

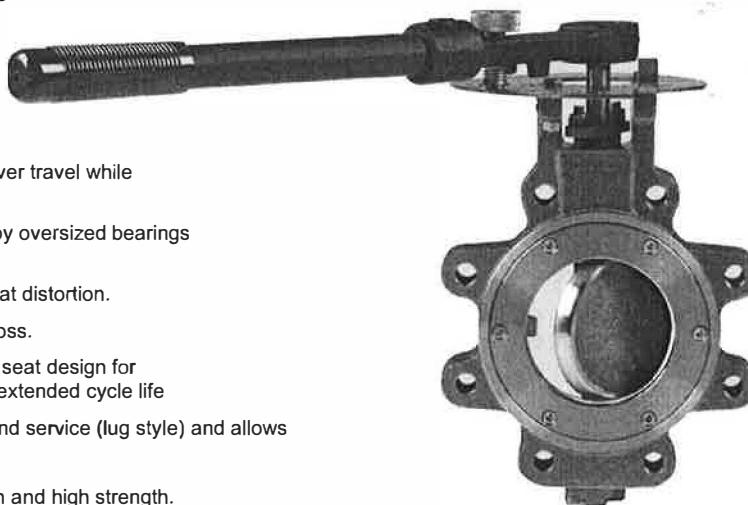
HP Series:

Milwaukee Valve Company

High Performance Butterfly Valves

Features and Benefits

- Double offset geometry to provide superior sealing with minimal seat contact and wear.
- Machined, tapered seat provides multiple sealing edges.
- Single piece shaft and disc designed for maximum strength and Cv.
- Internally cast disc position stop to prevent disc over travel while maintaining optimum disc/seat contact.
- Stem is centered in the adjustable stem packing by oversized bearings eliminating stem leakage and fugitive emissions.
- Disc spacers to center disc in seat to eliminate seat distortion.
- Blow out proof stem prevents injury and product loss.
- Combination mechanical and pressure energized seat design for repeatable and reliable sealing performance and extended cycle life
- Sealing retaining ring designed for double dead end service (lug style) and allows easy removal for seat replacement.
- Stem/disc connection ensures minimal lost motion and high strength.



Product Range

Size Class: 2-1/2"-24", ASMG/ANSI Class 150 & 300

Body Configuration: Wafer and Lug

Operators Available

10 Position Lever Handle, Gear Operators, Pneumatic and Electric Actuators

Material of Standard Construction

Body Carbon Steel or CF8M 316 Stainless Steel
 Disc CF8M 316 Stainless Steel
 Stem 17-4 PH Stainless Steel
 Bearing Stainless backed RTFE
 Seat RTFE/Stainless Garter Spring

Specifications

Valve Sizes 2-1/2" through 24"

Flanged Ends Connections per ASMG/ANSI B16.5.

Valve face to face dimension per MSS-SP-68.

Valve bodies are cast high quality steel, with standard availability in ASTM-A216 WCB CS and ASTM A-351 CF8M SS. Body wall thickness meets ASME/ANSI B16/34 and complies with quality standard for steel castings MSS-SP-55.

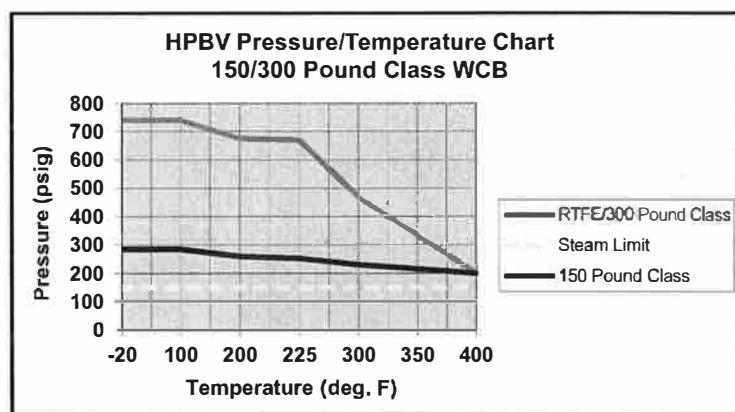
High performance valve meets the requirements of MSS-SP-68 for double offset design.

Valve pressure tests meet MSS-SP-61.

Valve testing and inspection meet API 598.

Tagging meets the requirements of MSS-SP-25 and API 609B.

H.P. Lug Pattern



Pressure Ratings*

(Cold Working Pressure)

2-1/2" through 24"	2-1/2" through 16"
Class 150	Class 300
Carbon Steel 285 psi	740 psi
Stainless Steel 275 psi	720 psi

*Valve is rated @150 PSI steam for on & off application and 50 PSI modulating service. (Limit Range 30°-70° - No Dwell In Near Closed Position.)

HOW TO ORDER MILWAUKEE VALVES HP SERIES HIGH PERFORMANCE BUTTERFLY VALVE										
ANSI CLASS	BODY MATERIAL	DISC MATERIAL	STEM MATERIAL	SEAT MATERIAL	STEM PACKING	OPERATOR	EXT. OPTIONS	SIZE		
xx	x	x	x	x	x	x	x	xxx		
HP	1-150 3-300	L-LUG W-WAFER	C-WCB S-CF8M	S-CF8M 5-316 SS	4-17-4 SS 2-RPTFE 4-UHMWPE	1-PTFE G-GRAFITE	1-BARE STEM 2-LEVER-LOCK 3-GEAR OP 4-ELECTRIC 5-PNEUMATIC 6-Epoxy Cld. Gear Op 7-Epoxy Cld. Lever-Lock	A-Assemble Dry C-Chlorine Clean E-Extended Mounting L-Locking O-Oxygen Clean (Consult Factory) S-Stainless Steel Seal Retainer U-Assembled in USA	025-240	
PART NUMBER EXAMPLE										
HP1LC4111 040 = 4 INCH, HIGH PERFORMANCE, CLASS 150, LUG PATTERN, CARBON STEEL BODY, 17-4 STEM, PTFE SEAT, PTFE PACKING, BARE STEM WITH NO EXT. OPTIONS										

Rev. 3

The information presented on this sheet is correct at the time of publication. Milwaukee Valve / Hammond Valve reserves the right to change design, and/or material specifications without notice. For the most current information access www.milwaukeevalve.com or www.hammondvalve.com



ML Series-REV. D* 2"-12"



ABS Type Approved; Cat. A
CFR-46

Iron Butterfly Valve
200 psi Non-Shock WOG

U Series With Undercut Disc Available @ 50 psi
Bi-Directional Dead End Service to 200 psi Max
BUNA & EPDM Only. All others 150 psi Uni-Directional
Specifications: API-609 MSS SP-67 Type 1

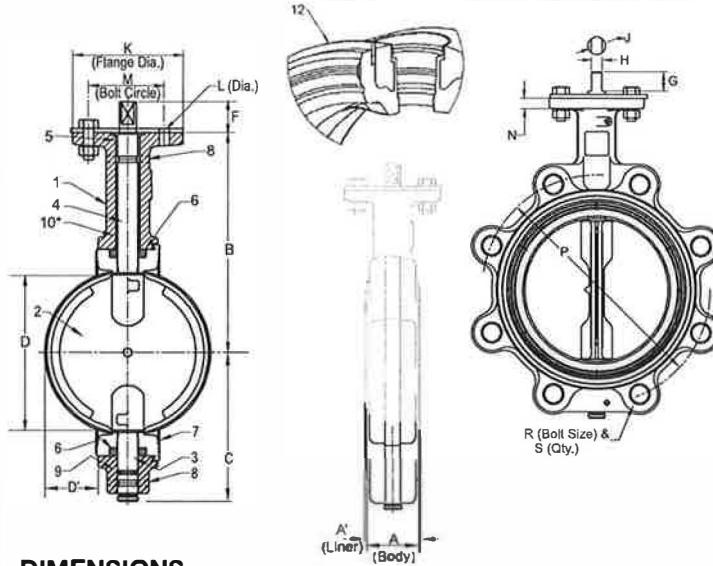
MATERIALS LIST

ITEM	PART	MATERIALS
1	BODY	CAST IRON ASTM A126 CL. B CAST IRON EPOXY COATED DUCTILE IRON ASTM A536 DUCTILE IRON-EPOXY COATED
2	DISC	DUCTILE IRON-NYLON COATED NP DUCTILE IRON ASTM A536 ALUMINUM BRONZE ASTM B 148 STAINLESS STEEL ASTM A351 CF8M NYLON COATED DUCTILE IRON EPOXY COATED DUCTILE IRON
3	BOTTOM STEM	STAINLESS STEEL TYPE 416 STAINLESS STEEL TYPE 316 (2)
4	TOP STEM	STAINLESS STEEL TYPE 416 STAINLESS STEEL TYPE 316 (2)
5	TOP BEARING	REINFORCED NYLON
6	SEAL	EPDM, BUNA, VITON (1)
7	LINER	BUNA EPDM VITON HYPALON NEOPRENE BLACK-FDA NEOPRENE WHITE-FDA TEFLON OVER BUNA (150# WOG)
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
12	RETAINING RING	1066 SPRING STEEL (65Mn)

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

(2) 316 STEM USED WITH CF8M DISC

** EPDM AND BUNA LINER ONLY



DIMENSIONS

		VALVE SIZE									
		INCHES DN	2 50	2-1/2 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300
A (Body)	INCHES mm	1.69 43	1.81 46	1.81 46	2.07 52	2.19 55	2.19 58	2.38 63	2.69 71	2.69 78	3.06 82
A ¹ (Liner)	INCHES mm	1.82 46	1.94 49	1.94 49	2.20 55	2.32 58	2.32 58	2.51 63	2.82 71	2.82 78	3.21 82
B	INCHES mm	5.50 139	6.00 152	6.25 158	7.00 177	7.53 191	8.00 203	9.38 238	10.56 268	10.56 306	12.06 306
C	INCHES mm	3.06 77	3.31 84	3.75 95	4.25 108	4.94 125	5.56 141	5.56 166	7.88 200	7.88 235	9.25 235
D (Chord Dia)	INCHES mm	1.49 37	2.01 51	2.64 67	3.67 93	4.71 119	5.66 143	7.72 196	9.70 246	9.70 296	11.68 296
D ¹ (Intrusion)	INCHES mm	0.28 7	0.44 11	0.69 17	1.06 27	1.50 38	1.94 49	2.84 72	3.69 93	3.69 114	4.50 114
F	INCHES mm	1.13 28	1.13 28	1.13 28	1.13 28	1.13 28	1.13 28	1.50 38	1.50 38	1.50 38	1.50 38
G	INCHES mm	0.81 20	0.81 20	0.81 20	0.81 20	0.81 20	0.81 20	1.06 27	1.06 27	1.06 27	1.06 27
H	INCHES mm	0.35 8	0.35 8	0.35 8	0.40 10	0.40 10	0.44 11	0.53 13	0.71 18	0.71 18	0.71 18
J	INCHES mm	0.50 12	0.50 12	0.50 12	0.56 14	0.56 14	0.62 14	0.75 19	1.00 25	1.00 25	1.00 25
K		4	4	4	4	4	4	6	6	6	6
L (Dia)	INCHES mm	0.44 11	0.44 11	0.44 11	0.44 11	0.44 11	0.44 11	0.56 12	0.56 12	0.56 12	0.56 12
M	INCHES mm	3.25 82	3.25 82	3.25 82	3.25 82	3.25 82	3.25 82	5.00 127	5.00 127	5.00 127	5.00 127
N	INCHES mm	0.44 11	0.44 11	0.44 11	0.44 11	0.44 11	0.44 11	0.50 12	0.50 12	0.50 12	0.50 12
P	INCHES mm	4.75 120	5.50 139	6.00 152	7.50 190	8.50 215	9.50 241	11.75 298	14.25 362	14.25 431	17.00 431
R		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	7/8-9
S		4	4	4	8	8	8	8	12	12	12

*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.

***Recommend Aluminum Bronze Disc in Water Service.

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M 2 3 4 5 A

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