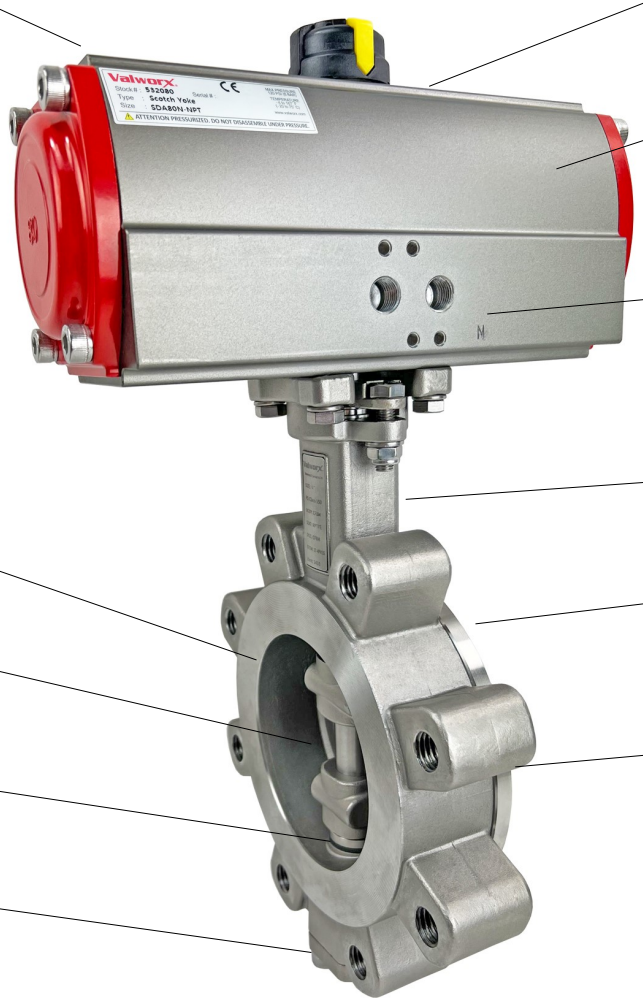
Spring return models use multiple pre-compressed spring cartridges with polyester coating

Bi-directional, one piece self-energized RTPFE Seat

Spherically machined disc edge reduces wear & torque

Washer seals between stem and body brush away particles

Thrust ring for anti-blowout, anti-static



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

Stem packing adjustment below ISO mount is accessible with actuator installed

Bolted faceplate ensures consistent seat position

Integrally-cast heavy duty mounting stop

International standard ISO5211 valve mounting pad

Pressure Rating

Pressure Rating: 285 PSI (19.7 Bar)

Vacuum Rating: Full vacuum

Temperature Range

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

Valve Temperature Rating: RPTFE Seals: -40 to 450°F (-40 to 230°C)

Optional Accessories

DMS: Direct Mount Solenoid
- pilot to electrically operate the ball valve
VPS: Valve Position Switches
- limit switches to confirm valve position
Actuator Mounting Kits
DSP: Digital Smart Positioner
- simplify throttling applications

Specifications (English units)

Stock Number	Pipe Size (inch)	Orifice Diam. (inch)	Cv Flow Factor	Pressure Max.(PSI)	Fluid Media*	Cycle Time/90° (Open/Close)	Recommended Air Pilot Pressure (PSI)
HIGH PERFORMANCE LUG BODY BUTTERFLY VALVE, RPTFE SEALS: DOUBLE ACTING							
547703A	3	2.8	180	285	Air, oil and other fluids compatible with materials of construction	<1	58-87
547704A	4	3.6	375	285	Air, oil and other fluids compatible with materials of construction	<1	58-87
547706A	6	5.7	1350	285	Air, oil and other fluids compatible with materials of construction	<1	58-87
HIGH PERFORMANCE LUG BODY BUTTERFLY VALVE, RPTFE SEALS: SPRING RETURN							
547803A	3	2.8	180	285	Air, oil and other fluids compatible with materials of construction	3/1	58-87
547804A	4	3.6	375	285	Air, oil and other fluids compatible with materials of construction	3/1	58-87
547806A	6	5.7	1350	285	Air, oil and other fluids compatible with materials of construction	3/1	58-87

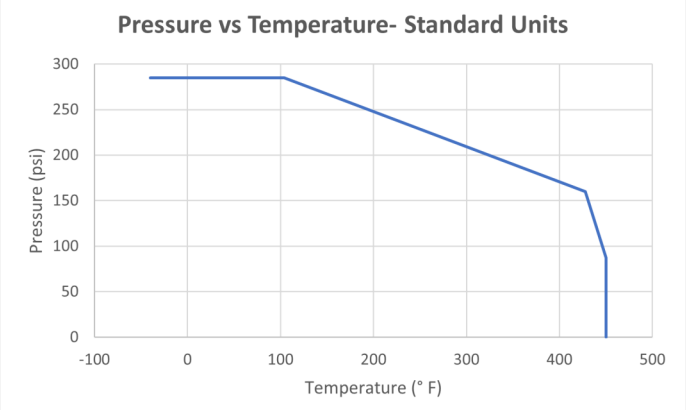
Cv = The GPM of water at 60° F that will pass through the valve with 1 PSI pressure drop

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

* See P/T Chart

PT Chart

Pressure vs Temperature					
Temp °F	-40	104	428	450	450
Pressure– PSI	285	285	160	87	0



Specifications (Metric units)

Stock Number	Pipe Size (DN)	Orifice Diam. (mm)	Kv Flow Factor	Pressure Max.(Bar)	Fluid Media*	Cycle Time/90° (Open/Close)	Recommended Air Pilot Pressure (Bar)
HIGH PERFORMANCE LUG BODY BUTTERFLY VALVE, RPTFE SEALS: DOUBLE ACTING							
547703A	80	72.0	155.7	19.7	Air, oil and other fluids compatible with materials of construction	<1	4-6
547704A	100	91.0	324.4	19.7	Air, oil and other fluids compatible with materials of construction	<1	4-6
547706A	150	145.0	1167.8	19.7	Air, oil and other fluids compatible with materials of construction	<1	4-6
HIGH PERFORMANCE LUG BODY BUTTERFLY VALVE, RPTFE SEALS: SPRING RETURN							
547803A	80	72.0	155.7	19.7	Air, oil and other fluids compatible with materials of construction	3/1	4-6
547804A	100	91.0	324.4	19.7	Air, oil and other fluids compatible with materials of construction	3/1	4-6
547806A	150	145.0	1167.8	19.7	Air, oil and other fluids compatible with materials of construction	3/1	4-6

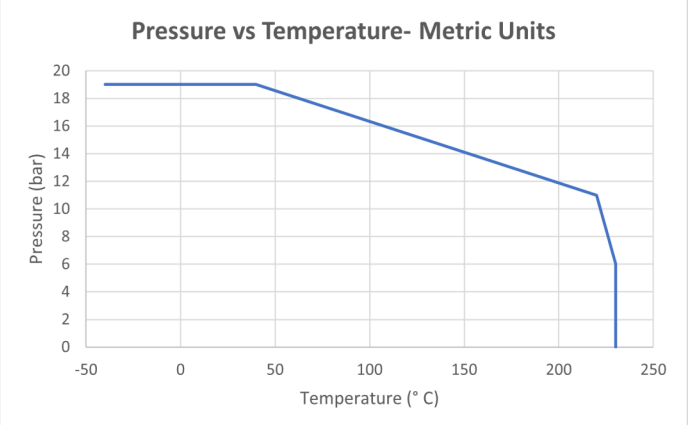
Kv = The number of m^3 per hour of 20° C water at 1 bar pressure drop

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

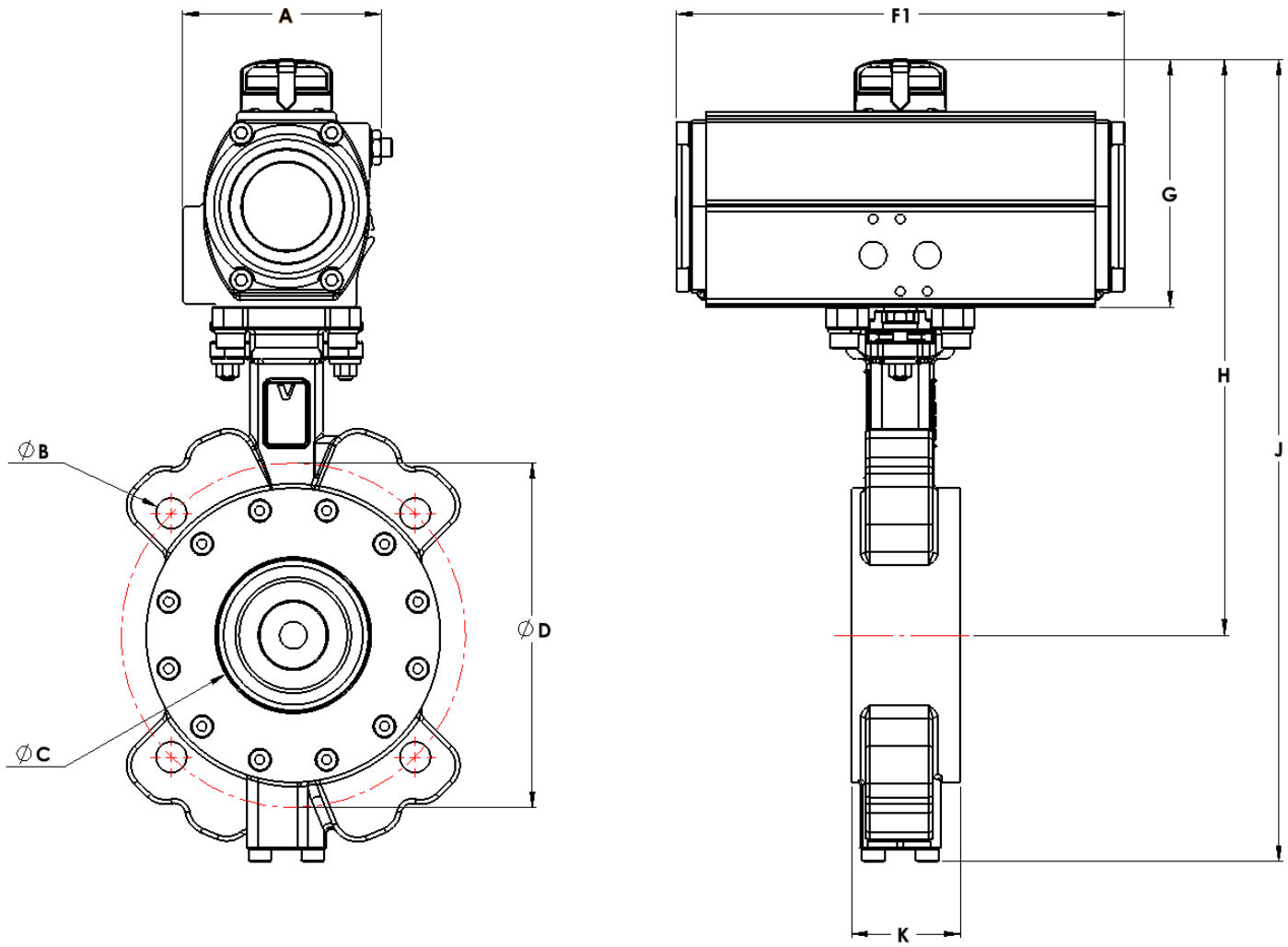
* See P/T Chart

PT Chart

Pressure vs Temperature					
Temp °C	-40	40	220	230	230
Pressure– Bar	19	19	11	6	0



Dimensions: Double Acting

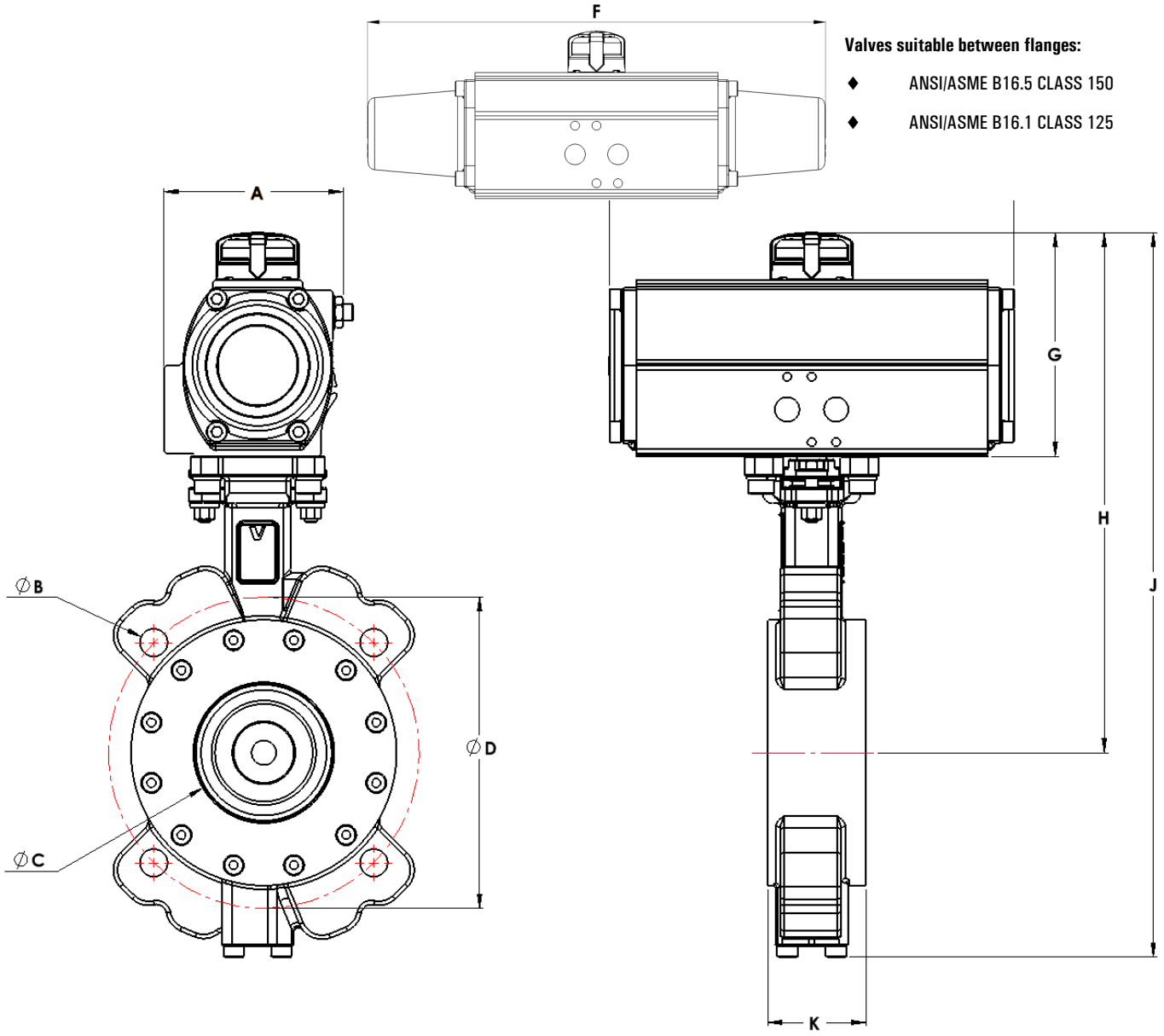


Valves suitable between flanges:

- ANSI/ASME B16.5 CLASS 150
- ANSI/ASME B16.1 CLASS 125

Pipe Size		A	B	C	D	F1	G	H	J	K	Weight
3	inch	3.5	4) 5/8-11	2.8	6.0	7.9	4.1	9.8	13.7	1.2	17.6 lb
(DN 80)	mm	88.9	-	72.0	152.4	200.7	104.1	248.9	347.9	48.0	8.0 kg
4	inch	3.9	8) 5/8-11	3.6	7.5	9.9	4.8	11.5	16.4	2.1	27.6 lb
(DN100)	mm	99.1	-	91.0	190.5	251.5	121.9	292.1	416.6	54.0	12.5 kg
6	inch	5.0	8) 3/4-10	5.7	9.5	12.2	5.7	13.6	19.6	2.2	46.1 lb
(DN 150)	mm	127.0	-	145.0	241.3	309.9	144.8	345.4	497.8	57.0	21.0 kg

Dimensions: Spring Return



Valves suitable between flanges:

- ANSI/ASME B16.5 CLASS 150
- ANSI/ASME B16.1 CLASS 125

Pipe Size		A	B	C	D	F–SR	G	H	J	K	Weight
3	inch	3.9	4) 5/8-11	2.8	6.0	16.5	4.8	10.5	14.4	1.2	24.2 lb
(DN 80)	mm	99.1	-	72.0	152.4	419.1	121.9	266.7	365.8	48.0	11.0 kg
4	inch	5.0	8) 5/8-11	3.6	7.5	19.6	5.7	12.1	17.3	2.1	49.1 lb
(DN100)	mm	129.5	-	91.0	190.5	497.8	144.8	307.3	439.4	54.0	22.5 kg
6	inch	5.9	8) 3/4-10	5.7	9.5	23.8	6.7	14.6	20.6	2.2	67.4 lb
(DN 150)	mm	149.9	-	145.0	241.3	604.5	170.2	370.8	523.2	57.0	30.6 kg