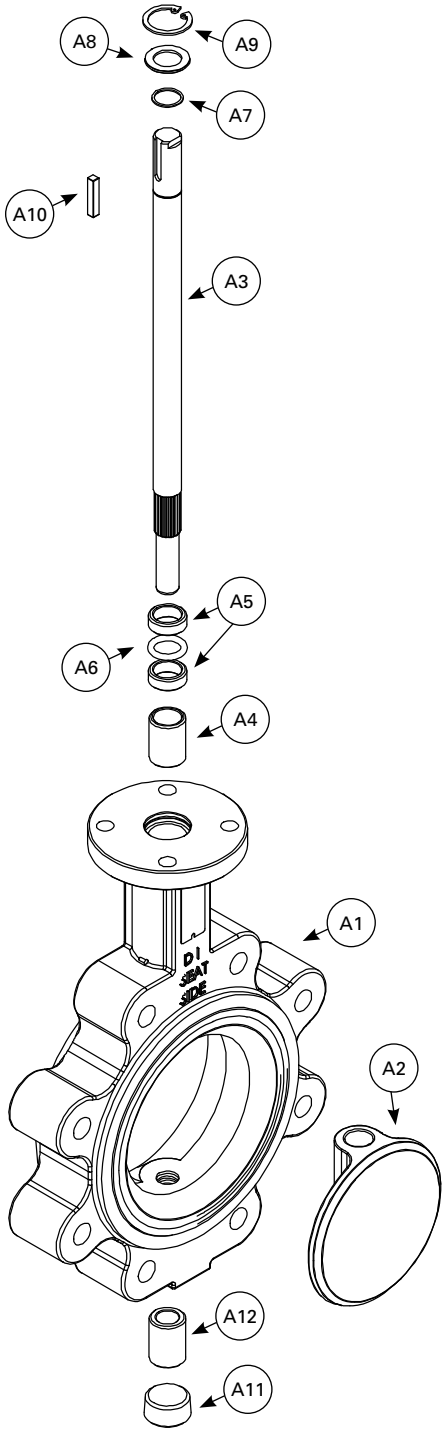
BULLETIN 46.00-2B
OCTOBER 2015

DeZURIK
APCO | HILTON

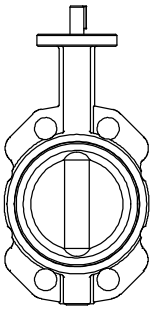
DeZURIK BOS-US 2-20" (50-500mm) UNINTERRUPTED SEAT RESILIENT SEATED BUTTERFLY VALVES TECHNICAL SPECIFICATIONS

- **Materials of Construction**
- **Specifications**
- **Ordering**
- **Dimensions**

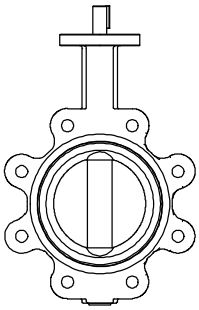
Materials of Construction



Wafer and Lugged Design



Wafer Body



Lugged Body

Item	Description	Material
A1	Body/Seat	Ductile Iron, ASTM A536, 65-45-12/NBR – Acrylonitrile-Butadiene
		Ductile Iron, ASTM A536, 65-45-12/EPDM – Terpolymer of Ethylene Propylene and a Diene
A2	Disc	Ductile Iron, ASTM A536, 65-45-12, Nickel Plated
		Aluminum Bronze, ASTM B148, C954
		316 Stainless Steel, ASTM A743, CF8M
A3	Shaft	316 Stainless Steel, ASTM A276
		410 Stainless Steel, ASTM A276
A4	Middle Bearing	Aluminum Bronze, ASTM B148, C954
A5	Upper Bearing (2)	Aluminum Bronze, ASTM B148, C954
A6	O-Ring	NBR – Acrylonitrile-Butadiene
		EPDM – Terpolymer of Ethylene Propylene and a Diene
A7	Retainer Ring	302 Stainless Steel, ASTM A276
A8	Washer	416 Stainless Steel, ASTM A582
A9	Retainer Ring	Steel, ASTM A29M
A10	Key	Steel, AISI 1020
A11	Pipe Plug	Cast Iron, Zinc Plated
A12	Lower Bearing	Aluminum Bronze, ASTM B148, C954

Valve Selection

Shutoff Capabilities

Seat-Type	Shutoff
All Seat Materials	Bubble Tight Shutoff*

* Full rated bi-directional shutoff; lugged valves provide dead end service to full valve rating.

Pressure Ratings

Disc/Shaft Material	Pressure Rating
Ductile Iron disc with 410 Stainless Steel Shaft	250 psi (1725 kPa)
Stainless Steel disc with 316 Stainless Steel Shaft	200 psi (1380 kPa)
Aluminum Bronze disc with 410 Stainless Steel Shaft	250 psi (1725 kPa)

Temperature Ratings

Seat Material	Temperature Rating
NBR = Acrylonitrile-Butadiene	10 to 180°F (-12 to 82°C)
EPDM = Terpolymer of Ethylene Propylene & a Diene	-30 to 250°F (-35 to 121°C)

Pipeline Velocity Range

All 2-20" valves	Up to 20 feet/second (6 meters/second)

Contact DeZURIK for pipeline velocities greater than 20 feet/second

Applicable Standards

DeZURIK BOS-US Resilient Seated Butterfly Valves are designed and/or tested to meet the following standards:	
ASME B16.1	Conforms to Class 125 flange drilling.
ASME B16.5	Conforms to Class 150 flange drilling.
ASME B16.42	Conforms to Class 150 flange drilling, body wall thickness and pressure-temperature ratings.
ASME B16.104	Exceeds Class VI shutoff requirements.
API 609	Butterfly Valves Category A.
AWWA C504	Diameter of stainless steel shaft meets AWWA Class 75B standard. Body wall thickness exceeds the AWWA Class 150B standard for butterfly valve.
MSS SP-25	Markings and identification conform to the requirements.
MSS SP-67	Butterfly Valves
ISO 5211	Actuator Mounting
NSF/ANSI-61 and NSF/ANSI-372	Certified for use in drinking water applications
International	Metric flange drilling (W110 and L110) = ISO 7005-2, DIN or BS4504 PN10 Drilling Flange Drilling Metric flange drilling (W116 and L116) = ISO 7005-2, DIN or BS4504 PN16 Drilling

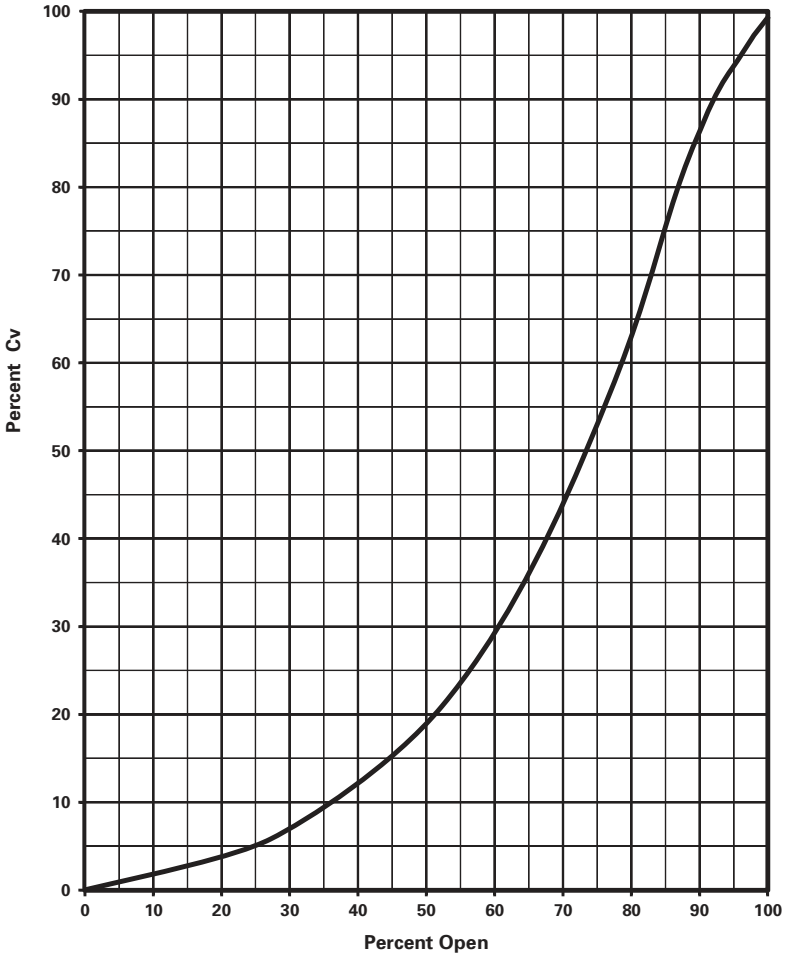
Flow Parameters

Valve Size	Cv* / Kv* 100% Open	K Factor**
2" / 50mm	101 / 87	0.81
2.5" / 65mm	163 / 141	0.77
3" / 80mm	287 / 248	0.72
4" / 100mm	507 / 439	0.68
5" / 125mm	840 / 727	0.65
6" / 150mm	1166 / 1009	0.63
8" / 200mm	2620 / 2266	0.59
10" / 250mm	4003 / 3463	0.44
12" / 300mm	7448 / 6443	0.42
14" / 350mm	8330 / 7205	0.40
16" / 400mm	11811 / 10217	0.28
18" / 450mm	14488 / 12532	0.26
20" / 500mm	18974 / 16413	0.25

*Cv = Flow in GPM of water at 1 psi pressure drop.
Kv = Flow in m3/hr. of water at 100 kPa pressure drop.
**K = The resistance coefficient of the valve. The constant (K) can be used to determine the equivalent length of pipe.

$L = \frac{KxD}{f}$ Where L = Equivalent length of pipe in feet
K = Resistance coefficient
D = Pipe diameter in feet
f = Friction factor, related to type of pipe

Flow Curve



Weights

Valve Size	Basic Valve	
	Wafer	Lugged
2" / 50mm	6 / 3	8 / 4
2.5" / 65mm	8 / 4	9 / 5
3" / 80mm	10 / 5	12 / 6
4" / 100mm	16 / 8	20 / 10
5" / 125mm	20 / 10	25 / 12
6" / 150mm	28 / 13	32 / 15
8" / 200mm	43 / 20	49 / 23
10" / 250mm	62 / 29	76 / 35
12" / 300mm	102 / 47	124 / 57
14" / 350mm	143 / 65	161 / 74
16" / 400mm	218 / 99	264 / 120
18" / 450mm	292 / 133	331 / 151
20" / 500mm	369 / 168	505 / 230

Valve Size	Lever Weight
2-6" / 50-150mm	2 / 1

Pounds
Kilograms

Ordering

To order, simply complete the valve order code from information shown.

Valve Style
Give valve style code as follows:

BOS	=	Resilient Seated Butterfly Valve

Valve Size
Give valve size code as follows:

2	=	2"	50mm	10	=	10"	250mm
2.5	=	2.5"	65mm	12	=	12"	300mm
3	=	3"	80mm	14	=	14"	350mm
4	=	4"	100mm	16	=	16"	400mm
5	=	5"	125mm	18	=	18"	450mm
6	=	6"	150mm	20	=	20"	500mm
8	=	8"	200mm				

Body Style
Give body style code as follows:

US	=	Uninterrupted Seat

End Connection
Give end connection code as follows:

W1	=	ASME Class 125/150 Wafer Drilling
L1	=	ASME Class 125/150 Lugged Drilling

On Application

W110	=	ISO 7005-2, DIN or BS4504 PN10 Wafer Drilling
W116	=	ISO 7005-2, DIN or BS4504 PN16 Wafer Drilling
L110	=	ISO 7005-2, DIN or BS4504 PN10 Lugged Drilling
L116	=	ISO 7005-2, DIN or BS4504 PN16 Lugged Drilling

Body Material
Give body material code as follows:

DI	=	Ductile Iron

Seat, Shaft Seal Material Combination
Give seat, shaft seal material code as follows:

NBR,NBR	=	Acrylonitrile-Butadiene 10° to 180°F (-12° to 82°C)
EPDM,EPDM	=	Terpolymer of Ethylene Propylene & a Diene -30° to 250°F (-35° to 121°C)

Trim Combination
Give disc-shaft material code as follows:

DI-S8	=	Ductile Iron Nickle Plated Disc - 410 Stainless Steel Shaft
S2-S2	=	316 Stainless Steel Disc - 316 Stainless Steel Shaft
ALB-S8	=	Aluminum Bronze Disc - 410 Stainless Steel Shaft

Ordering Example:

BOS,6,US,W1,DI,NBR,NBR,DI-S8*actuator

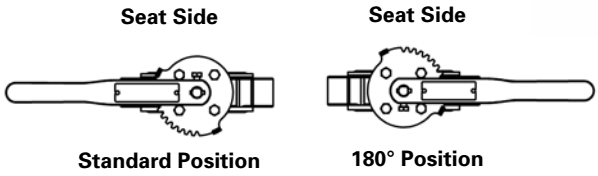
Manual Actuators

10-Position Lever Actuator

Lever Actuators are available on 2-6" valve sizes. The 10-position dial provides positive latching in open, closed and eight intermediate positions. To order, add lever code to basic valve order code. Levers may be mounted at standard or 180° mounting positions.

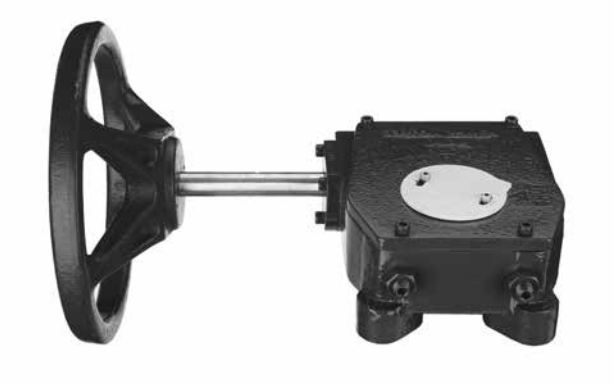
Valve Size	Order Code	Maximum Pressure Differential
		psi/kPa
2-6" 50-150mm	LT	250 1725

Ordering Example:
BOS,6,W1,DI,NBR,NBR,DI-S8*LT



MG-Series Manual Gear Actuators

MG-Series Manual Gear Actuators provide high torque for robust applications and a long service life without maintenance. MG-Series are available on 2-20" valve sizes with Handwheel or Chainwheel input. Refer to bulletins 72.00-1 and 72.00-2 for technical specifications and sizing.



Cylinder Actuators

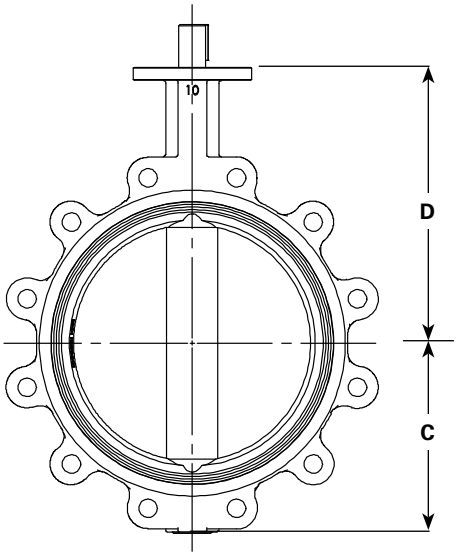
G-Series Cylinder Actuators

G-Series are constructed for dependable and lasting performance. G-Series cylinder actuators feature a rack and gear design for larger size valve where constant high torque capability throughout the stroke is required. Refer to bulletin 73.00-1 for technical specifications and sizing.

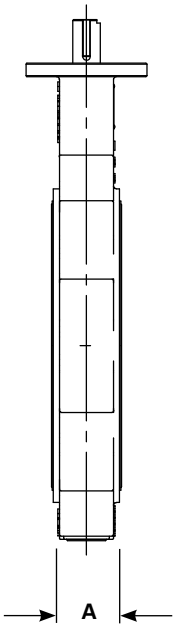
PowerRac® Cylinder Actuators

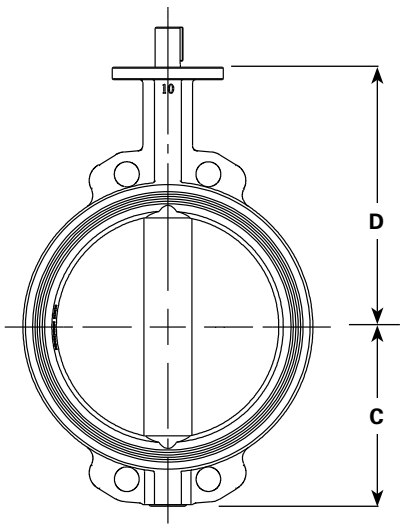
Double-acting and spring-return PowerRac® actuators feature a proven rack-and-pinion design ideally suited for high cycle applications. PowerRac® actuators provide high output torque for on-off applications and consistently high output torque throughout the full stroke for accurate control. Its durability is backed by with a Lifetime Warranty. Refer to bulletin 74.00-1, 74.00-2 and 74.00-3 for technical specifications and sizing.

Dimensions



Lugged





Wafer

Basic Valve

Valve Size	A	C	D
2" 50mm	1.69 43	3.31 84	5.79 147
2.5" 65mm	1.81 46	3.31 84	6.10 155
3" 80mm	1.81 46	3.54 90	6.50 165
4" 100mm	2.06 52	4.47 114	7.52 191
5" 125mm	2.19 56	4.82 122	8.11 206
6" 150mm	2.19 56	5.51 140	8.62 219
8" 200mm	2.38 60	6.75 171	10.24 260
10" 250mm	2.69 68	7.93 201	11.50 292
12" 300mm	3.06 78	9.06 230	13.35 339
14" 350mm	3.06 78	10.14 258	14.50 368
16" 400mm	4.00 102	11.81 300	15.83 402
18" 450mm	4.50 114	12.93 328	16.62 422
20" 500mm	5.00 127	14.06 357	18.90 480

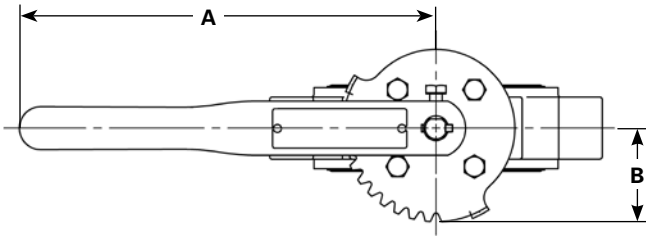
Inch
Millimeter

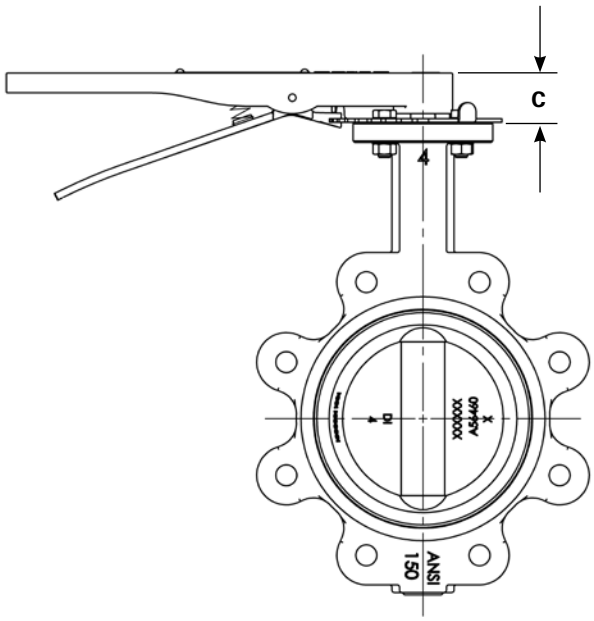
Dimensions

Lever

Valve Size	Dimensions		
	A	B	C
2-6"	10.53	2.37	1.25
50-150mm	267	60	32

Inch
Millimeter





Sales and Service

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