

Application

Sanitary ball valves are used in stainless steel piping systems for isolation, either manually or automatically operated. The full port design with zero flow restriction makes it an optimum choice for viscous or particulate liquids.

Working Principle

A precision ball with a full port is positioned inside the valve body between two flanges and two PTFE valve seats. The 90° rotation of the valve stem, through the handle or a pneumatic actuator, is transferred to the ball thereby opening or closing the valve.

Standard Design

The valve consists of a valve body, two flanges, PTFE valve seats, EPDM O'Rings, ball, stem and a handle or actuator. All Seats and Seals are made from FDA approved materials. The valve body, flanges and ball are made of forged 316L and 304L stainless steel which ensures non porous, smooth and dimensionally stable construction.

The valve is designed to maintain a full flow rate, with a minimum pressure drop and it is fully drainable. A Bottom entry, precision machined stem with a live loaded PTFE thrust washer ensures a smooth rotation at various temperatures and pressure conditions. Purge ports are provided on the valve body for SIP / CIP applications.

Available Sizes

1", 1½", 2", 2½", 3", 4"

DN25, DN40, DN50, DN65, DN80, DN100

Options

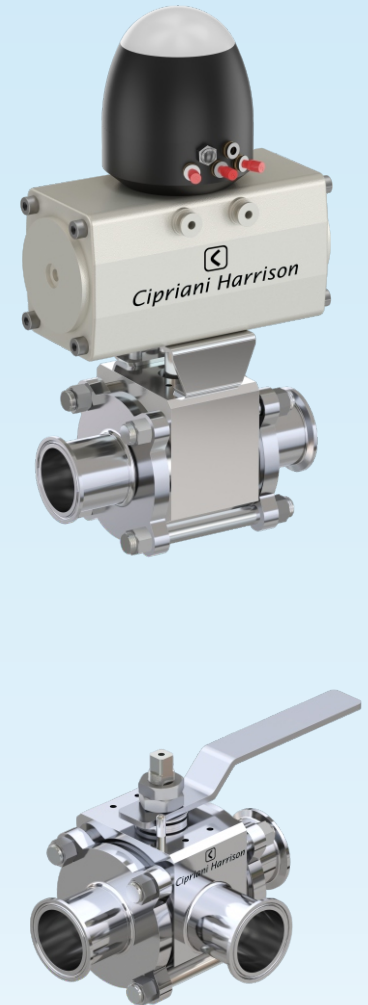
Automatic operation by vertical/horizontal pneumatic actuator.

Electrical control unit with micro switches or proximity switches and solenoid valve for remote operation.

End connections: Sanitary Clamp, Butt-Weld, I-Line or others on request.

Material: AISI 316L or AISI 304L

Handle Options: Standard Design



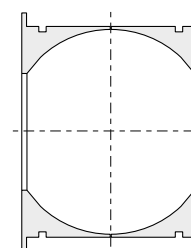
Technical Specification
Material

Product wetted steel parts
Other steel parts
FDA Seals
Valve Seat
O'ring
Cavity filler (optional)

AISI 316L/AISI 304L
AISI 304

TFM PTFE
EPDM

PTFE / TFM PTFE available upon request
*Other Material available upon request



Cavity fillers on request

Nominal Pressure:

Maximum product pressure

200 PSI maximum (14 Bars)
Test pressure 235 PSI (16 Bars)
(Leakage test according to BS EN 12266-1)

Supply Pressure for
Air Actuator (Min. - Max. Range)

70-115 PSI (Dry & Filtered Compressed Air)

Temperature Range
Fahrenheit

-60 Degree Fahrenheit to +300 Degree
*Other seal material available for higher temperatures

Surface Finish

Surface in contact with product
Optional

Ra <= 25 µ in (Grit 220g)
Ra <= 15 µ in (Grit 320g)
*Electropolishing available upon request.

Connections

Optional

Sanitary Clamp (ISO 2852 / BS 4825-3 / DIN 32676)
Butt Weld (ISO 2037 / BS 4825-01 / DIN 11850)
I-Line, Threaded Union End
Intermediate Flange
Other connections on request
1/4" Male BSP
*Other connections on request.

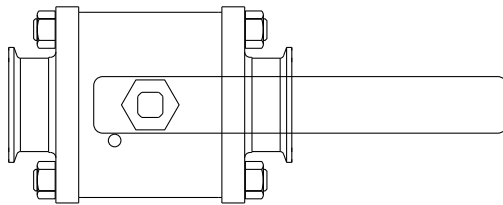
Jacket Connection

Std. Ball Valve
Torque values
(for rotating the valve stem)

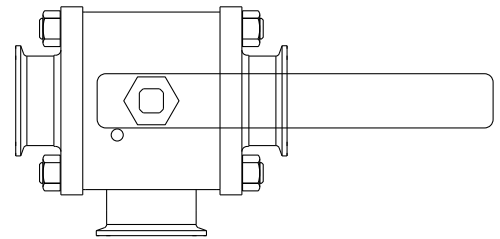
Ball Valve with cavity fillers
Torque values
(for rotating the valve stem)

Size	lbf.ft	Nm	Size	lbf.ft	Nm	Size	Cv GPM	Kv m ³ /hr
1"	6	8	1"	7.32	9.76	1"	66	56.4
1.5"	15	20	1.5"	18.30	24.40	1.5"	192	164
2"	20	27	2"	24.40	32.94	2"	434	370
2.5"	28	38	2.5"	34.16	46.36	2.5"	723	618
3"	38	52	3"	46.36	63.44	3"	1124	960
4"	54	84	4"	65.88	102.48	4"	2100	1795

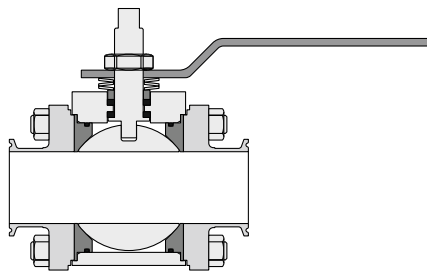
Cross Section



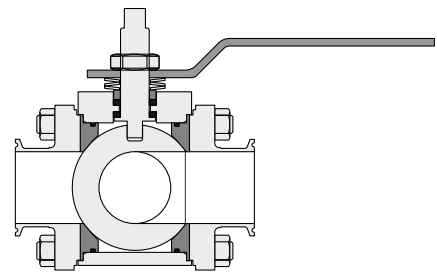
2 Way Valve



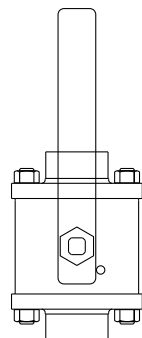
3 Way Valve



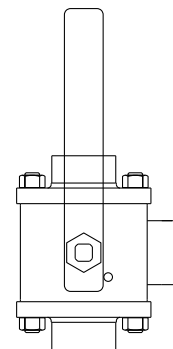
2 Way Valve



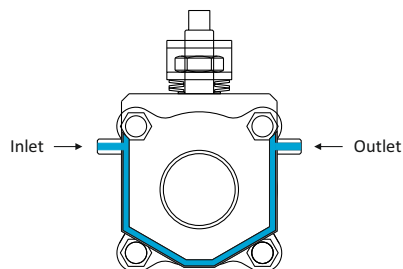
3 Way Valve



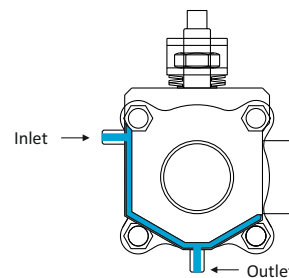
Jacketed 2 Way



Jacketed 3 Way



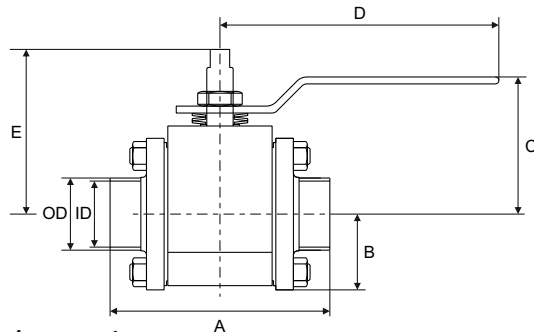
Jacketed 2 Way



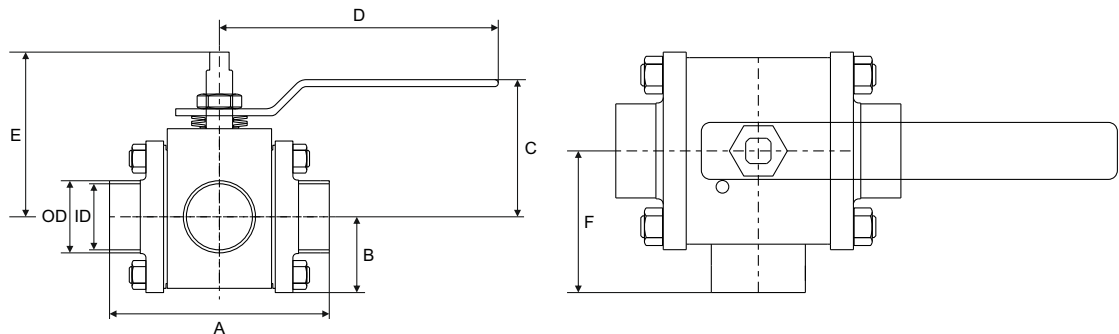
Jacketed 3 Way

Exploded view of valve

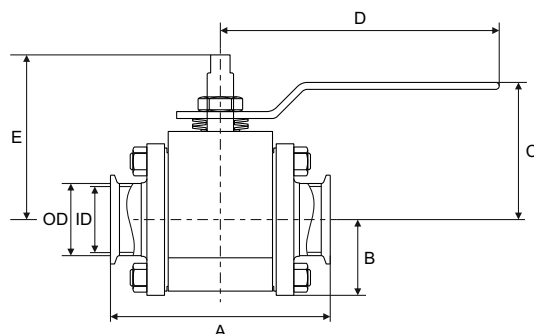


**Dimensions
Dimensions ISO (mm)**

Butt-Weld (ISO 2037 / BS 4825)

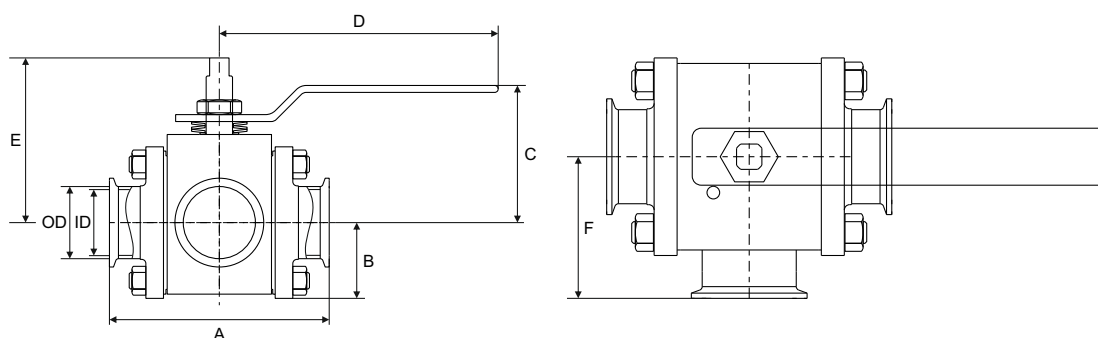
Dimensions	1"	1 ½"	2"	2 ½"	3"	4"
A	165.10	190.50	203.20	292.10	266.70	330.20
B	27.69	42.67	54.61	70.87	70.61	92.96
C	75.44	124.71	112.01	164.08	170.43	190.00
D	105.41	223.77	204.72	306.32	306.32	306.32
E	60.96	86.11	111.00	165.35	171.70	191.26
OD	25.40	38.10	50.80	63.50	76.20	101.60
ID	22.10	34.80	47.50	60.20	72.90	97.54


Butt-Weld (ISO 2037 / BS 4825)

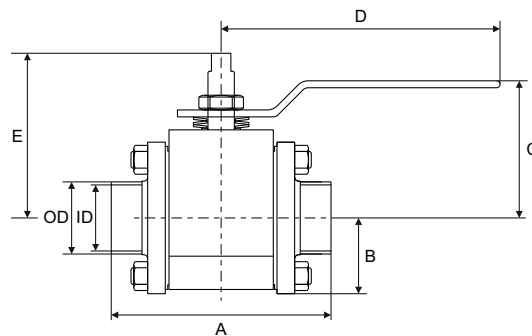
Dimensions	1"	1 ½"	2"	2 ½"	3"	4"
A	165.10	190.50	203.20	292.10	266.70	330.20
B	27.69	42.67	54.61	70.87	70.61	92.96
C	75.44	124.71	112.01	164.08	170.43	190.00
D	105.41	223.77	204.72	306.32	306.32	306.32
E	60.96	86.11	111.00	165.35	171.70	191.26
F	82.55	95.25	101.60	146.05	133.35	165.00
OD	25.40	38.10	50.80	63.50	76.20	101.60
ID	22.10	34.80	47.50	60.20	72.90	97.54

Dimensions
Dimensions ISO (mm)

Sanitary Clamp (ISO 2852 / BS 4825)

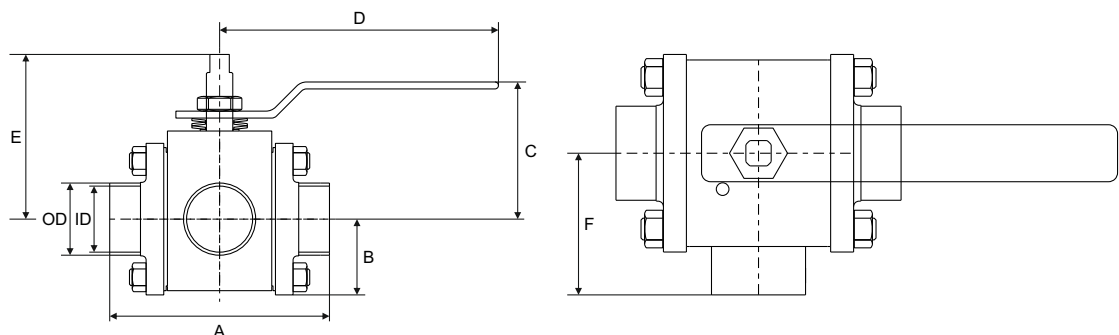
Dimensions	1"	1 ½"	2"	2 ½"	3"	4"
A	114.30	139.70	158.75	203.20	203.20	254.00
B	27.69	42.67	54.61	70.87	70.61	92.96
C	75.44	124.71	112.01	164.08	170.43	190.00
D	105.41	223.77	204.72	306.32	306.32	306.32
E	60.96	86.11	111.00	165.35	171.70	191.26
OD	25.40	38.10	50.80	63.50	76.20	101.60
ID	22.10	34.80	47.50	60.20	72.90	97.54


Sanitary Clamp (ISO 2852 / BS 4825)

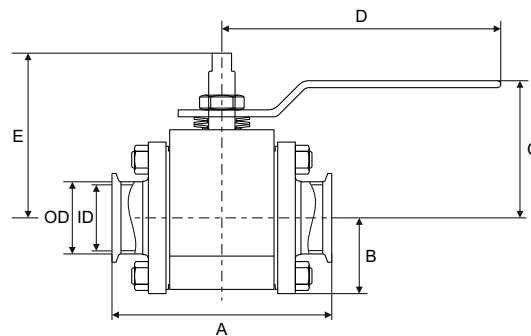
Dimensions	1"	1 ½"	2"	2 ½"	3"	4"
A	114.30	139.70	158.75	203.20	203.20	254.00
B	27.69	42.67	54.61	70.87	70.61	92.96
C	75.44	124.71	112.01	164.08	170.43	190.00
D	105.41	223.77	204.72	306.32	306.32	306.32
E	60.96	86.11	111.00	165.35	171.70	191.26
F	57.15	69.85	79.37	101.60	101.60	127.00
OD	25.40	38.10	50.80	63.50	76.20	101.60
ID	22.10	34.80	47.50	60.20	72.90	97.54

Dimensions DIN (mm)

Butt-Weld

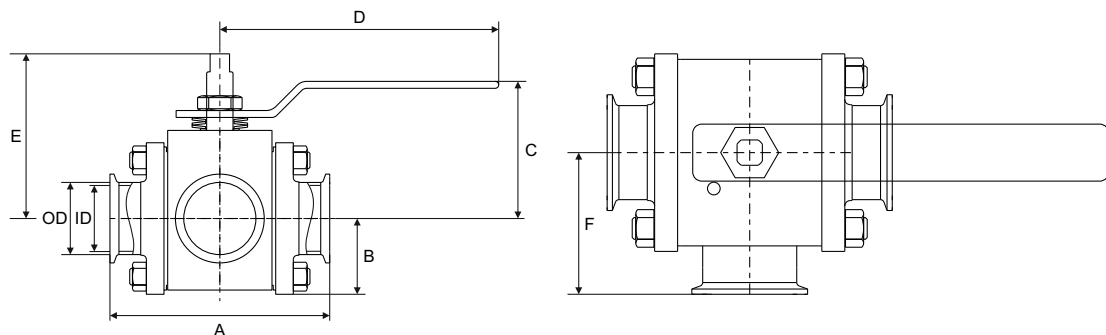
Dimensions	DN25	DN40	DN50	DN65	DN80	DN100
A	165.10	190.50	203.20	292.10	266.70	330.20
B	27.69	42.67	54.61	70.87	70.61	92.96
C	75.44	124.71	112.01	164.08	170.43	190.00
D	105.41	223.77	204.72	306.32	306.32	306.32
E	60.96	86.11	111.00	165.35	171.70	191.26
OD	29	41	53	70	85	104
ID	26	38	50	66	81	100


Butt-Weld

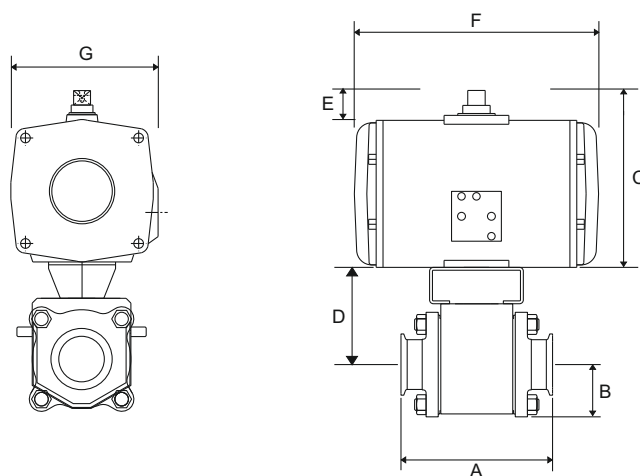
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B	27.69	42.67	54.61	70.87	70.61	92.96
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F	82.55	95.25	101.60	146.05	133.35	165.00
OD	29	41	53	70	85	104
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Dimensions DIN (mm)

Sanitary Clamp

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Sanitary Clamp

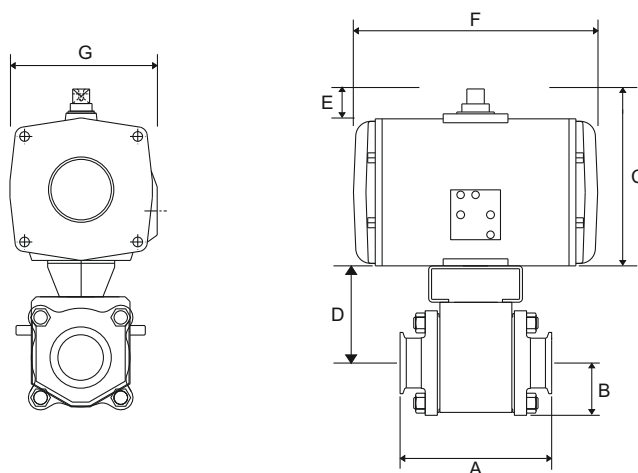
Dimensions	DN25	DN40	DN50	DN65	DN80	DN100
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F	57.15	69.85	79.37	101.60	101.60	127.00
OD	29	41	53	70	85	104
ID	26	38	50	66	81	100

Dimensions ISO (mm)

Horizontal Actuators Spring Return (Air to Spring)

VALVE SIZE	1"	1 ½"	2"	2 ½"	3"	4"
ACTUATOR SIZE	CHS-63	CHS-75	CHS-92	CHS-105	CHS-125	CHS-140
A	114.30	139.70	158.75	203.20	203.20	254.00
B	27.69	42.67	54.61	70.87	70.61	92.96
C	92	119.5	136.5	153	202	227
D	60.96	86.11	111.00	165.35	171.70	191.26
E	12	12	12	12	12	12
F	147	184	262	268	390	458
G	71.5	95	108.5	121.5	152	174

Horizontal Actuators Double Acting (Air to Air)

VALVE SIZE	1"	1 ½"	2"	2 ½"	3"	4"
ACTUATOR SIZE	CHD-52	CHD-52	CHD-63	CHD-63	CHS-105	CHS-125
A	114.30	139.70	158.75	203.20	203.20	254.00
B	27.69	42.67	54.61	70.87	70.61	92.96
C	92	92	108	108	153	185
D	60.96	86.11	111.00	165.35	171.70	191.26
E	12	12	12	12	12	12
F	147	184	262	268	390	458
G	71.5	71.5	83	83	121.5	142

Dimensions DIN (mm)

Horizontal Actuators Spring Return (Air to Spring)

VALVE SIZE	DN 25	DN 40	DN 50	DN 65	DN 80	DN 100
ACTUATOR SIZE	CHS-63	CHS-75	CHS-92	CHS-105	CHS-125	CHS-140
A	114.30	139.70	158.75	203.20	203.20	254.00
B	27.69	42.67	54.61	70.87	70.61	92.96
C	92	119.5	136.5	153	202	227
D	60.96	86.11	111.00	165.35	171.70	191.26
E	12	12	12	12	12	12
F	147	184	262	268	390	458
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ACTUATOR SIZE	CHD-52	CHD-52	CHD-63	CHD-63	CHS-105	CHS-125
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C	92	92	108	108	153	185
D	60.96	86.11	111.00	165.35	171.70	191.26
E	12	12	12	12	12	12
F	147	184	262	268	390	458
G	71.5	71.5	83	83	121.5	142



54 Series Ball Valve Ordering System

