



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.

Features & Benefits

- 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)

Applications

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.

Valve Specifications

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

Body
Stem Seal
Seat

316L Stainless Steel
Viton® stem seal standard*
Teflon® seats standard

Actuation

Manual
Air-Open, Spring-Close (Air-Close, Spring-Open)
Air-Open, Air-Close (Call for Availability)

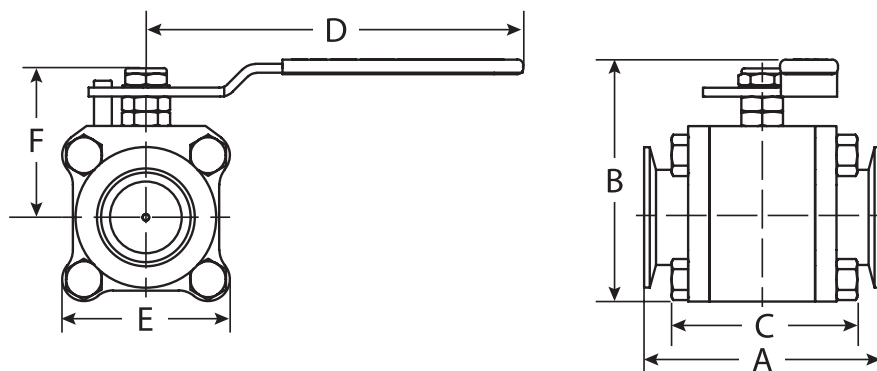
*Other material available



Ordering Information

Manual Ball Valves

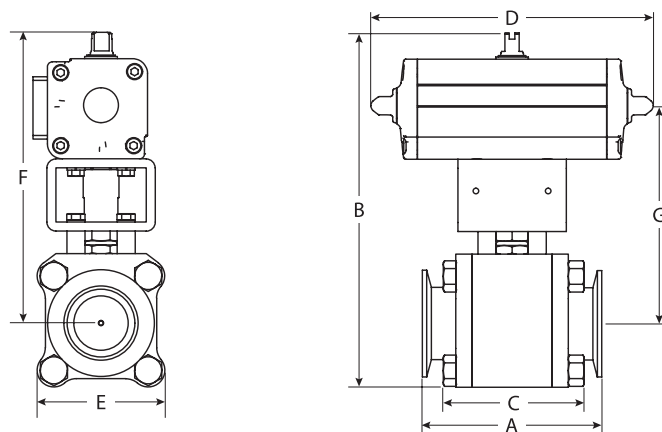
Valve Size	Flange Type	Ball Port Dia.	Tube OD	A	B	C	D	E	F	Part Number
NW16	KF	0.57	0.75	3.47	3.10	1.90	4.60	2.00	2.10	100015828
NW25	KF	0.81	1.00	3.92	3.70	2.50	5.80	2.40	2.50	100015831
NW40	KF	1.25	1.50	4.65	4.50	3.50	8.00	3.20	2.90	100015777
NW50	KF	1.87	2.00	6.31	5.40	4.30	8.00	4.10	3.50	100016318
NW63	MF	1.87	2.00	6.31	5.40	4.30	8.00	4.10	3.50	100016304
NW80	MF	2.50	3.00	6.59	9.40	5.30	15.00	6.40	6.20	100015836
NW100	MF	3.27	4.00	7.63	11.00	6.40	15.10	8.10	7.00	100015837



Note: Unless otherwise specified, dimensions are nominal values in inches.

Pneumatic Ball Valves (air-open, spring-close actuation)

Valve Size	Flange Type	Ball Port Dia.	Tube OD	A	B	C	D	E	F	G	Part Number
NW16	KF	0.57	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	7.50	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	7.60	5.60	100015778
NW50	KF	1.87	2.00	6.31	10.60	4.30	12.00	4.10	8.60	6.30	100016319



Note: Unless otherwise specified, dimensions are nominal values in inches.



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