

2-Way High Vacuum Ball Valves

Manual and Pneumatic Valves



MKS is offering a full suite of ball valves. The 2-way high vacuum ball valves are made of a body, stem, ball, and end caps. The ball is sealed within the body by end caps creating a vacuum tight central cavity. The valve is opened and closed by turning the stem 90° back and forth (1/4 turn). The sealing seat for the ball wipes the ball clean as it is opened and closed. This feature provides the “self-cleaning” action that makes this valve robust in particle-rich effluent streams. Pneumatic actuators are available.

MKS 2-way high vacuum ball valves offer straight-through, unimpeded flow with a minimal valve body footprint. Because of their unique design, ball valves are less sensitive than other vacuum valves to particulate contamination and, therefore, are especially useful in ‘dirty’ vacuum applications. For example, ball valves are almost always used to isolate scrubbers and traps downstream of the rough pumping system.



Product Features

- KF16 through MF100 sizes available
- Manufactured from 316L stainless steel
- High conductance; straight through flow
- Particulate resistant ball/seat design lengthens time between maintenance cycles
- “Fail Safe” air-to-open, spring-to-close standard (other configurations available)

Key Benefits

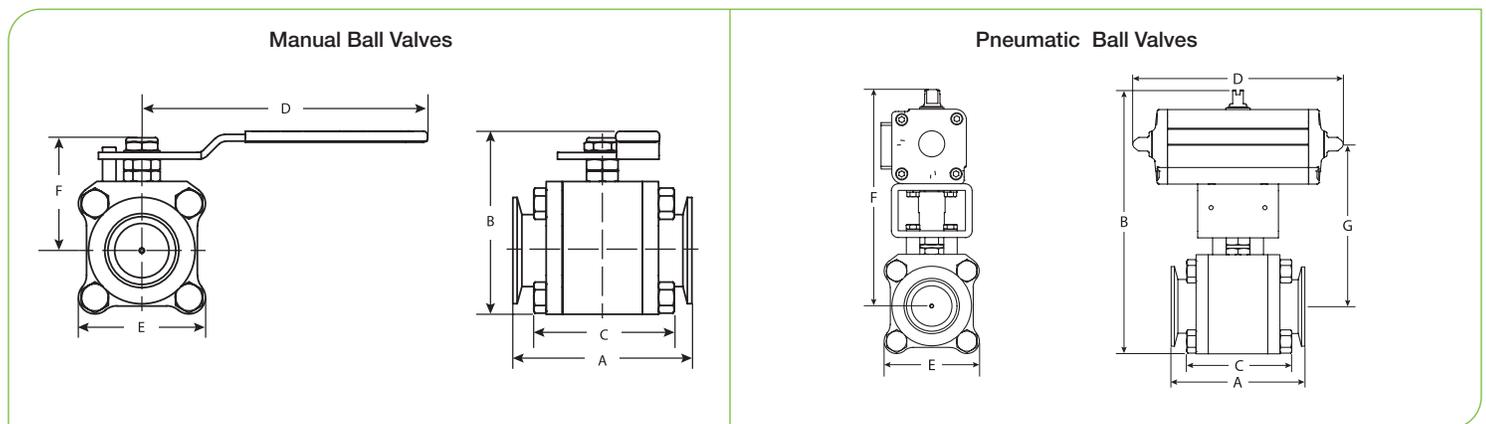
- Self-cleaning action
- Robust in particle rich effluent streams
- Straight-through, unimpeded flow

Specifications and Ordering Information

Connection Ports	0.75" to 4.0"
Leak Rate	Less than 1×10^{-9} std.cc/sec.
Temperature Range	Bakeable to 150°C
Actuator Operating Pressure	80-120 psig (Pneumatic Valves Only)
Materials	316L Stainless Steel
Body	316L Stainless Steel
Stem Seal	Viton® stem seal standard*
Seat	Teflon® seats standard
Actuation	Manual; Air-Open, Spring-Close (Air-Close, Spring-Open); Air-Open, Air-Close**
*Other material available	** Call for availability

Manual Ball Valves										
Size	Type	Ball Port Dia.	Tube OD	A	B	C	D	E	F	Part Number
NW16	KF	0.56	0.75	3.47	3.20	1.90	4.60	2.00	1.70	100015828
NW25	KF	0.81	1.00	3.92	3.70	2.50	5.80	2.40	2.00	100015831
NW40	KF	1.25	1.50	4.65	4.70	3.50	8.00	3.20	2.90	100015777
NW50	KF	1.87	2.00	6.31	5.70	4.30	8.00	4.10	3.40	100016318
NW63	MF	2.38	2.50	5.10	7.40	2.80	15.10	5.40	4.70	BALL-33893
NW80	MF	2.88	3.00	5.35	8.00	2.80	15.10	6.00	5.00	BALL-33896
NW100	MF	3.88	4.00	6.86	9.40	2.80	15.10	7.40	5.70	BALL-33899

Pneumatic Ball Valves (air-open, spring-close actuation)											
Size	Type	Ball Port Dia.	Tube OD	A	B	C	D	E	F	G	Part Number
NW16	KF	0.56	0.75	3.47	7.10	1.90	9.20	2.00	6.10	4.20	100015830
NW25	KF	0.81	1.00	3.92	7.40	2.50	9.20	2.40	6.30	4.40	100015833
NW40	KF	1.25	1.50	4.65	9.20	3.50	10.20	3.20	7.70	5.60	100015778
NW50	KF	1.87	2.00	6.31	10.70	4.30	12.00	4.10	8.60	6.30	100016319
NW63	MF	2.38	2.50	5.10	13.50	2.80	10.90	5.90	10.80	7.50	BALL-33894
NW80	MF	2.88	3.00	5.35	15.80	2.80	13.90	6.30	12.90	8.40	BALL-33897
NW100	MF	3.88	4.00	6.86	17.30	2.80	13.90	7.40	13.60	9.10	BALL-33900



Dimensional Drawings

Note: Unless otherwise specified, dimensions are nominal values in inches (mm referenced).



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