

Features

- ISO5211 top mounting for manual, air or electric actuators
- Unique wave line seat reduces torque and extends seal life
- Ductile iron body with epoxy coating
- 316SS disc with 2-piece stem design enhances flow capacity
- EPDM, NBR (Buna-N), or FPM (Viton) seal options
- Seat vulcanized to valve body
- V-ring stem/shaft seals, same material as seat
- PTFE graphite reinforced stem bearings
- Pressure rated 230 PSI (16 Bar)
- Easily mounts between ANSI/ASME Class 125/150 flanges
- Optional 10 positional locking hand lever

Applications

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 can be operated with manual, air or electric 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.

Temperature Range

EPDM Seals: 0 to 248° F (-18 to 120°C)

NBR (Buna-N) Seals: 5 to 185° F (-15 to 85°C)

FPM (Viton) Seals: 5 to 338° F (-15 to 170°C)

Construction

Valve Body	Epoxy coated ductile iron GGG40
Disc	316 stainless steel CF8M
Disc Seat/Liner - Options	EPDM, NBR (Buna-N), FPM (Viton)
Stem Seals	V-ring (same material as seat)
Stem	420SS
Bearings	PTFE Graphite reinforced/Nylon
Fasteners	Stainless Steel



Operation

Direct mount lug butterfly valves can be easily fitted with optional manual operator, air actuator or electric actuator using the standard ISO5211 top mounting. Turning the square stem one quarter turn rotates the stainless steel disc and opens or closes the valve. Unique wave line soft seat reduces the torque required to close the valve and extends the seal life.

Description

Lug butterfly valves with epoxy-coated ductile iron body are designed to control various media in commercial and industrial applications. Valve mounts between two standard ANSI/ASME Class 125/ 150 flanges. Seat to flange seal, eliminates the need for flange gaskets. Disc is precision machined 316SS for maximum corrosion resistance. Two piece stem and disc design enhances the flow capacity and reduces turbulence.

Options

- Hand lever with 10 position locking
- Gear Operators (4" and 6" sizes)
- Air Actuators
- Electric Actuators

Specifications (English units)

Stock Number	Pipe Size (inch)	Orifice Diam. (inch)	Cv Flow Factor	Pressure Max.(PSI)	Body	Disc
Lug Body EPDM Seals: BARE STEM						
564516	2	2.00	124	230	Ductile Iron	316SS
564520	2-1/2	2.50	247	230	Ductile Iron	316SS
564524	3	3.00	470	230	Ductile Iron	316SS
564532A	4	4.00	929	230	Ductile Iron	316SS
564548	6	6.00	2243	230	Ductile Iron	316SS
Lug Body NBR (BUNA-N) Seals: BARE STEM						
564716	2	2.00	124	230	Ductile Iron	316SS
564720	2-1/2	2.50	247	230	Ductile Iron	316SS
564724	3	3.00	470	230	Ductile Iron	316SS
564732A	4	4.00	929	230	Ductile Iron	316SS
564748	6	6.00	2243	230	Ductile Iron	316SS
Lug Body FPM (VITON) Seals: BARE STEM						
564916	2	2.00	124	230	Ductile Iron	316SS
564920	2-1/2	2.50	247	230	Ductile Iron	316SS
564924	3	3.00	470	230	Ductile Iron	316SS
564932A	4	4.00	929	230	Ductile Iron	316SS
564948	6	6.00	2243	230	Ductile Iron	316SS

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

* Consult the media compatibility chart for suitable media & seal combination

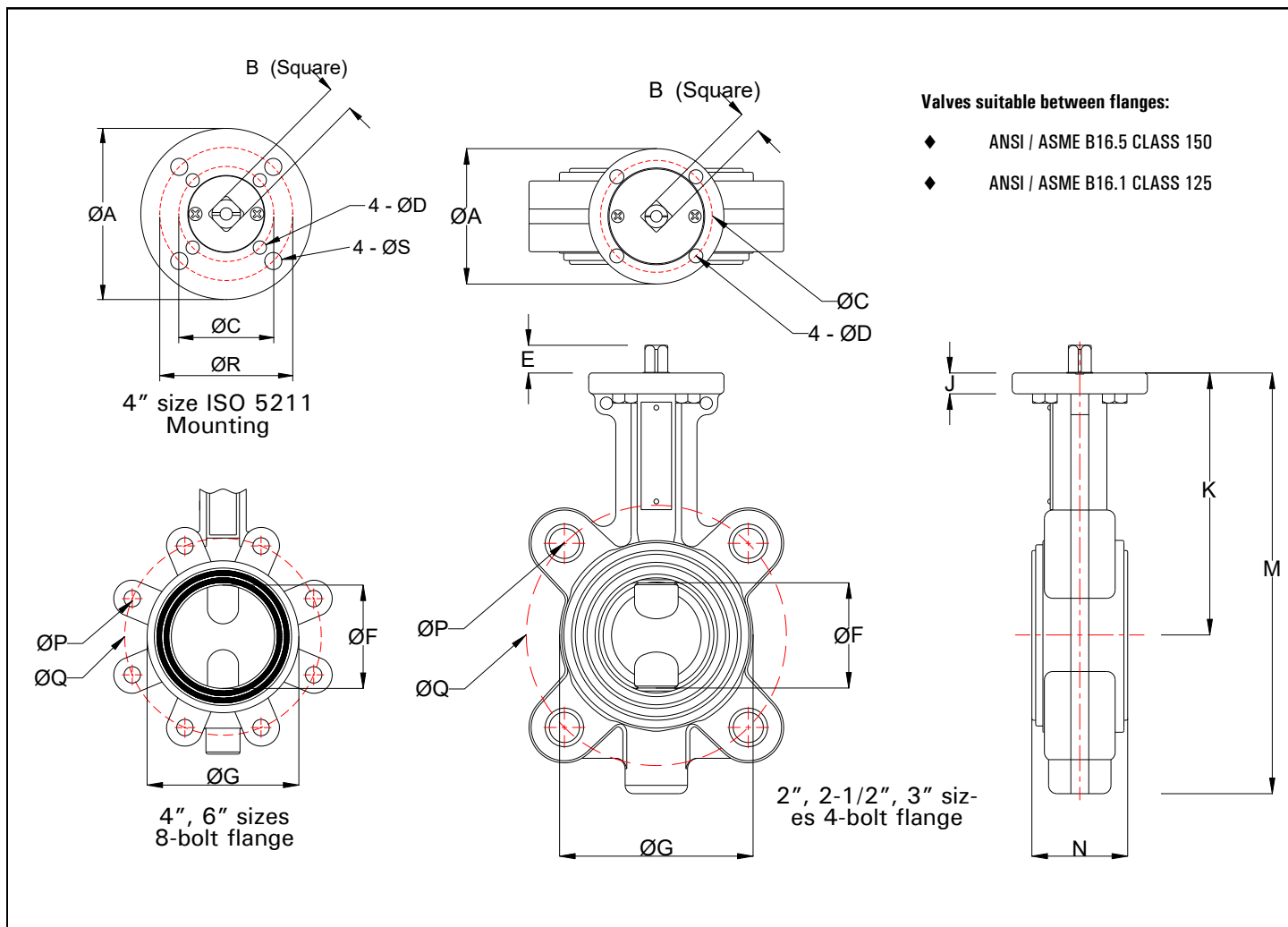
Specifications (Metric units)

Stock Number	Pipe Size (DN)	Orifice Diam.	Kv Flow Factor	Pressure	Body	Disc
Lug Body EPDM Seals: BARE STEM						
564516	50	50	107	16	Ductile Iron	316SS
564520	65	65	212	16	Ductile Iron	316SS
564524	80	80	404	16	Ductile Iron	316SS
564532A	100	100	799	16	Ductile Iron	316SS
564548	150	150	1929	16	Ductile Iron	316SS
Lug Body NBR (BUNA-N) Seals: BARE STEM						
564716	50	50	107	16	Ductile Iron	316SS
564720	65	65	212	16	Ductile Iron	316SS
564724	80	80	404	16	Ductile Iron	316SS
564732A	100	100	799	16	Ductile Iron	316SS
564748	150	150	1929	16	Ductile Iron	316SS
Lug Body FPM (VITON) Seals: BARE STEM						
564916	50	50	107	16	Ductile Iron	316SS
564920	65	65	212	16	Ductile Iron	316SS
564924	80	80	404	16	Ductile Iron	316SS
564932A	100	100	799	16	Ductile Iron	316SS
564948	150	150	1929	16	Ductile Iron	316SS

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

* Consult the media compatibility chart for suitable media & seal combination

Dimensions 2" to 6" Sizes



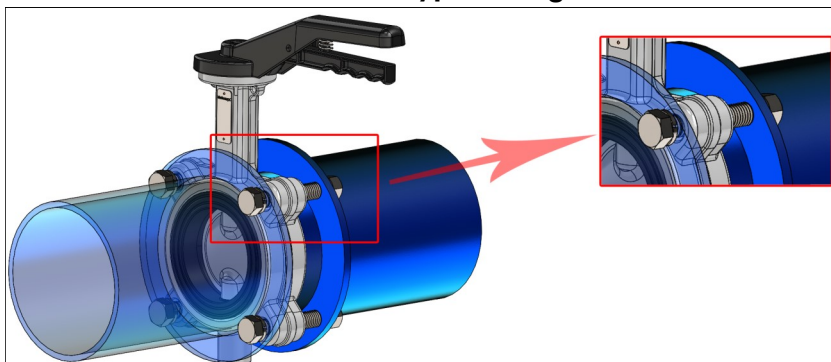
Pipe Size		A	B	C	D	E	F	G	J	K	M	N	P	Q	R	S	ISO	Weight
2	inch	2.56	0.43	1.97	0.28	0.53	1.97	3.74	0.39	4.96	7.95	1.81	4) 5/8-11	4.74	-	-	F05	6.6 lb
	mm	65	11	50	7	13.5	50	95	10	126	202	46	-	120.5	-	-		3.0 kg
2-1/2	inch	2.56	0.43	1.97	0.28	0.53	2.56	4.13	0.39	5.28	8.50	1.93	4) 5/8-11	5.50	-	-	F05	8.4 lb
	mm	65	11	50	7	13.5	65	105	10	134	216	49	-	139.7	-	-		3.8 kg
3	inch	2.56	0.43	1.97	0.28	0.53	3.15	4.72	0.39	6.18	9.96	1.93	4) 5/8-11	6.00	-	-	F05	11.2 lb
	mm	65	11	50	7	13.5	80	120	10	157	253	49	-	152.4	-	-		5.1 kg
4	inch	3.54	0.55	1.97	0.28	0.75	3.94	5.79	0.51	6.57	11.06	2.19	8) 5/8-11	7.50	2.76	0.35	F05/F07	15.9 lb
	mm	90	14	50	7	19	100	147	13	167	281	56	-	190.5	70	9		7.2 kg
6	inch	3.54	0.67	2.76	0.35	0.73	5.91	8.07	0.51	7.99	13.58	2.31	8) 3/4-10	9.50	-	-	F07	29.8 lb
	mm	90	17	70	9	18.5	150	205	13	203	345	59	-	241.3	-	-		13.5 kg

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

Valve Seating Torques (inch lbs)

SIZE	Standard Disc Differential Pressure (PSI)		
	87	145	232
2	88	97	106
2-1/2	142	150	159
3	212	221	230
4	318	328	336
6	840	885	929

Typical Lug Valve Installation



Valve Seating Torques (nm)

SIZE	Standard Disc Differential Pressure (Bar)		
	9	10	11
DN50	10	11	12
DN65	16	17	18
DN80	24	25	26
DN100	36	37	38
DN150	95	100	105

Torques shown are for on-off “wet” service (ex: water), for dry service (ex: air) multiply above values by 1.25, or see below. Valve disc turned clockwise and activated at least once per month. The effect of dynamic torque is not considered in calculation.

Example Valve Torque Service and Medium Factors

SERVICE FACTOR (SF)	Multiply by	Medium Factor (MF)	Multiply by	Medium Factor (MF)	Multiply by
ON/OFF operation	1.15	Lubricating liquid/gas	0.90	For dry service (dry gas/air)	1.25
Modulating operation	1.25	Viscous liquids/molasses	1.30	Dirty air slurry, natural gas, dirty slurry	1.50-1.80
*2 cycle/day “NC”	1.15	Degreasing liquid	1.25	Lime water, chlorine gas, oxygen, powder	1.50-1.80
**1 cycle/week “NC”	1.50	Saturated steam	1.20	Hydrodynamic torque	N/A

* Valve normally remains completely closed (NC), and is opened 2 times a day minimum.

** Valve normally remains completely closed (NC), and is opened only one time per week or less.

Having a long period without maneuvering a valve will increase the breakaway torque.

Only choose one Service Factor (SF) and one Medium Factor (MF) when calculating the sizing torque.

Flow Capacity (Cv)

SIZE	Disc Open Angle							
	20°	30°	40°	50°	60°	70°	80°	90°
2	1	5.5	16	33	54	82	113	124
2-1/2	2.7	13	31	57	89	141	199	247
3	7	32	62	106	163	248	350	470
4	16	66	125	203	225	470	691	929
6	59	150	260	422	665	1136	1785	2243

Cv = The number of US gallons per minute of 60° F water at 1 psi pressure drop

Flow Capacity (Kv)

SIZE	Disc Open Angle							
	20°	30°	40°	50°	60°	70°	80°	90°
DN50	0.9	4.7	13	29	47	71	97	107
DN65	2.3	11	26	49	77	121	170	212
DN80	6	28	54	91	140	213	301	404
DN100	14	57	108	175	262	404	594	799
DN150	51	129	224	363	572	977	1535	1929

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

Seat Liner Resistance to Media

LINER	*Typically suitable for	**Typically unsuitable for
EPDM	Water, steam, alcohol, glycol, caustic soda, ozone, food products (not NSF approved), glycerine, milk, oxygen, air, saturated salt, iron chloride, gelatin, dry hydrogen sulfide, potassium chloride, sodium, magnesium chloride	Mineral oil, chlorine compounds, ketones, acetyl, chloride, asphalt, bromine, butane, butyl, petrol, diesel oil, acid, fish oil, Freon, chlorine, natural gas, exhaust gas, nitric acid
NBR (BUNA-N)	Mineral oil, grease, air, seawater, gas, boric acid, aluminium chloride, ammonia gas, citric acid, diesel oil, fish oil, petrol, gelatin, glycerine, magnesium chloride, lactic acid, linseed oil, natural gas	Ozone, acetone, aniline, chlorine dioxide, chromic acid, phenol, ethyl acetate, Freon 21 + 22 + 23, hot nitric acid, styrene, hydrogen sulfide, isopropyl acetate, oxygen, sulfuric acid

* Many conditions can affect the valve material choices, including: pressure, temperature, chemical mix, material compounding, viscosity and environment. Ultimately it is the user's responsibility to ensure valve materials are suitable for any specific purpose.

** Butterfly valves can be mounted in any direction. However, if the process media is dirty or contains suspended particles, it is advisable to install the valve in an orientation in which the shaft is not vertical. Over time, particles may collect at the bottom of the valve, posing a threat to the seal between the disc, liner and shaft.

Features

- Powder epoxy coated aluminum hand lever
- 10 position locking handle
- Convenient installation and usage
- 304SS bolts and nuts

Appication

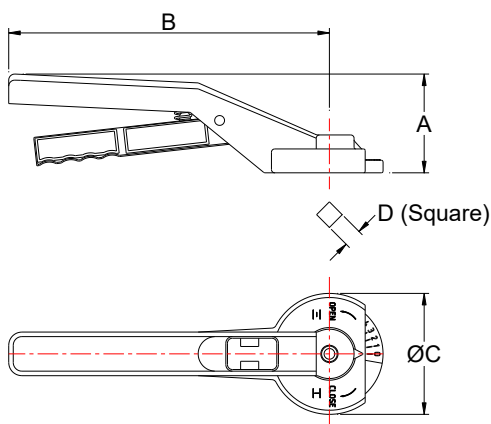
Hand lever operator for wafer and lug style butterfly valves. The valve disc can be locked in any one of 10 positions with spring loaded lever. Hand lever kit includes lever, gear locking plate and stainless hardware for mounting.



Specifications

Stock No.	Description
565001A	Hand lever for valve sizes 2", 2-1/2", 3" (DN50, DN65, DN80)
565002	Hand lever for valve size 4" (DN100)
565003	Hand lever for valve size 6" (DN150)

Dimensions



Pipe Size		A	B	C	D	ISO	Weight
2, 2-1/2, 3 (DN50, 65, 80)	inch	2.4	7.7	2.9	0.43	F05	0.70 lbs
	mm	60	195	73	11		0.32. kg
4 (DN100)	inch	3.1	10.8	3.94	0.55	F07	1.5 lbs
	mm	78	275	100	14		0.68 kg
6 (DN150)	inch	3.1	10.8	3.94	0.67	F07	1.5 lbs
	mm	78	275	100	17		0.68 kg

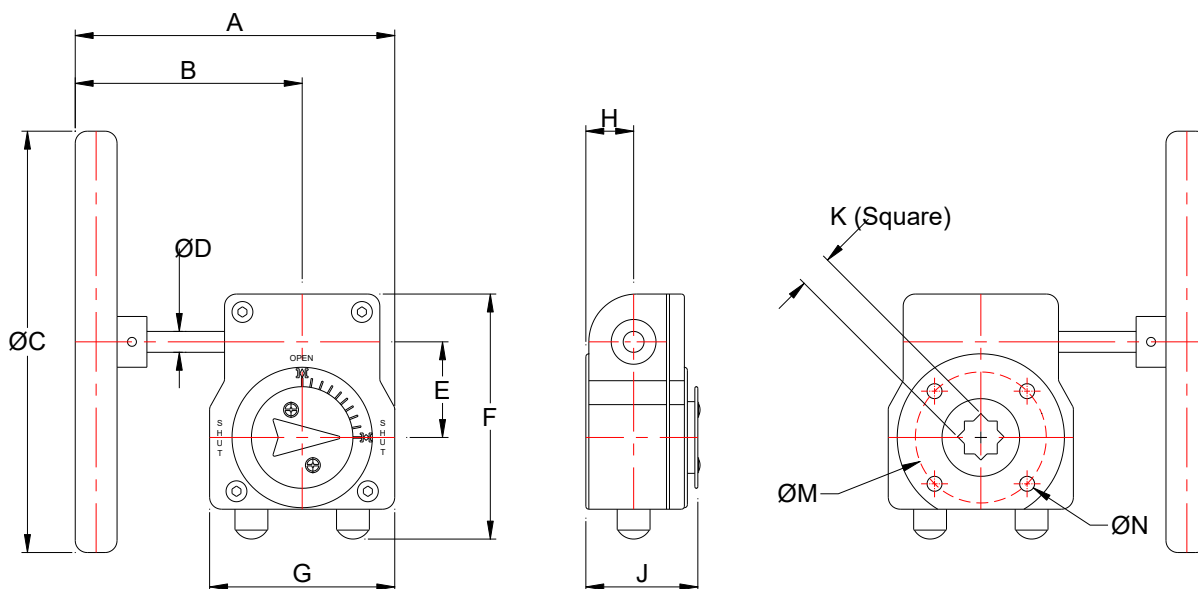
Features

- Aluminum alloy housing
- Hand wheel control
- Steel input shaft and worm gear drive
- Easy ISO5211 mounting
- Waterproof enclosure
- Adjustable travel stops are standard and factory set
- 304SS bolts and nuts



Specifications

Stock No.	Description
565009	Hand wheel gear operator for valve size 4" (DN100)
565008	Hand wheel gear operator for valve size 6" (DN150)



Pipe Size		A	B	C	D	E	F	G	H	J	K	M	N	ISO	Weight
4 (DN100)	Inch	6.77	4.69	7.87	0.47	2.01	5.12	3.94	1.02	2.05	0.55	2.76	-	F07	4.9 lbs
	mm	172	119	200	12	51	130	100	26	52	14	70	M8x16 depth		2.22 kg
6 (DN150)	inch	6.77	4.69	7.87	0.47	2.01	5.12	3.94	1.02	2.05	0.67	2.76	-	F07	4.9 lbs
	mm	172	119	200	12	51	130	100	26	52	17	70	M8x16 depth		2.22 kg