



COMPAK CYLINDER ACTUATOR



Design & Construction

Compak actuators are a versatile rack and pinion design for use on:

- 2–12" (50–300mm) BRS Butterfly Valves
- 2–8" (50–200mm) BHP Butterfly Valves

The compact, modular design allows the actuator to be mounted for a low profile assembly.

Wide Torque Range

Compak actuators are available in sizes to meet a wide variety of torque requirements. Double-acting units start at 200 in lbs. (22.6 nm) and go up to 42,000 in lbs. (4746 nm) of output torque at 80 psi (1650 kPa). Fail-safe, spring return models have output torque from 40 in lbs. (4.5 nm) to 16,000 in lbs. (1808 nm). Compak actuators are matched to each valve's torque requirements to ensure the most economical valve and actuator package is specified.

Enclosed Construction

Compak actuators are environmentally shielded to protect internal parts from grit, moisture and corrosive contaminant. The actuator body is extruded, machined, anodized internally and externally and then polyester powder epoxy painted for maximum internal and external protection.

Maximum Cycle Life

Compak pistons are die cast aluminum and the pinion is carbon steel, electroless nickel coated. Both pistons incorporate a large wear pad which significantly increases cycle life. Upper and lower bushings minimize wear and increase actuator duty cycle.

Adjustable Limit Stops

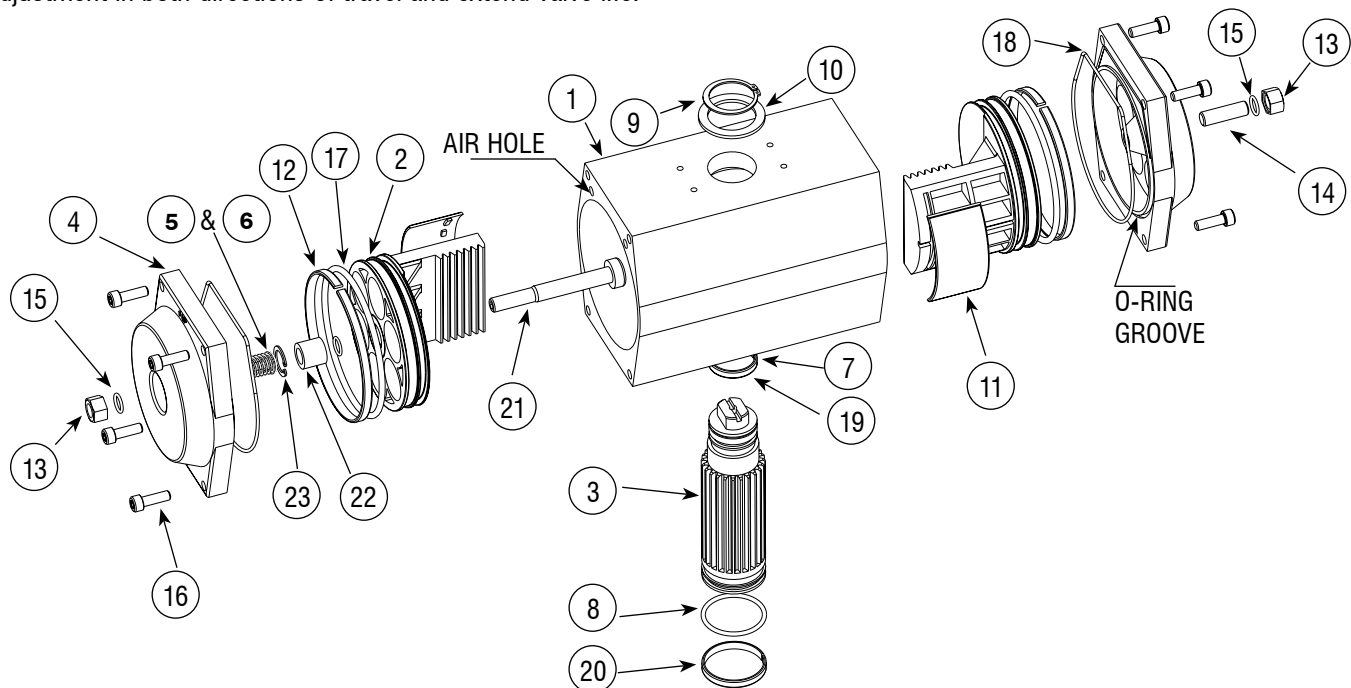
Each unit incorporates field adjustable double limit stops for precise positioning. The double limit stops allow for stop adjustment in both directions of travel and extend valve life.

Accessory Options

Compak actuators are available with all DeZURIK standard accessory options including positioners, solenoids, mechanical and proximity switches, air filter regulators and speed controls.

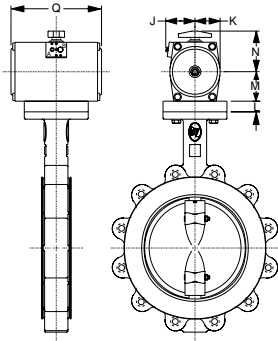
Materials of Construction

Item	Quantity	Description	Material
1	1	Body	Anodized Aluminum
2	2	Piston	Die Cast Aluminum
3	1	Pinion	ENP. ASTM B656 Steel
4	2	End Cap	Epoxy Coated Aluminum*
5	Max. 12	Spring	Epoxy Coated Steel
6	Max. 12	Spring Cartridge	Delrin/Brass/Aluminum
7	1	Upper Pinion Bearing	Delrin 500
8	1	Lower Pinion Bearing	Delrin 500
9	1	Snap Ring	ENP. ASTM B656 Steel
10	1	Pinion Washer	Delrin 500
11	2	Piston Skate	Delrin 500
12	2	Piston Guide Ring	Delrin 500
13	2	Sealing Nut	304 Stainless Steel
14	2	Travel Stop, Open	304 Stainless Steel
15	2	Travel Stop O-Ring	Buna N
16	8	End Cap Fasteners	304 Stainless Steel
17	2	Piston O-Ring	Buna N
18	2	End Cap O-Ring	Buna N
19	1	Upper Pinion O-Ring	Buna N
20	1	Lower Pinion O-Ring	Buna N
21	1	Close Stop Rod	304 Stainless Steel
22	1	Bearing	PTFE with Buna N O-Ring
23	1	Snap Ring	ENP. ASTM B565 Steel



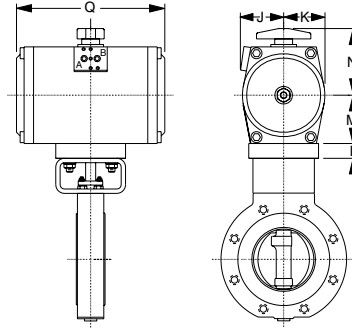
BHP and BRS

Resilient Seated Butterfly Valve (BRS)



SPRING RETURN

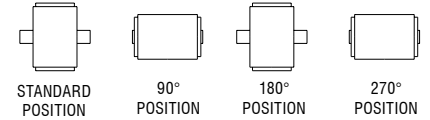
High Performance Butterfly Valve (BHP)



DOUBLE ACTING

Actuator Mounting

Butterfly Valves (BHP and BRS)



Dimensions

Actuator	Actuator Model							
	J		K	L		M	N	Q
	Double Acting	Spring Return		BRS	BHP			
CMD-30	1.85 47	2.10 53	1.38 35	1.09 28	1.09 28	1.73 44	2.77 70	5.24 133
CMD-52	2.10 53	2.35 60	1.63 41	1.06 27	1.09 28	1.97 50	3.01 76	6.10 155
CMD-73	2.26 57	2.51 64	1.79 45	1.06 27	1.06 27	2.12 54	3.16 80	6.97 177
CMD-103	2.44 62	2.69 68	1.97 50	1.06 27	1.06 27	2.30 58	3.34 85	7.99 203
CMD-148	2.36 60	2.61 66	2.36 60	.84 21	.84 21	2.76 70	3.80 97	8.50 216
CMD-222	2.36 60	2.61 66	2.36 60	.84 21	.84 21	2.76 70	3.80 97	11.18 284
CMD-295	2.70 69	2.95 75	2.70 69	.84 21	.84 21	3.16 80	4.21 107	11.42 290
CMD-586	3.38 86	3.63 92	3.38 86	1.00 25	.75 19	3.90 99	5.33 135	14.49 368
CMD-1213*	4.41 112	4.66 118	4.41 112	O/A	O/A	5.00 127	6.43 163	17.72 450
CMD-2366*	5.36 136	5.61 142	5.36 136	O/A	O/A	5.94 151	7.37 187	23.07 586
CMD-2958*	—	5.61 142	5.36 136	O/A	O/A	5.94 151	7.37 187	26.22 666

Inches Note: All dimensions are subject to change without notice. Request certified drawings for use in preparing piping layouts. Millimeters Note: Actuators with * on application.

Actuator Weights

Actuator Size	Weight – lbs/kgs	
	Double Acting	Spring Return
30	3 1.4	3.5 1.59
52	4.5 2.04	5.0 2.27
73	5.5 2.50	6.5 2.95
103	7.5 3.40	8.5 3.86
148	10.5 4.76	13 5.9
222	15 6.8	18 8.3
295	19 8.6	23 10.5
586	34.5 15.65	43 19.5
1213	69 31.3	87 39.5
2366	133 60.3	181 82.1
2958	161 73.0	210 95.3
4200	205 93.0	267 121.1

Ordering

To order a Compak actuator, select the actuator model from the appropriate valve sizing charts. Specify mounting position as second line information. As reference information, the actuator code is defined in the following charts.

Actuator Type
CMD = Compak Cylinder Actuators

Actuator Size	
30 = Model 30	295 = Model 295
52 = Model 52	586 = Model 586
73 = Model 73	1213 = Model 1213
103 = Model 103	2366 = Model 2366
148 = Model 148	2958 = Model 2958
222 = Model 222	4200 = Model 4200

Spring Quantity/Spring Set	
For spring return only. Leave field blank for Double Acting.	
S2 = 2 Springs	S5 = 5 Springs
S3 = 3 Springs	S6 = 6 Springs
S4 = 4 Springs	S7 = 7 Springs

Spring Action
For spring return only. Leave field blank for Double Acting.
D = Direct, Spring-To-Open
R = Reverse, Spring-To-Close

Accessories Refer to DeZURIK accessory bulletins for information on positioners, solenoids, mechanical and proximity switches, air filter regulators and speed controls.

Ordering Example:

BHP, 4, L1, S2, TC, S2-S2-FT-TT * CMD-148-S4-R

Ordering

To order a Compak actuator, select the actuator model from the appropriate valve sizing charts. Specify mounting position as second line information. As reference information, the actuator code is defined in the following charts.

Actuator Type

CMD = Compak Cylinder Actuators

Actuator Size

31 = Model 31	295 = Model 295
53 = Model 53	470 = Model 470
74 = Model 74	586 = Model 586
104 = Model 104	900 = Model 900
148 = Model 148	1213 = Model 1213
222 = Model 222	2366 = Model 2366

Spring Order Code

For spring return only. Leave field blank for Double Acting.

K33 = 3/3 Springs	K44 = 4/4 Springs
K34 = 3/4 Springs	K45 = 4/5 Springs

Spring Action

For spring return only. Leave field blank for Double Acting.

D = Direct, Spring-To-Open
R = Reverse, Spring-To-Close

Accessories

Refer to DeZURIK accessory bulletins for information on positioners, solenoids, mechanical and proximity switches, air filter regulators and speed controls.

Ordering Example:

BHP,3,L1,C2,TC,S2-S2-FT-TT*CMD-52

Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web Site: www.dezurik.com E-Mail: info@dezurik.com



250 Riverside Ave. N. Sartell, Minnesota 56377 • Phone: 320-259-2000 • Fax: 320-259-2227

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