



# BUTTERFLY VALVES

Standard Lever thru 6"  
Gear Operator - 8" & Larger



# GENERAL PURPOSE BUTTERFLY VALVES

141 & 145 series

## LD/WD 141 SERIES



APOLLO INTERNATIONAL™



**WD 141  
Wafer  
2" - 12"**



**LD 141  
Lug  
2" - 24"**

## LD/WD 145 SERIES



MADE IN AMERICA



**WD 145  
Wafer  
2" - 12"**



**LD 145  
Lug  
2" - 12"**

The Apollo LD/WD Series ductile iron butterfly valves are ideal for use in industrial and HVAC/mechanical applications. The WD Series is a wafer style valve and the LD Series is a lug style.

### FEATURES

- Compatible with ANSI 125# & 150# flanges
- ISO 5211 top plate allows choice of Apollo actuators and manual operators
- Conforms to MSS SP-67 & API 609
- LD141 and LD145 Series suitable for end of line service to rated pressure (2" - 12") (Consult factory for larger sizes)
- 3"-24" meet performance requirements of AWWA C-504
- Certified NSF/ANSI 372 Lead Free
- Certified NSF/ANSI 61 Water Quality\*
- Registered under Canadian Registration Number CRN# 0C12102.8CL

\* Applies to bronze and stainless steel disc models

### OPTIONS

- Bare stem
- Infinite position handle
- Gear operations
- Chain wheels
- Silicone free assembly (145 only)

### PRESSURE-TEMPERATURE RATING AT 100°F (37.8°C)

All Body, Disc, Seat Combinations  
 2"-12" (DN50 - DN300) 200 psi (13.8 bar)  
 14"-24" (DN350 - DN600) 150 psi (10.3 bar)  
 All Sizes - Vacuum Rating 29 inches of Hg

### Torque Rating (in. lbs.)

Valve Size <sup>1</sup>		Full Rated Pressures (psig)			
Inches	DN	ΔP50	ΔP100	ΔP150	ΔP200
2	50	100	106	111	117
2.5	65	150	163	176	189
3	80	207	220	232	244
4	100	290	323	357	390
5	125	423	481	540	598
6	150	599	691	783	875
8	200	1060	1183	1307	1430
10	250	1671	1872	2074	2275
12	300	2568	2795	3023	3250
14	350	2640	3070	3500	N/A
16	400	4260	4880	5500	N/A
18	450	6287	7243	8200	N/A
20	500	8360	9180	10000	N/A
24	600	15427	16813	18200	N/A

<sup>1</sup> LD (2"-24"); WD (2"-12"); LC (2"-12")  
 Sizes 28"-36": Contact factory for availability.

### ACTUATION

Actuation assistance available on page 62, with the Apollo Actuator Wizard located at [actuatorwizard.conbraco.com](http://actuatorwizard.conbraco.com) or by calling customer support at (704)841-6000.

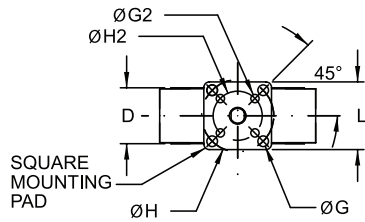
# GENERAL PURPOSE BUTTERFLY VALVES

141 & 145 series

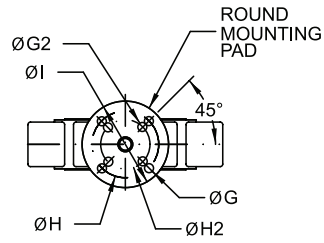


## LD MODEL

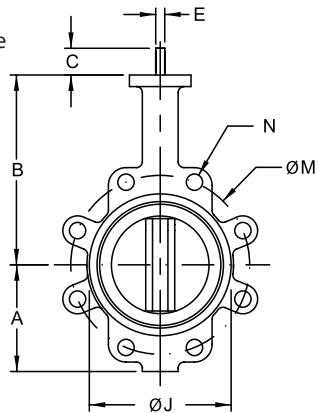
2" - 12"



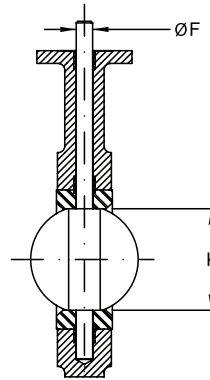
14" - 24"



Double-D Shaft Drive

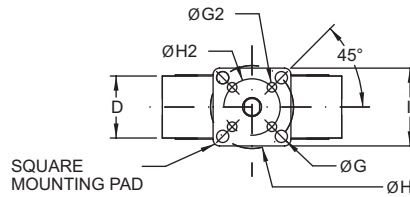


Shaft Drive:  
Double-D (14")  
Round & Keyed (16" & larger)

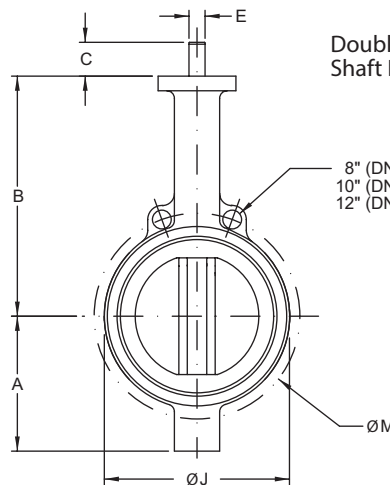


## WD MODEL

2" - 12"



Double-D Shaft Drive



8" (DN 200) : 2 HOLES, 0.98" DIAMETER  
10" (DN 250) : 2 HOLES, 0.98" DIAMETER  
12" (DN 300) : 2 HOLES, 0.98" DIAMETER



# GENERAL PURPOSE BUTTERFLY VALVES

141 & 145 series

Size Inches	Size DN	Dimensions in Inches – 141 & 145 Series								
		A	B	C	D	E	ØF	ØG	ØG2	Key
2	50	3.25	6.38	1.25	1.75	0.394	0.496	0.375	--	--
2-1/2	65	3.75	6.88	1.25	1.88	0.394	0.496	0.375	--	--
3	80	4.00	7.13	1.25	1.88	0.394	0.496	0.375	--	--
4	100	4.88	7.88	1.25	2.13	0.472	0.621	0.375	--	--
5	125	5.38	8.38	1.25	2.25	0.551	0.745	0.375	--	--
6	150	5.88	8.88	1.25	2.25	0.551	0.745	0.375	--	--
8	200	7.13	10.25	1.75	2.50	0.669	0.870	0.563	0.438	--
10	250	8.25	11.50	1.88	2.75	0.866	1.120	0.563	0.438	--
12	300	9.75	13.25	1.88	3.13	0.945	1.244	0.563	--	--
14	350	11.00	14.50	1.88	3.13	0.945	1.244	0.563	--	--
16	400	12.00	15.75	2.00	3.50		1.313	0.563	--	.313 sq
18	450	14.38	16.63	2.00	4.25		1.500	0.813	--	.375 sq
20	500	14.63	18.88	2.50	5.25		1.625	0.813	--	.375 sq
24	600	18.00	22.13	2.75	6.13		2.000	0.813	--	.500 sq

Size Inches	Dimensions in Inches – 141 & 145 Series								
	ØH	ØH2	ØI	ØJ	K	L	M	N (# Holes)	N (Tap UNC)
2	2.756	--	2.70	4.00	2.09	1.113	4.75	4	.625-11
2-1/2	2.756	--	2.70	4.75	2.54	1.706	5.50	4	.625-11
3	2.756	--	2.70	5.13	3.09	2.450	6.00	4	.625-11
4	2.756	--	2.70	6.75	4.09	3.488	7.50	8	.625-11
5	2.756	--	2.70	7.75	4.85	4.296	8.50	8	.750-10
6	2.756	--	2.70	8.63	6.13	5.697	9.50	8	.750-10
8	4.921	4.015	4.61	10.56	7.89	7.468	11.75	8	.750-10
10	4.921	4.015	4.61	13.06	9.89	9.484	14.25	12	.875-9
12	4.921	--	4.61	16.00	11.89	11.456	17.00	12	.875-9
14	4.921	--	Ø5.91	17.13	13.38	13.000	18.75	12	1.00-8
16	4.921	--	Ø5.91	20.00	15.38	14.970	21.25	16	1.00-8
18	6.496	--	Ø8.27	21.38	17.38	16.847	22.75	16	1.125-7
20	6.496	--	Ø8.27	23.31	19.38	18.650	25.00	20	1.125-7
24	6.496	--	Ø8.27	27.88	23.38	22.558	29.50	20	1.125-7

### Approximate Weight for Bare Shaft Valve

Valve Size		WD Model Lbs (kg)	LD Model Lbs (kg)
Inches	DN		
2	50	6 (2.7)	8 (3.6)
2.5	65	6 (2.7)	10 (4.5)
3	80	7(3.2)	11 (5.0)
4	100	11 (5.0)	17 (7.7)
5	125	13 (5.9)	20 (9.1)
6	150	16 (7.3)	23 (10.4)
8	200	29 (13.2)	39 (17.7)
10	250	44 (20.0)	62 (28.1)
12	300	70 (31.8)	97 (44.0)
14	350		148 (67.1)
16	400		206 (93.4)
18	450		277 (125.6)
20	500		410 (186.0)
24	600		592 (268.5)

# CONTRACTOR GRADE BUTTERFLY VALVES

149 series



## LC-149 SERIES



### APOLLO INTERNATIONAL™

The LC149 Series Cast Iron Butterfly Valves are ideal for use in Industrial and HVAC/Mechanical applications. The LC149 Series is a lug style valve designed to be economical yet full featured.

#### PERFORMANCE RATING

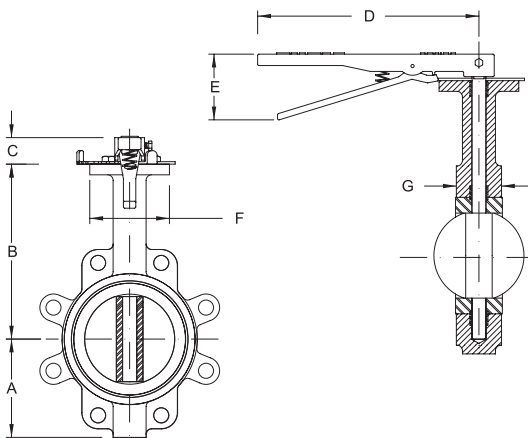
- Max Operating Pressure: 200 psi (13.8 bar)
- Temperature Range: -30°F (-34°C) to 275°F (135°C)
- Cast iron body, EPDM seats and aluminum bronze disc is standard

#### FEATURES

- Suitable for end of line service to rated pressure (2" - 12")
- Lever handle available 2"-12"
- Gear operator 8"-12"

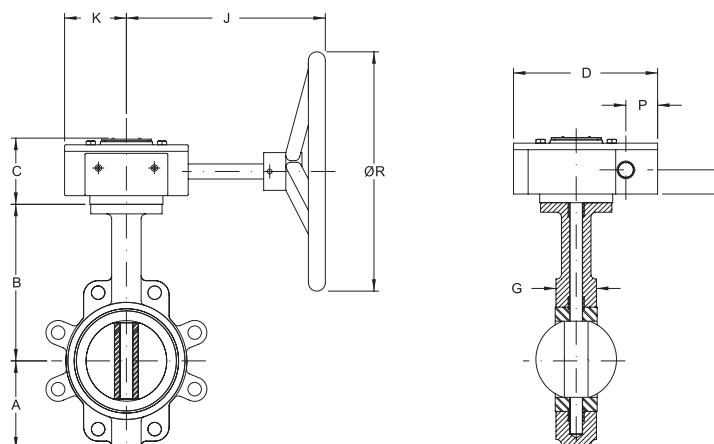
#### APPROVALS

- NSF/ANSI 372 Lead Free
- NSF/ANSI 61 Water Quality
- Registered under Canadian Registration Number CRN# 0C12102.8CL



Size (in)	Dimensions in Inches – 149 Series with Handle						
	A	B	C	D	E	F	G
2	3.25	6.38	1.25	10.5	3.1	2.70	1.75
2-1/2	3.75	6.88	1.25	10.5	3.1	2.70	1.88
3	4.00	7.13	1.25	10.5	3.1	2.70	1.88
4	4.88	7.88	1.25	10.5	3.1	2.70	2.13
5	5.38	8.38	1.25	10.5	3.1	2.70	2.25
6	5.88	8.88	1.25	10.5	3.1	2.70	2.25
8	7.13	10.25	1.75	14.3	3.5	4.61	2.50
10	8.25	11.50	1.88	14.3	3.5	4.61	2.75
12	9.75	13.25	1.88	14.3	3.5	4.61	3.13

Size (in)	Dimensions in Inches – 149 Series with Optional Gear Operator									
	A	B	C	D	G	H	J	K	P	ØR
8	7.13	10.25	3.38	8.00	2.50	1.62	9.48	3.25	1.50	11.88
10	8.25	11.50	3.38	8.00	2.75	1.62	9.48	3.25	1.50	11.88
12	9.75	13.25	3.38	8.00	3.13	1.62	9.48	3.25	1.50	11.88






# HOW TO ORDER WD & LD BUTTERFLY VALVES

## CERTIFIED LEAD FREE\* – MODEL NUMBER

WD	141	06	B	E	1	1	-S
MODEL	SERIES	SIZE (IN.)	DISC MATERIAL	SEAT MATERIAL	SHAFT	OPERATOR	
WD = Wafer Body LD = Lug Body	141 = Apollo International™ (Ductile Iron) 145 = Assembled & Tested in USA (Ductile Iron)	02 = 2" 25 = 2.5" 03 = 3" 04 = 4" 05 = 5" 06 = 6" 08 = 8" 10 = 10" 12 = 12"  14 = 14" 16 = 16" 18 = 18" 20 = 20" 24 = 24" 30 = 30"	B = Aluminum Bronze D = Ductile Iron A536 Nickel Plated S = Stainless Steel, CF8M	E = Black EPDM** -30° F to 275° F -34° C to 135° C N = Black BUNA-N** 10° F to 180° F -12° C to 82° C V = Black Viton® B † -20° F to 300° F -29° C to 149° C (145 Series Only)  **FDA Food Grade	1 = Std. 416 SS	0 = Bare Shaft 1 = 10 Position Handle 2 = Gear Operator - Direct Mount 3 = Infinite Position Handle 4 = Locking Handle 5 = Gear Operator w/ Chainwheel 7 = Locking Gear Operator 8 = Locking Gear Operator w/Chainwheel -SF= Silicone Free Assembly (145 Series Only)	
	141 = Sizes 14"-30"  <b>NOTE: LD-141 lug style only</b>						

**NOTES:**  • **Certification** - Product complies with NSF/ANSI 372 and NSF/ANSI 61 lead content requirements. †

\*NSF 61 does not apply to ductile iron disc

†Viton is primarily used for process applications, and has not been included in the scope of our Lead Free approvals

### EXAMPLE:

WD141-06-BE-11: 6" WD141 Series, Ductile Iron Wafer Body, Aluminum Bronze Disc, Black EPDM Seat, 416 SS Shaft with 10 Position Handle


## How to Order LC149 Butterfly Valves - Contractor Grade

### CERTIFIED LEAD FREE NSF/ANSI 61 AND 372 – MODEL NUMBER

LC149	06	1
SERIES	SIZE (IN.)	OPERATOR
LC149 = Cast Iron Lug Body Aluminum Bronze Disc 416 SS Shaft Black EPDM Seat	02 = 2" 25 = 2.5" 03 = 3" 04 = 4" 05 = 5" 06 = 6" 08 = 8" 10 = 10" 12 = 12"	1 = 10 Position Handle (2" - 12") 2 = Gear Operator (8" - 12" only)

### EXAMPLE:

LC149-06-1: 6" LC149 Series, Cast Iron Body, Aluminum Bronze Disc, Black EPDM Seat, 416 SS Shaft with 10 Position Handle

**NOTES:**  • **Certification** - Product complies with NSF/ANSI 372 and NSF/ANSI 61 lead content requirements. †

\*NSF 61 does not apply to ductile iron disc

†Viton is primarily used for process applications, and has not been included in the scope of our Lead Free approvals

## Pricing

**NOTE:** Pricing of valves and options may be accessed through published price list BFPL9000 or by authorized Apollo Online users.

# HIGH PERFORMANCE BUTTERFLY VALVES



New!



## DOUBLE OFFSET HIGH PERFORMANCE BUTTERFLY VALVES

Apollo International™ 215, 230, 260 Series double offset high performance butterfly valves are available in wafer or lug body design. Stainless steel valves are certified lead-free with stainless steel disc and 17-4PH stainless steel stem.

### FEATURES

- 215 series Class 150# carbon steel (CWP 285) and 316 SS (CWP 275) 2" to 30"
- 230 series Class 300# carbon steel (CWP 740) and 316 SS (CWP 720) 2" - 24"
- 260 series Class 600# carbon steel (CWP 1480) and 316 SS (CWP 1440) 3" - 12"
- ISO 5211 mounting flange allows choice of Apollo actuators and manual operators
- Multi-bolt retainer holds and supports the seat. Standard valves are suitable for bi-directional dead-end service at the full pressure-temperature rating of the valve. Same material as the body
- Well-suited for a wide range of liquid and steam applications, defined in the high performance butterfly valve pressure temperature charts
- Vacuum service to 29" Hg
- Soft seats made from TFM 1700
- UHMWPE available on request

### APPROVALS

- NSF/ANSI 61 (Stainless Steel, Class 150 & Class 300, Sizes 2"-24")
- NSF/ANSI 372 (Stainless Steel, Class 150 & Class 300, Sizes 2"-24")
- CE/(PED) 97/23/EC models are available
- CRN No. 0C17459.5CL
- NSF/ANSI 372 Lead Free *\*stainless steel only*
- NSF/ANSI 61 Water Quality *\*stainless steel only*
- Registered under Canadian Registration Number CRN# 0C12102.8CL

2	15	L	06	C	S	P	8T	A	0
VALVE TYPE	CLASS	VALVE STYLE	SIZE	BODY MATERIAL	DISC MATERIAL	STEM MATERIAL	SEAT MATERIAL	SPECIAL SERVICE	OPERATOR
2 - Double Offset	15 (150)	L - Lug	02 (2")	C - Carbon Steel	S - 316 SS	P - 17-4 PH SS	8T - TFM 1700 w/Glass (Soft Seated)	A - Standard Apollo	0 - Bare Stem 1 - Lever Operator <sup>3</sup> 2 - Worm Gear Operator 5 - Worm Gear Operator w/ Chain Wheel 7 - Locking Worm Gear Operator 8 - Locking Worm Gear Operator w/ Chain Wheel
	30 (300)	W - Wafer	25 (2.5")	S - 316 SS			2F - TFM/Inconel, Graphite Seals (Fire Safe)		
	60 (600) <sup>1</sup>		03 (3")	A - Alloy 20	A - Alloy 20	A - Alloy 20	2M - Duplex 2205 (Metal Seated)		
			04 (4")	B - 317 SS	B - 317 SS	B - 317 SS	21 - UHMWPE <sup>4</sup>		
			05 (5")	H - Hastelloy C	H - Hastelloy C	H - Hastelloy C			
			06 (6")	J - Duplex	J - Duplex	J - Duplex			
			08 (8")	K - Super Duplex	K - Super Duplex	K - Super Duplex			
			10 (10")	M - Monel	M - Monel	M - Monel			
			12 (12")			S - 316 SS			
			14 (14")						
			16 (16")						
			18 (18")						
			20 (20")						
		24 (24")							
		30 (30") <sup>2</sup>							
		36 (36") <sup>2</sup>							

**Example:**  
**215L06CSP8TA0:** 6" Class 150 Lug, Carbon Steel Body, SS Disc, 17-4 PH Stem, TFM 1700 Seats, Standard Service, Bare Stem

<sup>1</sup> Class 600 valves available in sizes 3" through 12" (excluding 5" size)

<sup>2</sup> 215L Only

<sup>3</sup> Lever operators available on Class 150: 8", 10" & 12" valves | Class 300: 8" and 10" valves

Note: Reduced maximum differential pressures of 150psi for 8" valves and 50psi for 10" and 12" valves

<sup>4</sup> UHMWPE not available in Class 600

### ACTUATION

Actuation assistance available on page 62, with the Apollo Actuator Wizard located at [actuatorwizard.conbraco.com](http://actuatorwizard.conbraco.com) or by calling customer support at (704)841-6000.

