

Type 61 Elastomer Seated Butterfly Valves



PVC PP CRN REGISTRATION PENDING

SERIES: Type 61

SIZES: 2-1/2" to 8"

BODY TYPE: Wafer

MATERIALS: Body: PVC or PP
Disc: PVC (standard), PP, CPVC, PVDF or ABS
Shaft: 316 SS or 420B SS

SEAT & O-RINGS: EPDM or FKM (Viton®)



6" and 8" Valves

Chemline Type 61 elastomer seated butterfly valves are designed for a wide range of industrial ON/OFF and throttling applications. The patented *streamlined* disc is designed for excellent flow characteristics. Top flange and shaft dimensions are to ISO 5211 standard for easy mounting of actuators. A large selection of discs make these valves an excellent choice for many plastic pipe materials.

Features

Easily Installed and Maintained

- Compact and light weight
- Bolt holes make installation and alignment easy
- Seat is easily replaceable

Full Seat Design

- Flange gaskets are not required

Streamlined Disc

- Higher Cv values
- More linear, better flow control

Choice of Shaft Materials

- **316 SS** conforms to popular valve specifications and is proven for critical and aggressive services
- **420B SS** is chosen for non-hazardous fluids. Valve costs are lower

Easy Actuator Mounting

- Valves have standard ISO 5211 top flange and shaft dimensions

Abrasion Resistant

- PP disc offers good abrasion resistance
- PVDF disc offers excellent abrasion resistance

NSF

- NSF/ANSI Standard 61 certified for contact with drinking water



2-1/2" to 4" Valves

Type 61 Elastomer Seated Butterfly Valves



Engineered for Superior Performance

Full Elastomer Seat

- No gaskets required
- Flange face has raised "o-ring" profile
 - Low flange bolt torques to seal

Identification Tag Port

- moulded hole

Gear Operator

- on 8" valve

Streamlined Disc

- Higher flow rates
- More linear flow control

Choice of 316 or 420B SS Shaft

- Not wetted

Position Notch Plate

- PAG Glass Fiber reinforced Polyamide
- Twin 0° to 90° scales
- 19 locking positions for fine flow control

Manual Handle Position Lock Lever

- Locks handle position without using a padlock¹

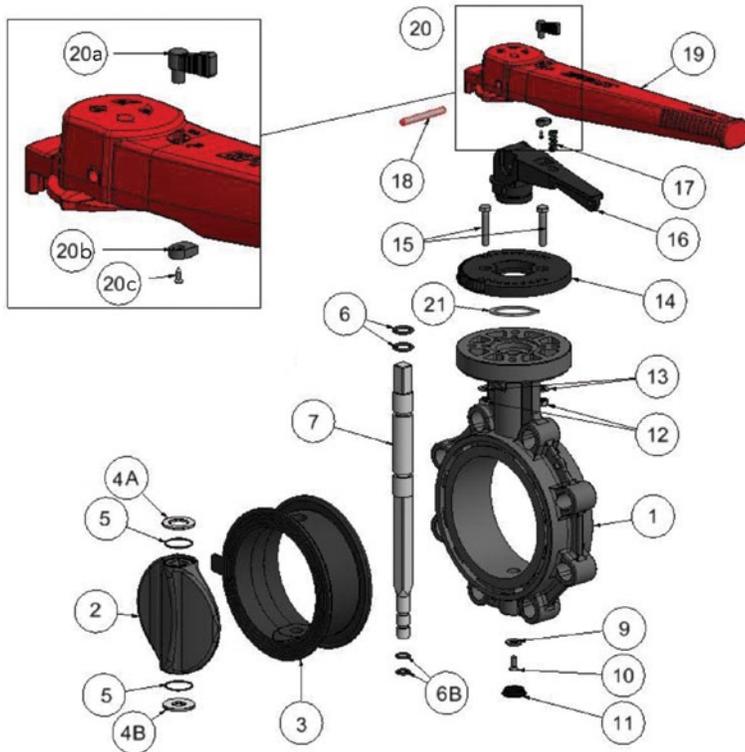
Alternate Disc Materials Available



- 1 PVDF** – highest temperature rating
 - best chemical resistance on acids
 - best abrasion resistance
 - best choice for PVDF piping systems
- 2 ABS** – compatible with ABS piping systems
 - available upon request, consult Chemline
- 3 CPVC** – high temperature rating
 - best chemical resistance on chlorines and sodium hypochlorite
 - best choice for CPVC piping systems
- 4 Polypropylene** – high temperature rating
 - very good chemical resistance on acids
 - good abrasion resistance
 - good on high purity water
 - good choice for PP and PE piping systems
- 5 PVC (standard)** – good chemical resistance on a wide range of fluids
 - chosen for PVC and PE piping systems
 - best value

¹ 6" and 8" valves

Type 61 Elastomer Seated Butterfly Valves

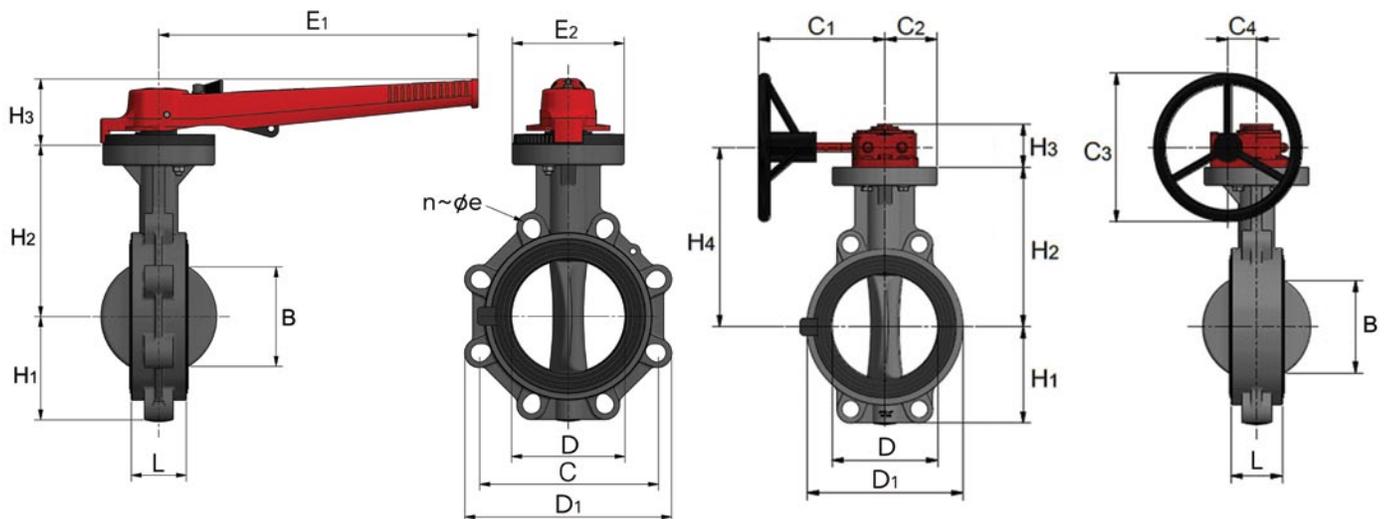


PARTS

No.	Part	Pcs.	Materials
1	Body	1	PVC, PP
2	Disc	1	PVC, PP, CPVC, PVDF, ABS
3	Seat	1	EPDM, FKM (Viton®)
4a	Upper Disc Seal ¹	2	PTFE
4b	Lower Disc Seal ¹	2	PTFE
5	Disc O-Ring ¹	2	EPDM, FKM (Viton®)
6a	Upper Shaft O-Ring	2	EPDM, FKM (Viton®)
6b	Lower Shaft O-Ring	1	EPDM, FKM (Viton®)
7	Shaft	1	316 SS, 420B SS
9	Washer	1	304 SS
10	Bottom Screw	1	304 SS
11	Bottom Cap	1	HDPE
12	Handle Nut	2	304 SS
13	Handle Washer	2	304 SS
14	Position Notch Plate	1	PAG ²
15	Screw	2	304 SS
16	Hand Lever Base	1	PAG ²
17	Spring	1	Coated Steel
18	Straight Pin	1	304 SS
19	Hand Lever	1	ABS
20a	Handle Lock Lever ¹	1	PAG ²
20b	Handle Lock ¹	1	PAG ²
20c	Handle Lock Screw ¹	1	304 SS
21	Retaining Ring	1	Zinc Plated Steel

¹ 6" and 8" valves

² 30% glass filled polyamide



DIMENSIONS INCHES

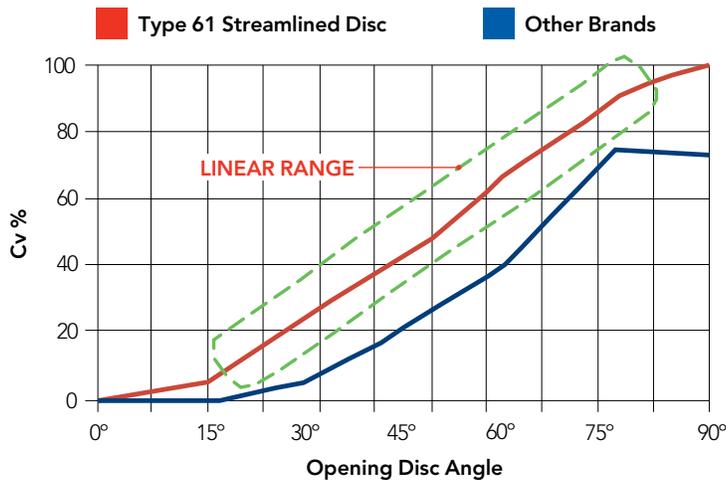
Size	L	B	D	D ₁	E ₁	E ₂	C ³	C ₁	C ₂	C ₃	C ₄	H ₁	H ₂	H ₃	n	e
2-1/2"	1.9	2.4	2.56	5.3	9.7	4.4	5.50	5.5	2.2	6.3	1.7	3.1	5.2	2.5	4	5/8"
3"	2.3	2.9	3.15	5.5	9.7	4.4	6.00	5.5	2.2	6.3	1.7	3.6	5.2	2.5	8	5/8"
4"	2.3	3.2	3.94	5.9	9.7	4.4	7.50	5.5	2.2	6.3	1.7	4.2	5.2	2.5	8	5/8"
6"	2.7	5.0	5.91	10.2	15.7	5.5	9.51	7.4	2.7	6.3	1.7	5.1	8.5	3.3	8	3/4"
8"	2.8	7.0	7.87	12.5	15.7	5.5	11.75	8.1	2.7	7.9	2.0	6.3	8.5	3.3	8	3/4"

³ ANSI bolt circle diameter

Type 61 Elastomer Seated Butterfly Valves



Streamlined Disc Offers Linear Flow Control



WORKING PRESSURES PSI

Size	PVC Body with Any Disc				PP Body with PP, CPVC or ABS Disc				PP Body with PVDF			
	0 to 20°C 32 to 68°F	40°C 104°F	50°C 122°F	60°C 140°F	0 to 20°C 32 to 68°F	40°C 104°F	60°C 140°F	80°C 176°F	0 to 20°C 32 to 68°F	40°C 104°F	60°C 140°F	80°C 176°F
2-1/2"	150	115	60	30	150	105	60	30	150	110	65	40
3"	150	115	60	30	150	105	60	30	150	110	65	40
4"	150	115	60	30	150	105	60	30	150	110	65	40
6"	150	115	60	30	150	105	60	30	150	110	65	40
8"	150	115	60	30	150	105	60	30	150	110	65	40

Cv VALUES VS. DISC ANGLE

NET WEIGHTS LB.

BOLT TORQUES

Size	Cv VALUES VS. DISC ANGLE						NET WEIGHTS LB.				Recommended Flange Bolt Torques Ft.-Lbs.
	15°	30°	45°	60°	75°	90°	PVC/PVC	PVC/PVDF	PP/PP	PP/PVDF	
2-1/2"	11	32	63	101	125	150	3.6	3.7	3.1	3.2	18
3"	15	45	90	144	178	215	4.1	3.5	3.2	4.4	21
4"	31	94	188	300	372	448	4.7	4.4	4.3	4.4	26
6"	94	282	564	900	1,115	1,343	13.1	11.2	10.9	11.1	65
8"	163	489	978	1,560	1,932	2,328	15.6	14.9	12.5	13.7	103

SAMPLE SPECIFICATION

Note: Specification below is for:

- valves with PVC bodies, suitable for temperatures up to 60°C/140°F *
- valves with PP bodies, suitable for temperatures up to 80°C/176°F*

- All butterfly valves 2-1/2" to 8" will be Chemline Type 61 elastomer seated or equal, pressure rated 150 psi.
- Flow direction will be bidirectional. Valve will seal closed with pressure on either side.
- Valves will be NSF/ANSI 61 certified for contact with drinking water.
- Flange dimensions will be according to ASME/ANSI B16.5 Class 150.
- Wafer style bodies will have 4 locating bolt holes for 2-1/2" to 4" and 8 holes for 6" and 8".
- Discs shall be solid PVC, PP, CPVC, ABS or PVDF.
- Disc/shaft will be 316 stainless steel.
- Seat will be EPDM or FKM (Viton®), full seat type with raised o-ring face.
- Operator mounting flange and shaft dimensions have standard dimensions according to DIN 5211 for exchange of manual operators or actuators. Fasteners used to mount operators will not be pressure retaining.
- 2-1/2" to 8" shall have ABS hand lever moulded of PPG with 19-stop position notch plate. Hand lever will be reversible with twin scales on the notch plate.
- Gear operators will have visual valve position indicator, also open/close travel stops that allow adjustment of the disc closing.
- Every valve will undergo a factory hydrostatic pressure test to assure quality. Valves will be labelled with manufacturers' inspection number for traceability to production.

* At maximum temperatures, pressure ratings are lower than the maximum 150 psi. Refer to manufacturer's data.

Type 61 Elastomer Seated Butterfly Valves



Options and Accessories



Optional Lock-out Handle & Hasp

- To prevent unauthorized operation of the valve during maintenance shut-downs
- Padlocks go through holes in hasp



Limit Switches

- Available for lever and gear operated valves
- Electrical feedback of manual valve position
- NEMA 4X enclosure, position indicator beacon, 2x SPDT switches, stainless steel hardware



Municipal Operating Nut

- For buried service



Optional Valve Tags

- Stainless steel or plastic

Stem Extensions

- Different materials and lengths are available
- Several designs:
 - with no housing for indoors
 - with waterproofed PVC housing for indoors or outdoors
 - with stainless steel housing for buried services



Chain Wheel Operator

- For overhead operation, with 7' of chain drop
- Cast iron standard, stainless steel is also available
- Requires the use of gear operator, sold separately



ORDERING EXAMPLE

Chemline Type 61 Butterfly Valves		61	A	060	A	E	L	-316
Body	A – PVC	B – PP						
Size	025 – 2-1/2"	030 – 3"	040 – 4"	060 – 6"	080 – 8"			
Disc ¹	A – PVC	B – PP	C – CPVC	K – PVDF				
Seat	E – EPDM	V – FKM (Viton®)						
Operator	L – Hand Lever	G – Gear Operator						
Shaft	420 – 420B SS	316 – 316 SS						

Example: Chemline Type 61 Butterfly Valve, 6", with PVC disc, EPDM seat, hand lever, 316 SS shaft

¹ ABS disc available special order, consult Chemline

Type 61.08.30.23

Type 61 Elastomer Seated Butterfly Valves



Electric Actuation

Refer to actuator data page for detailed information.

All electric actuators have these STANDARD FEATURES:

- Polyamide plastic housings or covers – corrosion resistant and light weight
- NEMA 4X/IP65 water resistance enclosure rating
- CSA Approved or Special Inspection labelled
- Reversible operation
- Multi-voltage operation
- Standard ISO 5211 mounting dimensions
- Irreversible gearing – backlash is impossible
- Adjustable travel through the full range
- No maintenance is required
- Heater/thermostats for humid locations and cold weather operation
- Two extra switches for valve position feedback



ER Series



VS Series



Optional Local Control Station

Electric Actuator Selection

Model	ER Series	VS Series
FEATURES	FULL FEATURE	HIGHER TORQUE
Type 61 valve sizes	2-1/2" to 4"	2-1/2" to 8"
Voltage	120/240 VAC (50/60 Hz) 12/24 VDC 24 VAC (50/60 Hz)	120/240 VAC (50/60 Hz) 12/24 VDC 24 VAC (50/60 Hz)
Cycle Time sec/90°	12	30
Duty Cycle	80%	80%
CSA	Approved	Approved
ON/OFF Control	3-Wire/2-Wire	3-Wire/2-Wire
Gear Train	Spur Gears	Epicyclic
Mechanical Travel Stops	Fixed	Adjustable
DIN Plug Wiring Connectors	✓	✗
Two Position Feedback Switches	✓	✓
Valve Position Indicator	Knob	Dome
Manual Override	Declutching	Without Declutching
Override Device	Knob	Hand Wheel
Operating Temperature Range	-10 to 60C (15 to 140°F)	-20 to 70C (-4 to 158°F)
Onboard Electronic Torque Limiter	✓	✓
Onboard General Fault Relay	✓	✓
Onboard Diagnostics	✓	✓
ENCLOSURE OPTIONS		
Metal Cover for IP68 Rating	✗	✓
Low Temperature Option	✗	-50 to 70C (-58 to 158°F)
POSITION FEEDBACK OPTIONS		
Position Feedback Potentiometer	✓	✓
Transmitter	✓	✓
Extra Limit Switches ¹	✓	✓
CONTROL OPTIONS		
Digital Positioner	✓	✓
Failsafe Internal Battery Pack	✓	✓
Local/Remote Control Switch Box	✓	✓
MODBUS Module	✓	✓
Bluetooth Control	✓	✓

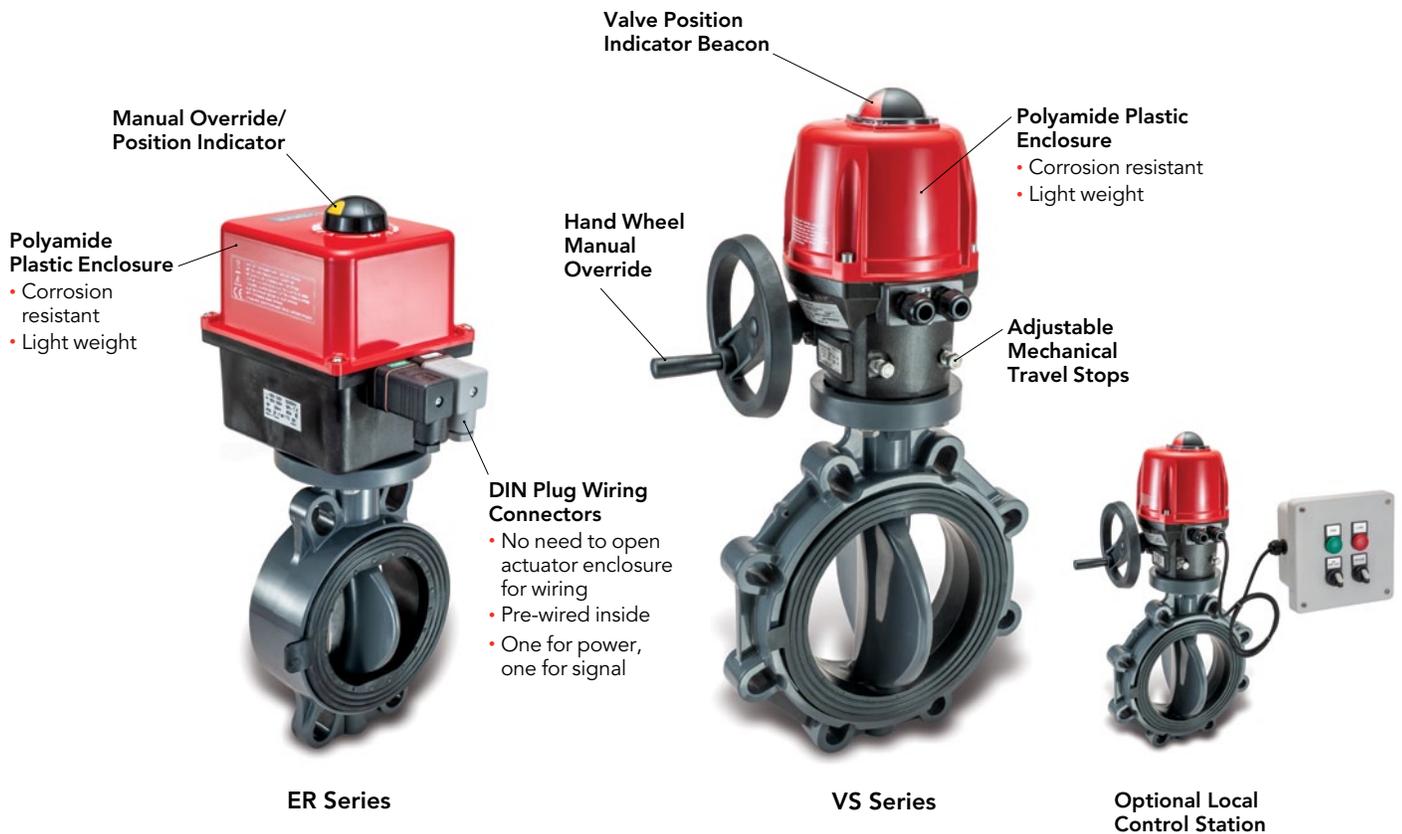
¹2 feedback switches are already supplied as standard

Type 61 Elastomer Seated Butterfly Valves



Electric Actuation

Refer to actuator data page for detailed information



Electric Actuation Item Numbers

Item numbers are for actuators including mounting to valve and bench testing

Model	ER Series				V Series			
	Max. Line Pressure (psi)	Cycle Time/90°	120/240 VAC (50/60 Hz) Item No.	12/24 VDC & 24 VAC (50/60 Hz) Item No.	Max. Line Pressure (psi)	Cycle Time/90°	120/240 VAC (50/60 Hz) Item No.	12/24 VDC & 24 VAC (50/60 Hz) Item No.
2-1/2"	150	12 sec	61025-ER35.12	61025-ER35.346	150	30 sec	61025-VS150.12	61025-VS150.346
3"	150	12 sec	61030-ER60.12	61030-ER60.346	150	30 sec	61030-VS150.12	61030-VS150.346
4"	150	12 sec	61040-ER60.12	61040-ER60.346	150	30 sec	61040-VS150.12	61040-VS150.346
6"	-	-	-	-	150	30 sec	61060-VS150.12	61060-VS150.346
8"	-	-	-	-	150	30 sec	61080-VS300.12	61080-VS300.346

Type 61 Elastomer Seated Butterfly Valves



Electric Actuation

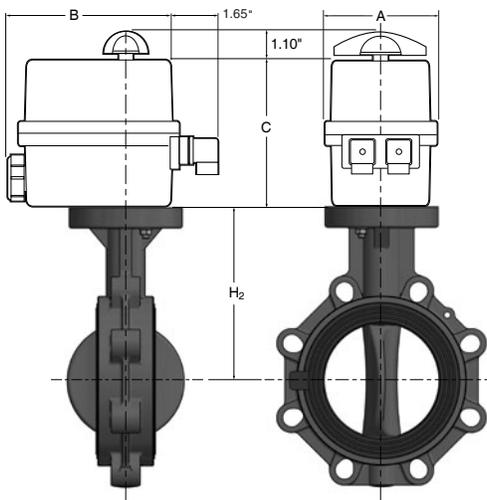
Refer to actuator data page for detailed information.



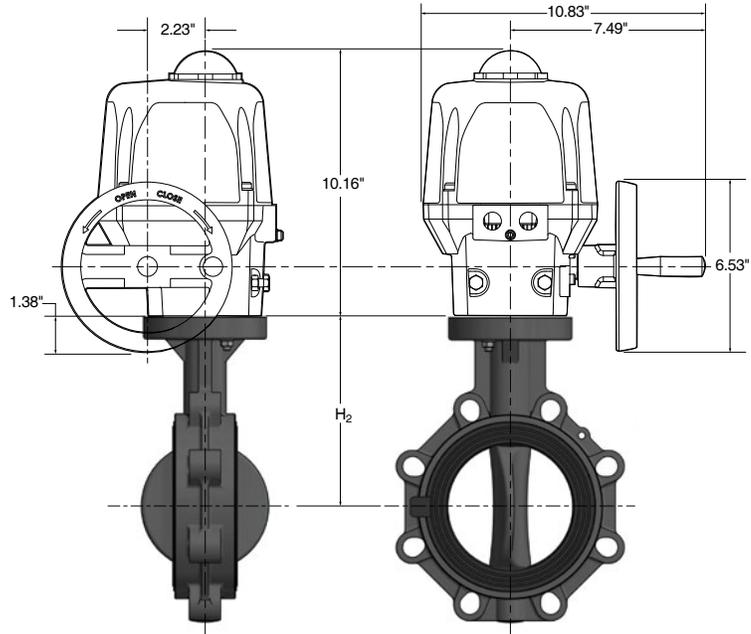
ER Series



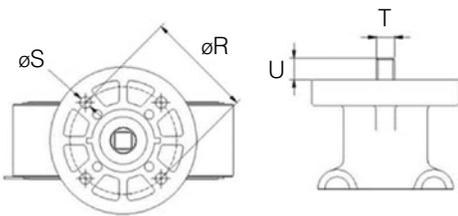
VS Series



ER Series



VS Series



Valve Top Flange

DIMENSIONS INCHES

Size	A	B	C	H ₂	ISO 5211 Topworks					
					R			S	T	U
					inches	mm	ISO			
2-1/2"	5.35	5.94	5.98	5.2	2.76	70	F07	0.35	0.55	0.63
3"	5.35	5.94	5.98	5.2	2.76	70	F07	0.35	0.55	0.63
4"	5.35	5.94	5.98	5.2	2.76	70	F07	0.35	0.55	0.63
6"	-	-	-	8.5	2.76/4.015	70/102	F07/F10	0.35/0.43	0.67	0.75
8"	-	-	-	8.5	2.76/4.015	70/102	F07/F10	0.35/0.43	0.86	0.95

Type 61 Elastomer Seated Butterfly Valves



Pneumatic Actuation

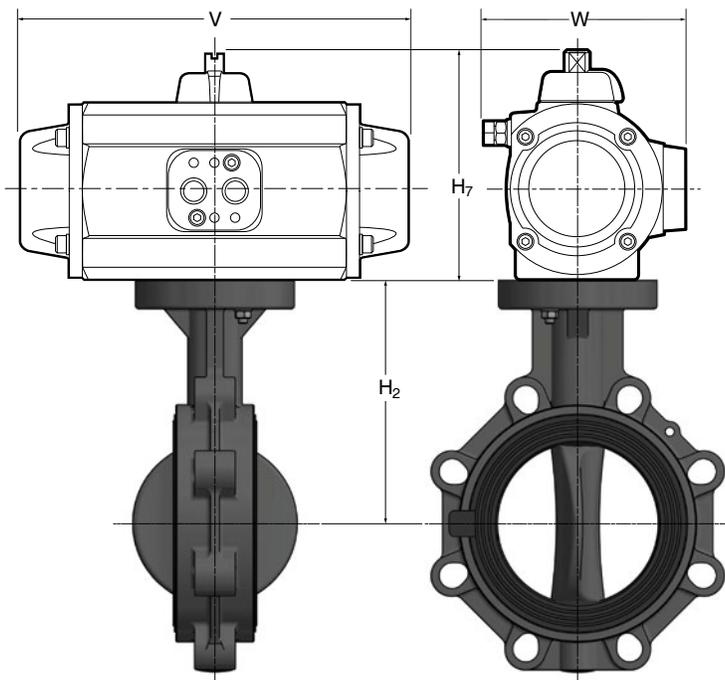
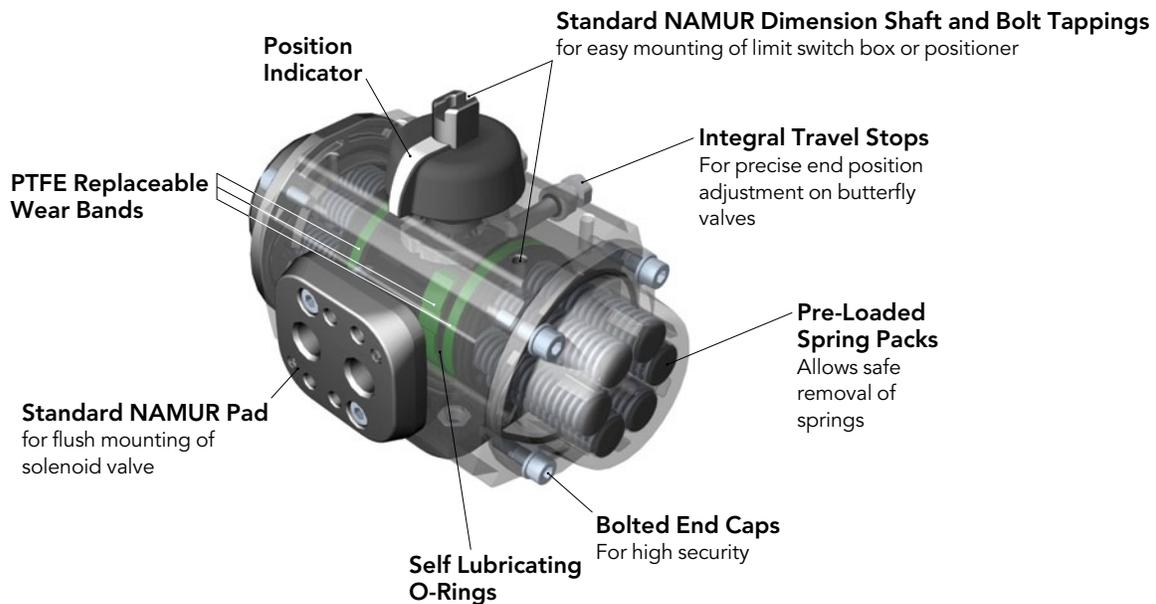
Refer to actuator data page for detailed information.

All pneumatic actuators have these STANDARD FEATURES:

- Aluminum rack and pinion type
- Coating is two-part epoxy/Rilsan polyamide, applied inside and out. Epoxy offers high chemical resistance and Rilsan offers coating durability.
- Rated for over one million cycles
- ISO standard valve mounting dimensions allow for direct mounting of most valves
- Mechanical travel stops are standard. They allow up to 5 degrees of piston travel adjustment
- Standardized accessories (solenoid valves, limit switch boxes, positioners) may be direct mounted



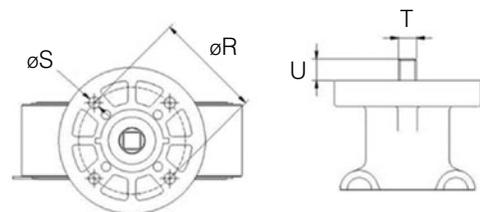
PA Series



DIMENSIONS INCHES

Size	H ₂	Spring Return			Double Acting		
		H ₇	V	W	H ₇	V	W
2-1/2"	5.2	5.82	10.40	4.70	5.05	7.91	4.00
3"	5.2	5.82	10.40	4.70	5.05	7.91	4.00
4"	5.2	5.82	10.40	4.70	5.21	8.83	4.08
6"	8.5	7.26	14.02	6.04	6.15	12.19	5.02
8"	8.5	10.71	17.48	8.90	7.26	14.02	6.04

For actuator sizes based on normal 80 psi available air supply



Valve Top Flange

Type 61 Elastomer Seated Butterfly Valves



Pneumatic Actuation

Refer to actuator data page for detailed information.

Pneumatic Actuation Item Numbers

Item numbers are for actuators including mounting to valve and bench testing. Actuators are sized for "normal" service. For gas, vapour or severe chemical service, consult Chemline.



PA Series

Double Acting

Valve Size	Max. Line Pressure (psi)	Air Supply Pressure (psi)		
		60	80	100
		Item No.	Item No.	Item No.
2-1/2"	150	61025-PAD10	61025-PAD05	61025-PAD05
3"	150	61030-PAD10	61030-PAD05	61030-PAD05
4"	150	61040-PAD15	61040-PAD10	61040-PAD05
6"	150	61060-PAD25	61060-PAD20	61060-PAD15
8"	150	61080-PAD25	61080-PAD25	61080-PAD20

Spring Return

Actuators listed are for elastomer seated Type 61 butterfly valves in the fail closed position. For fail open, consult Chemline.

Valve Size	Max. Line Pressure (psi)	Air Supply Pressure (psi)		
		60	80	100
		Item No.	Item No.	Item No.
2-1/2"	150	61025-PAS20	61025-PAS15	61025-PAS10
3"	150	61030-PAS20	61030-PAS15	61030-PAS15
4"	150	61040-PAS25	61040-PAS15	61040-PAS15
6"	150	61060-PAS30	61060-PAS25	61060-PAS25
8"	150	61080-PASR40	61080-PASR40	61080-PAS30

Accessories



Solenoid Valves

- Solenoid valves are electrically actuated. They control air supply in and out of the actuators to open or close the valve. They bolt flush onto the actuator.



Positioners

- Positioners control actuator-valve position responding to a control signal. They are either 3-15 psi pneumatic, 4-20 mA electro-pneumatic or 4-20 mA Smart (fully digital with intelligent functions).



Limit Switches

- Limit switches are for ON and/or OFF valve position feedback. They feature a valve position indicator dome with high visibility. The standard NEMA 4X/IP65 version has mechanical switches. Explosion proof versions are available.



End Cap Travel Stops

- These are to adjust the full length of piston travel but for only one direction of travel - either open for a normally closed valve or closed position for a normally open valve



Travel Stop Plate

- This is required to reduce end of travel by more than 5 degrees. It allows independent adjustment of the full length of piston travel for both opening and closing strokes.



Declutchable Gear Override

- This allows manual operation of the actuated valve in case the supply air pressure fails. It is normally disengaged. To engage, press the lever bar down.

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