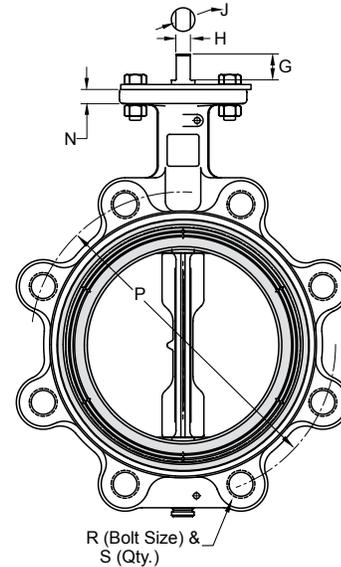
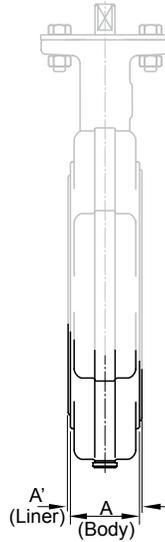
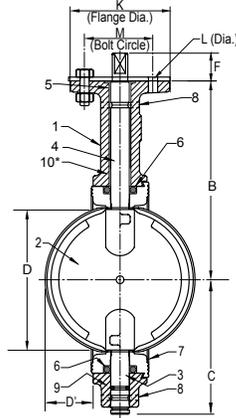


# HL Series\* 2"-12"



ABS Type Approved; Cat. A  
CFR-46

**Iron Butterfly Valve**  
**250 psi Non-Shock WOG**  
**Uni-directional Dead End Service to 200 psi Max**  
**Specifications: API-609 MSS SP-67 Type 1**



## MATERIALS LIST

ITEM	PART	MATERIALS
1	BODY	DUCTILE IRON ASTM A536
		DUCTILE IRON-EPOXY COATED
2	DISC	DUCTILE IRON-NYLON COATED
		NP DUCTILE IRON ASTM A536
		ALUMINUM BRONZE ASTM B148
		STAINLESS STEEL TYPE 316
3	BOTTOM STEM	STAINLESS STEEL TYPE 416
		STAINLESS STEEL TYPE 316
4	TOP STEM	STAINLESS STEEL TYPE 416
		STAINLESS STEEL TYPE 316
5	TOP BEARING	REINFORCED NYLON
6	SEAL	EPDM, BUNA, VITON (1)
7	LINER	BUNA
		EPDM
		VITON
		HYPALON
		NEOPRENE BLACK-FDA
		NEOPRENE WHITE-FDA
8	ROLL PIN	STAINLESS STEEL
9	STEM SEAL	EPDM, BUNA, VITON (1)
10	LOWER BEARING	REINFORCED NYLON
11	OPERATOR	LEVER HANDLE
		EPOXY COATED LEVER HANDLE
		GEAR OPERATOR
		GEAR OPERATOR WITH MEMORY STOP
		GEAR OPERATOR WITH LOCK
		ACTUATOR-AIR/AIR
ACTUATOR-AIR/SPRING		
	ACTUATOR-ELECTRIC	

(1) - VITON O-RINGS ARE USED WITH HYPALON, NEOPRENE, AND TEFLON LINERS.

**\*Note:** The wetted surface of this product (In any material combination.) contacted by consumable water contains less than one quarter of one percent (.25%) of lead by weight.

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⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## DIMENSIONS

		VALVE SIZE									
		2	2-1/2	3	4	5	6	8	10	12	
A (Body)	INCHES	1.69	1.81	1.81	2.07	2.19	2.19	2.38	2.69	3.06	
	mm	43	46	46	52	55	55	60	68	78	
A <sup>1</sup> (Liner)	INCHES	1.82	1.94	1.94	2.20	2.32	2.32	2.51	2.82	3.21	
	mm	46	49	49	55	58	58	63	71	82	
B	INCHES	5.50	6.00	6.25	7.00	7.53	8.00	9.38	10.56	12.06	
	mm	139	152	158	177	191	203	238	268	306	
C	INCHES	3.06	3.31	3.75	4.25	4.94	5.56	5.56	7.88	9.25	
	mm	77	84	95	108	125	141	166	200	235	
D (Chord Dia)	INCHES	1.49	2.01	2.64	3.67	4.71	5.66	7.72	9.70	11.68	
	mm	37	51	67	93	119	143	196	246	296	
D <sup>1</sup> (Intrusion)	INCHES	0.28	0.44	0.69	1.06	1.50	1.94	2.84	3.69	4.50	
	mm	7	11	17	27	38	49	72	93	114	
F	INCHES	1.13	1.13	1.13	1.13	1.13	1.13	1.50	1.50	1.50	
	mm	28	28	28	28	28	28	38	38	38	
G	INCHES	0.81	0.81	0.81	0.81	0.81	0.81	1.06	1.06	1.06	
	mm	20	20	20	20	20	20	27	27	27	
H	INCHES	0.35	0.35	0.35	0.40	0.40	0.44	0.53	0.71	0.71	
	mm	8	8	8	10	10	11	13	18	18	
J	INCHES	0.50	0.50	0.50	0.56	0.56	0.62	0.75	1.00	1.00	
	mm	12	12	12	14	14	14	19	25	25	
K	INCHES	4	4	4	4	4	4	6	6	6	
	mm	101.6	101.6	101.6	101.6	101.6	101.6	152.4	152.4	152.4	
L (Dia)	INCHES	0.44	0.44	0.44	0.44	0.44	0.44	0.56	0.56	0.56	
	mm	11	11	11	11	11	11	14	14	14	
M	INCHES	3.25	3.25	3.25	3.25	3.25	3.25	5.00	5.00	5.00	
	mm	82	82	82	82	82	82	127	127	127	
N	INCHES	0.44	0.44	0.44	0.44	0.44	0.44	0.50	0.50	0.50	
	mm	11	11	11	11	11	11	12	12	12	
P	INCHES	4.75	5.50	6.00	7.50	8.50	9.50	11.75	14.25	17.00	
	mm	120	139	152	190	215	241	298	362	431	
R	INCHES	5/8-11	5/8-11	5/8-11	5/8-11	3/4-10	3/4-10	3/4-10	7/8-9	7/8-9	
	mm	15.875-11	15.875-11	15.875-11	15.875-11	19.0-10	19.0-10	19.0-10	19.6-9	19.6-9	
S	INCHES	4	4	4	8	8	8	8	12	12	
	mm	101.6	101.6	101.6	203.2	203.2	203.2	203.2	304.8	304.8	



**M****L****2****3****4****V****A**

VALVE SERIES	BODY STYLE	OPERATOR	BODY MATERIAL	DISC MATERIAL	LINER MATERIAL	SPECIAL OPTIONS
H - H SERIES (250 PSI) M - M SERIES O - O SERIES U - U SERIES (75 PSI)	L - LUG BODY W - WAFER BODY	1 - VALVE ONLY 2 - LEVER HANDLE 3 - GEAR OPERATOR 5 - GEAR W/MEMORY STOP 9 - GEAR WITH LOCK	2 - CAST IRON* 3 - DUCTILE IRON  *MILWAUKEE VALVE RESERVES THE RIGHT TO UPGRADE THE BODY WITHOUT NOTICE FOR NO ADDITIONAL COST.	2 - NICKEL PLATED DUCTILE IRON 3 - ALUMINUM/BRONZE 4 - CF8M(316) STAINLESS STEEL 7 - NYLON COATED DUCTILE IRON 8 - EPOXY COATED DUCTILE IRON	B - BUNA-N E - EPDM H - HYPALON NB - FDA BLACK NEOPRENE NW - FDA WHITE NEOPRENE T - TEFLON OVER BUNA (AVAILABLE W/SS DISC ONLY) V - VITON	S - 316 STEM W/AB OR NP DISC A - EPOXY COATED BODY AD - ASSEMBLE DRY-NO
		*PNEUMATIC AND ELECTRIC ACTUATION OPTIONS AVAILABLE				

Rev 7/1/2020

# BUTTERFLY FEATURES & OPTIONS

## STANDARD FEATURES

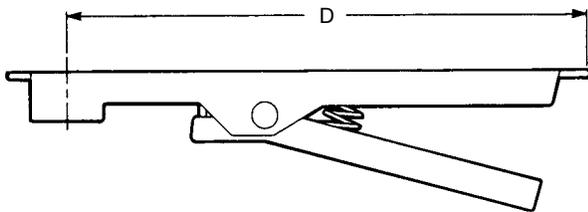
HEAVY DUTY DESIGN  
 PHENOLIC CARTRIDGE DESIGN  
 LOW TORQUE LINER  
 BUBBLE TIGHT SHUT OFF  
 LOW TORQUE POLYMER BEARING STD  
 DEAD END SERVICE (LUG ONLY)  
 FIELD REPAIRABLE

EXTENDED NECK BODY  
 LOW PROFILE DISC  
 BLOWOUT PROOF STEMS  
 STAINLESS STEEL STEMS (416)  
 BI-DIRECTIONAL SHUT OFF (EXCEPT AS NOTED)  
 VACUUM RATINGS TO 29" OF MERCURY

## OPERATORS

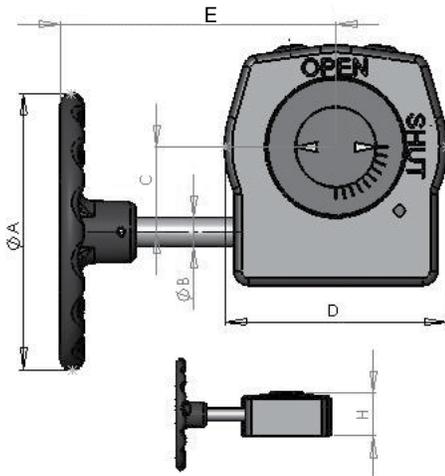
### MANUAL

10 POSITION, PAD LOCKABLE, DUCTILE IRON LEVER HANDLE –STD, EPOXY COATING OPTIONAL.



VALVE SIZE	PART NUMBER	T-DIMENSION (inches)
2, 2-1/2, 3	84016-LL	9.50
4, 5	84016-RL	11.00
6	84016-SL	11.00
8	84016-UL	15.00
10, 12	84016-WL	15.00

WEATHER RESISTENT GEAR OPERATOR, CAST IRON, MEMORY STOP AND LOCKING DEVICE OPTIONAL.



VALVE SIZE	PART NUMBER	GEAR RATIO	ØA	ØB	C	D	E	H
2-3	8115-24N-L	24:1	6.00	0.63	1.80	4.20	8.80	2.30
4-5	8115-24N-R	24:1	6.00	0.63	1.80	4.20	8.80	2.30
6	8115-24N-S	24:1	6.00	0.63	1.80	4.20	8.80	2.30
8	8115-30N-U	30:1	9.00	0.75	2.60	6.03	8.50	3.23
10-12	8115-30N-W	30:1	9.00	0.75	2.60	6.03	8.50	3.23
14-16	8115-48N-16	50:1	12.00	0.75	3.10	6.97	13.40	3.46
18-20	8115-65N-20	80:1	12.00	1.00	4.93	10.30	12.60	4.63
24	8115-78N-24	120:1	16.00	1.00	4.93	10.30	12.60	6.00

## ACTUATORS

PNEUMATIC OPERATORS  
 DOUBLE ACTING OPERATORS  
 SPRING-RETURN ACTUATORS  
 SOLENOID VALVES  
 ACTUATOR BRACKETS  
 LIMIT SWITCHES  
 VALVE POSITIONERS

120 VOLT AC AND DC VOLTAGES  
 NEMA 4 AND 7 HOUSING  
 4-20 mA DC VALVE POSITIONERS  
 ACTUATOR BRACKETS  
 EXTRA LIMIT SWITCHES  
 ELECTRIC ACTUATORS

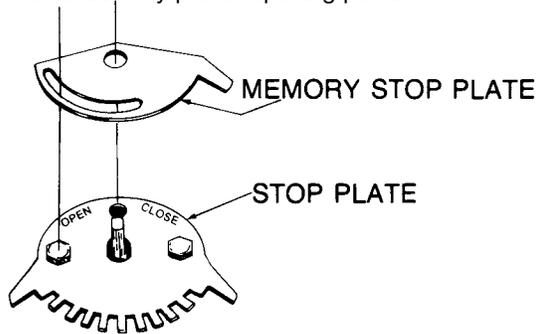
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# OPTIONS & ACCESSORIES

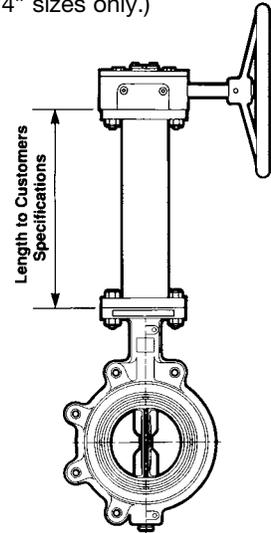
## MEMORY STOP

The "MS" Memory Stop provides an adjustable stop when the valve is used in a balancing application. The Memory Stop can be set to any preset opening point.



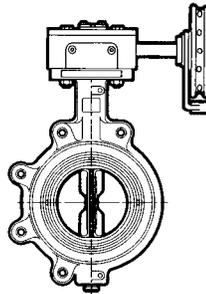
## STEM EXTENSION

Provides means of operation at a required distance away from the valve body. Manual or automatic, actuators are easily adapted to mounting flange on the extension. To order, specify distance from valve mounting-flange to base of operator. (Please note: Butterball® extension stems are available in 1-1/4" and 2-1/4" sizes only.)

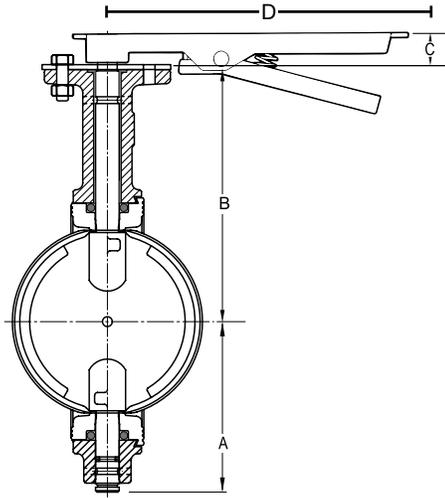


## CHAINWHEEL

The chain wheel provides for remote operation of the valve in high, normally out-of-reach locations. Attaches to the gear operator easily for quick valve open/close response. Sprocket rim is aluminum; chain is steel. Specify the handwheel diameter ("A" dimension) and chain length. Chainwheel sold separately.

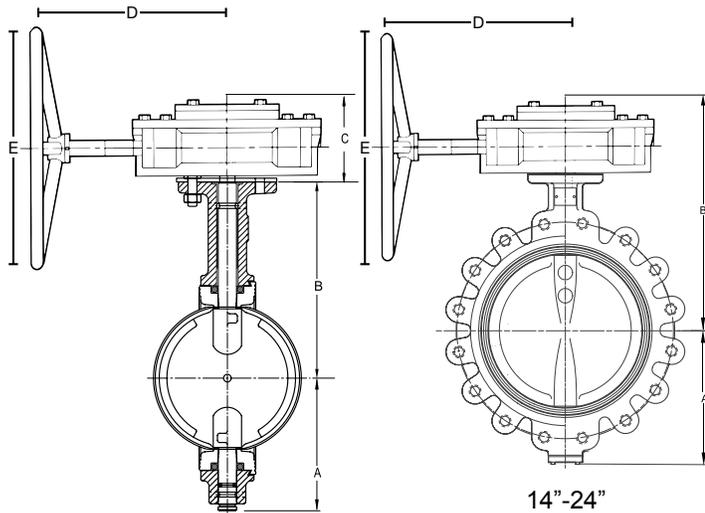


# Butterfly Height With Lever or Gear Operator



2"-12"

Butterfly with Lever Handle						
Size		A	B	C	D	Height
2"	INCHES	3.06	5.50	1.13	9.50	19.19
2 1/2"	INCHES	3.31	6.00	1.13	9.50	19.94
3"	INCHES	3.75	6.25	1.13	9.50	20.63
4"	INCHES	4.25	7.00	1.13	11.00	23.38
5"	INCHES	4.94	7.53	1.13	11.00	13.60
6"	INCHES	5.56	8.00	1.13	11.00	14.69
8"	INCHES	5.56	9.38	1.50	15.00	31.44
10"	INCHES	7.88	10.56	1.50	15.00	34.94
12"	INCHES	9.25	12.06	1.50	15.00	37.81



2"-12"

14"-24"

Butterfly with Gear Operator							
Size		A	B	C	D	E	Height
2"	INCHES	3.06	5.50	2.30	8.80	6.00	10.86
2 1/2"	INCHES	3.31	6.00	2.30	8.80	6.00	11.61
3"	INCHES	3.75	6.25	2.30	8.80	6.00	12.30
4"	INCHES	4.25	7.00	2.30	8.80	6.00	13.55
5"	INCHES	4.94	7.53	2.30	8.80	6.00	14.77
6"	INCHES	5.56	8.00	2.30	8.80	6.00	15.86
8"	INCHES	5.56	9.38	3.23	8.50	9.00	18.17
10"	INCHES	7.88	10.56	3.23	8.50	9.00	21.67
12"	INCHES	9.25	12.06	3.23	8.50	9.00	24.54
14"	INCHES	11.56	17.25	-	13.40	12.00	28.81
16"	INCHES	12.69	18.75	-	13.40	12.00	31.44
18"	INCHES	13.63	19.63	-	12.60	12.00	33.26
20"	INCHES	15.13	20.88	-	12.60	12.00	36.01
24"	INCHES	18.06	25.00	-	12.60	16.00	43.06

**Note:** 30"-48" Please see specification sheet.

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