

W-K-M Series E Resilient Seat Butterfly Valves

Valves for Chemical Processing, HVAC, and Oil and Gas Applications



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W-K-M Series E Resilient Seat Butterfly Valve

Cooper Cameron Valves has more than 50 years experience manufacturing resilient seat butterfly valves. CCV products have a long established reputation for durability and dependability. The W-K-M Series E resilient seat butterfly valve provides features and benefits expected of CCV products.

The W-K-M Series E resilient seat butterfly valve is ideally suited for on/off and throttling applications in the following industries:

- HVAC
- Water and Waste Water
- Oil and Natural Gas Drilling and Production
- Power Generation
- Pulp and Paper
- Mining
- Chemical, Petrochemical, Refining
- Marine
- Food & Beverage
- Computer Chip Manufacturing

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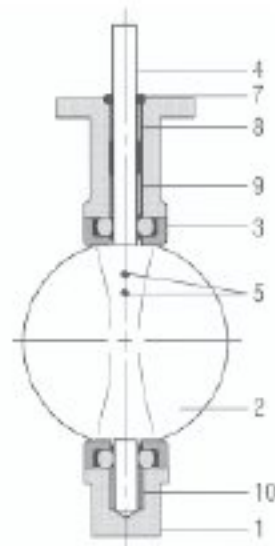
The W-K-M Advantage...

Features and Benefits

- Available in sizes 2" - 24"
- 200 PSI 2" - 12"
- 150 PSI 14" - 24"
- Fully rated for dead-end service at maximum pressure rating
- Available in wafer or lug body style
- Wafer body features four alignment holes
- Available with EPDM or Buna-N seat materials
- EPDM is rated at: -30°F to +250°F
- Buna N is rated at: 0°F to +180°F
- Available with handles (2" - 12") and manual gear operators (2" - 24"). Please contact your sales representative or the factory for automated actuation information.
- Designed to comply with MSS-SP-67 and API-609. See dimension table for exact valve dimensions.
- W-K-M Series E valves are compatible with ANSI class 125/150 flanges.

Materials of Construction 2" - 24"

Ref	Description	Materials
1	Body	Cast Iron - Wafer; Ductile Iron - Lug
2	Disc	Nickel Plated Ductile Iron, Aluminum- Bronze, 316-SS
3	Seat	Buna-N or EPDM
4	Stern	416 Stainless Steel, 316 Stainless Steel
5	Taper Pin	316 Stainless Steel
7	O-ring	Buna-N
8	Bushing	Luberized Bronze
9	Bushing	Luberized Bronze
10	Bushing	Luberized Bronze



W-K-M Series E Butterfly Valve

End-of-Line Service to maximum rated working pressure is standard on every lug style. (not an expensive option)

200 PSI 2" - 12"
150 PSI 14" - 24"

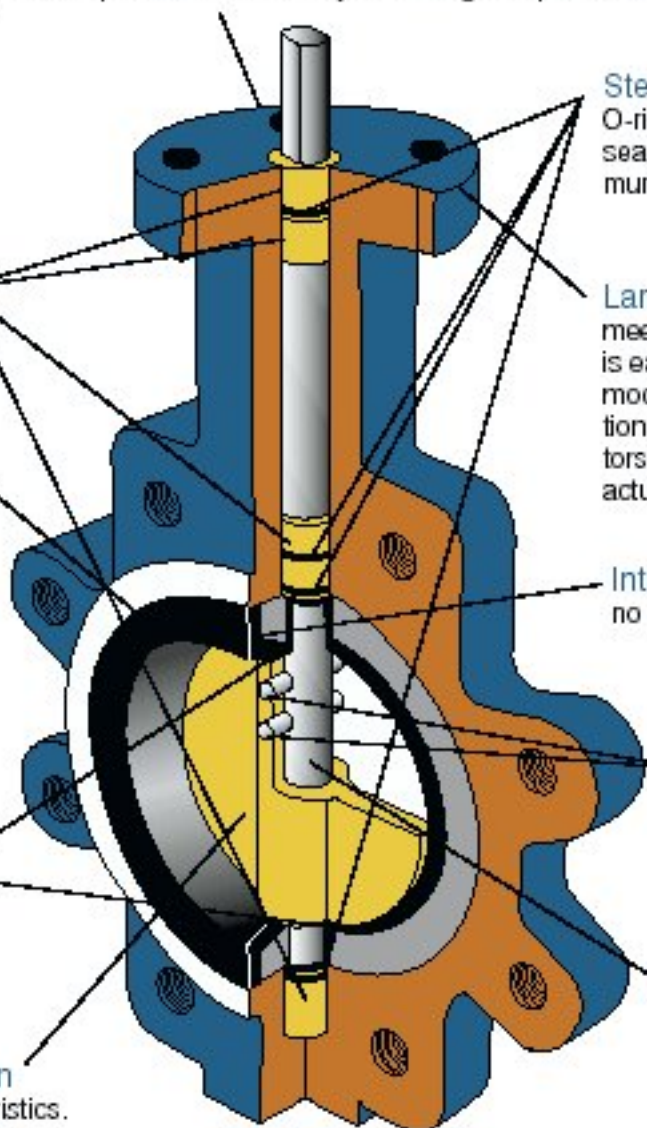
Bronze Bearings eliminate stem seizures, provide reliable side load support, and reduce torque.

Hard, Phenolic Backed Cartridge Seat provides easy installation, installation in closed position for use with fail-close actuators, and eliminates high torque and seat & stem leaks caused by elastomer distortion found in other seat designs.

Smooth, Machine Finished Disc Flats combine with seat flats to provide reliable primary stem seal.

Streamlined Disc Design provides high flow characteristics.

Stem is flatted "Double D" design for handle operated valves 2"-12". A flatted stem provides ease of operation in addition to indicating positive disc position. Stem is keyed for all gear operated valves.



Stem Seal
O-rings provide reliable secondary seals to keep stem dry for optimum performance.

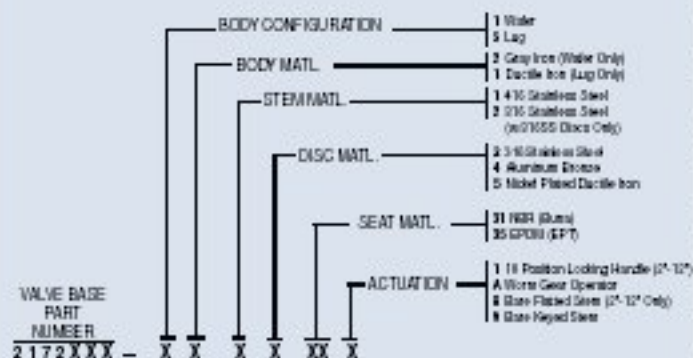
Large Top Flange
meets ISO dimensions and is easy to actuate, accommodates all types of actuation (handles, gear operators, electric and pneumatic actuators).

Integral Flange Seals
no gaskets required.

316 Taper Pins
provide positive disc-stem connection.

One Piece Thru Stem

How To Order (Assembly Part Number)

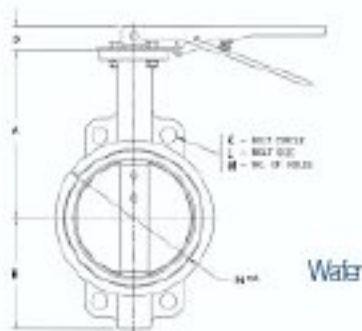
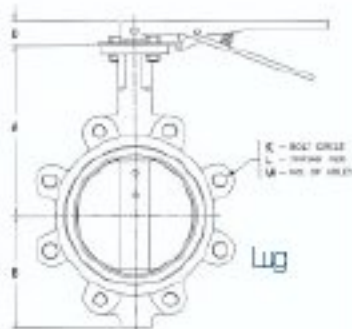


Valve Size	Base P/N
2"	2172204-
2-1/2"	2172205-
3"	2172206-
4"	2172207-
5"	2172208-
6"	2172209-
8"	2172210-
10"	2172211-
12"	2172212-
14"	2172213-
16"	2172214-
18"	2172215-
20"	2172216-
24"	2172217-

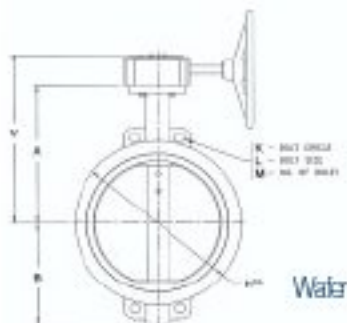
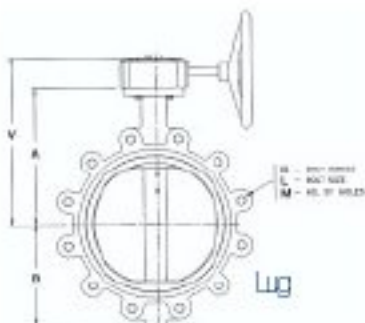
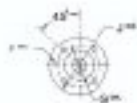
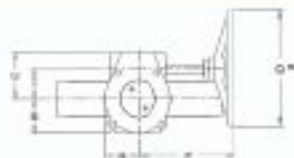
Weights (lbs.)

Valve Size	Wafer	Lug
2"	6	7
2-1/2"	7	8
3"	10	14
4"	13	26
5"	18	28
6"	20	31
8"	32	49
10"	42	72
12"	70	105
14"	95	155
16"	117	195
18"	165	230
20"	275	396
24"	440	610

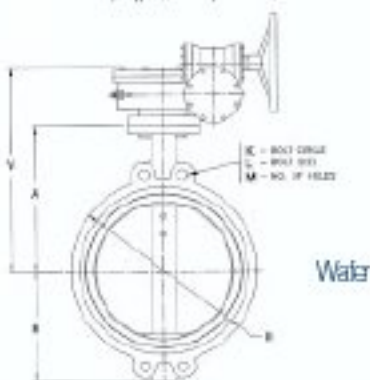
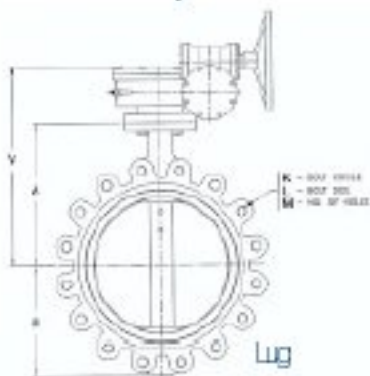
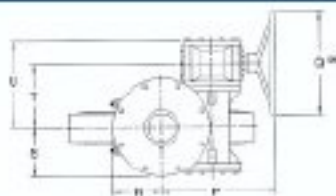
2" - 12" Butterfly Valve with 10 Position Handle



8" - 14" Butterfly Valve with Gear Operator



16" - 24" Butterfly Valve with Gear Operator



W-K-M

Dimensions 2" - 12" with 10 Position Handle

Valve Size	A	B	C*	D	E	F	G	H	J	K	L1	L2	M1**	M2**	N	P
2"	6.38	3.25	1.75	1.26	.500	.28	1.97	.401	3.03	4.75	.69	5/8-11	4	4	4.00	10.0
2-1/2"	6.88	3.75	1.88	1.26	.500	.28	1.97	.401	3.03	5.50	.69	5/8-11	4	4	4.75	10.0
3"	7.12	4.00	1.88	1.26	.500	.28	1.97	.401	3.03	6.00	.69	5/8-11	4	4	5.12	10.0
4"	7.88	4.88	2.12	1.26	.625	.39	2.76	.479	3.62	7.50	.69	5/8-11	4	8	6.75	10.0
5"	8.38	5.38	2.25	1.26	.750	.39	2.76	.588	3.62	8.50	.81	3/4-10	4	8	7.75	10.0
6"	8.88	5.88	2.25	1.26	.750	.39	2.76	.588	3.62	9.50	.81	3/4-10	4	8	8.62	10.0
8"	10.25	7.12	2.50	1.77	.875	.47	4.02	.676	4.92	11.75	.81	3/4-10	4	8	10.56	13.9
10"	11.50	8.25	2.75	1.77	1.125	.47	4.02	.873	4.92	14.25	.94	7/8-9	4	12	13.06	13.9
12"	13.25	9.75	3.12	1.77	1.250	.47	4.02	.952	5.51	17.00	.94	7/8-9	4	12	16.13	13.9

* Dimension "C" illustrates rubber seat in relaxed position. Installed dimension is approximately .12" less.

** M1 dimension represents wafer body styles. M2 dimension represents lug body styles.

Dimensions 8" - 14" with Gear Operator

Valve Size	A	B	C*	D	E	F	G	H	J	K	L1	L2
8"	10.25	7.12	2.50	1.77	.875	.47	4.02	.197	4.92	11.75	.81	3/4-10
10"	11.50	8.25	2.75	1.77	1.125	.47	4.02	.315	4.92	14.25	.94	7/8-9
12"	13.25	9.75	3.12	1.77	1.250	.47	4.02	.315	5.51	17.00	.94	7/8-9
14"	14.50	11.00	3.12	1.77	1.250	.47	4.02	.315	5.51	18.75	1.06	1-8

Valve Size	M1**	M2**	N	P	Q	R	S	T	U	V
8"	4	8	10.56	9.84	11	2.95	2.95	2.47	3.98	13.64
10"	4	12	13.06	9.84	11	2.95	2.95	2.47	3.98	14.89
12"	4	12	15.75	8.94	11	3.18	3.18	3.15	4.65	16.52
14"	4	12	17.12	8.94	11	3.18	3.18	3.15	4.65	17.77

* Dimension "C" illustrates rubber seat in relaxed position. Installed dimension is approximately .12" less.

** M1 dimension represents wafer body styles. M2 dimension represents lug body styles.

*** Gears are available for 2"-6" sizes. Please consult factory.

Dimensions 16" - 24" with Gear Operator

Valve Size	A	B	C*	D	E	F	G	H	J	K	L1	L2
16"	15.75	12.00	3.50	2.00	1.312	.71	5.50	.394	7.75	21.25	1.06	1-8
18"	16.62	14.38	4.25	2.00	1.500	.71	5.50	.394	7.75	22.75	1.25	1 1/8 - 7
20"	18.88	14.62	5.25	2.50	1.625	.71	5.50	.394	7.75	25.00	1.25	1 1/8 - 7
24"	22.12	18.00	6.12	3.25	2.000	.91	6.50	.630	10.88	29.50	1.38	1 1/4 - 7

Valve Size	M1**	M2**	N	P	Q	R	S	T	U	V
16"	4	16	20.00	10.94	11	4.53	4.76	7.03	9.25	20.69
18"	4	16	21.38	10.94	11	4.53	4.76	7.03	9.25	21.56
20"	4	20	23.31	10.94	11	4.53	4.76	7.03	9.25	23.82
24"	4	20	27.88	11.97	15	5.67	5.59	7.77	10.00	27.83

* Dimension "C" illustrates rubber seat in relaxed position. Installed dimension is approximately .12" less.

** M1 dimension represents wafer body styles. M2 dimension represents lug body styles.

Cv Values - Valve Sizing Coefficients (GPM@1PSI Pressure Drop)

Valve Size	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	0.06	3	7	15	27	44	70	105	115
2-1/2"	0.10	6	12	25	45	75	119	178	196
3"	0.20	9	18	39	70	116	183	275	302
4"	0.30	17	36	78	139	230	364	546	600
5"	0.50	29	61	133	237	392	620	930	1022
6"	0.80	45	95	205	366	605	958	1437	1579
8"	2	89	188	408	727	1202	1903	2854	3136
10"	3	151	320	694	1237	2049	3240	4859	5340
12"	4	234	495	1072	1911	3162	5005	7507	8250
14"	6	338	715	1549	2761	4568	7230	10844	11917
16"	8	464	983	2130	3797	6282	9942	14913	16388
18"	11	615	1302	2822	5028	8320	13168	19752	21705
20"	14	791	1647	3628	6465	10698	16931	25396	27908
24"	22	1222	2587	5905	9989	16528	26157	39236	43116

Normal Wet Opening Torque (pound-inches)

Valve Size	Shut Off 200 PSI
2"	167
2-1/2"	190
3"	323
4"	440
5"	685
6"	1129
8"	2125
10"	3574
12"	5421

Valve Size	Shut Off 150 PSI
14"	6925
16"	9359
18"	12511
20"	15830
24"	25455

Under certain conditions, hydrodynamic torque can meet or exceed seating and unseating torques. When designing valve systems, hydrodynamic torque must be considered to help ensure correct selection of applications. Please consult factory for "dry" opening torques (dry powder, solids, air, etc.) when sizing actuators for single valve applications, use 200 PSI torque values and multiply by 1.25. When sizing actuators for three-way "tee" applications, use 200 PSI torque values and multiply by 1.5.