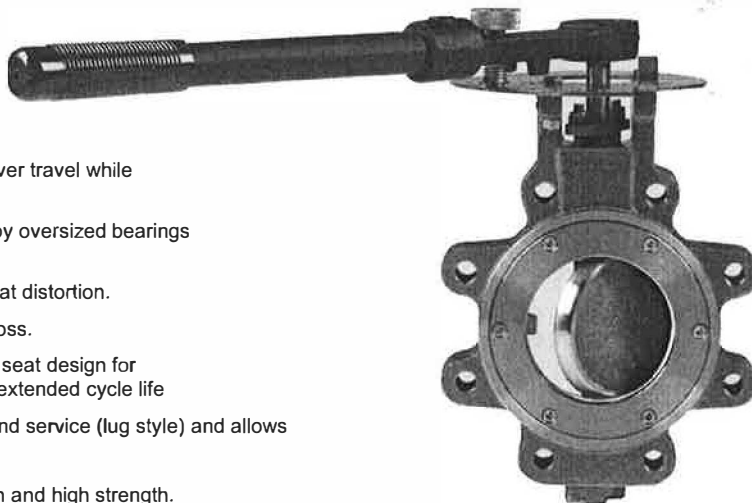


HP Series: Milwaukee Valve Company High Performance Butterfly Valves

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", ASME/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 ASME/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.

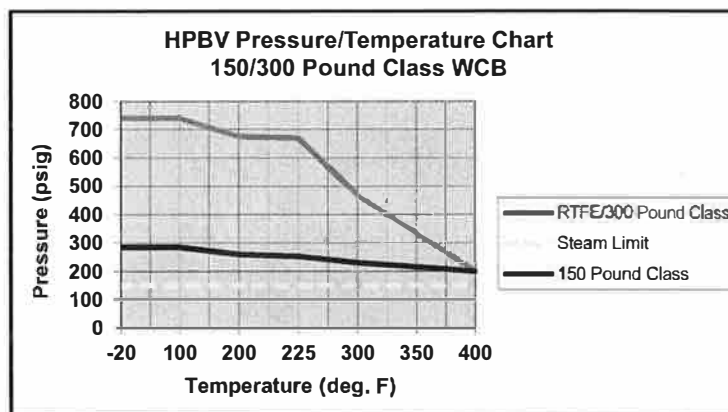
High performance valve meets the requirements of MSS-SP-68 for double offset design.

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										
SERIES	ANSI CLASS	BODY STYLE	BODY MATERIAL	DISC MATERIAL	STEM MATERIAL	SEAT MATERIAL	STEM PACKING	OPERATOR	EXT. OPTIONS	SIZE
XX	X	X	X	X	X	X	X	X	XX	XXX
HP	1-150 3-300	L-LUG W-WAFLR	C-WCB S-CF8M	S-CF8M	4-17-4 SS 5-316 SS	1-PTFE 2-RPTFE 4-UHMWPE	1-PTFE G-GRAPHITE	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

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

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



ABS Type Approved; Cat. A
CFR-46

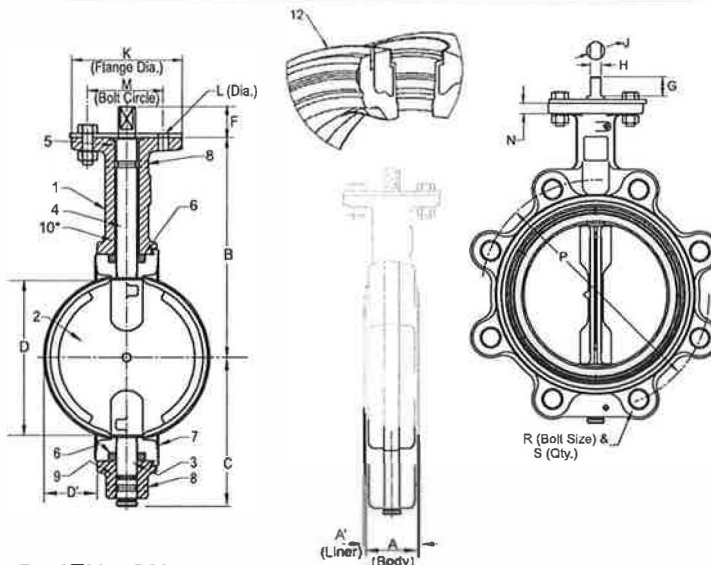
MATERIALS LIST

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, NEO-
PRENE, AND TEFLON LINERS.

(2) 316 STEM USED WITH CF8M DISC

** EPDM AND BUNA LINER ONLY



DIMENSIONS

	INCHES DN	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 ¹ (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 ¹ (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	101	101	101	101	101	152	152 152
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	16	16	16	16	19	19	19	19 19
S	INCHES	4	4	4	8	8	8	8	12 12
	mm	101	101	101	203	203	203	203	305 305

***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	L	2	3	4	E	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 w/LOCK N - BURIED SERVICE GEAR OPERATION w/2" SQ. NUT - PNEUMATIC AND ELECTRIC ACTUATION OPTIONS AVAILABLE. PLEASE CONSULT FACTORY.	2 - CAST IRON* 3 - DUCTILE IRON *MILWAUKEE VALVE RESERVES THE RIGHT TO UPGRADE TO DI 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