

AV-2 SANITARY BALL VALVES



AV-2F SANITARY FULL PORT BALL VALVE

APPLICATION

AV-2F series sanitary full port ball valve is extensively used in food & beverage processing, brewing, oil refinery, cosmetic, pharmaceutical, and chemical industries to control medium flow. The full port design with zero restriction makes it an optimum choice for viscous and particulate liquids.

MATERIAL

Product wetted parts: AISI 304 / AISI 316L

Other steel parts: AISI 304

Valve seat: Teflon (PTFE), FDA.

Gasket: EPDM, Silicone or Teflon (PTFE).

Options:

- Two- way ball valve; Three-way ball valve; 3-pc ball valve.
- T type, L type ball core.
- With/without purge ports for SIP/CIP.

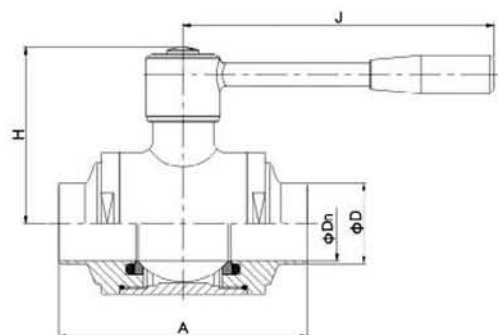
DESIGN & FEATURES

- Maintenance free operation
- Compact and portable
- Small operating torque
- Valve seals and gaskets comply with FDA 177.2600
- End connections: Sanitary Tri-clamp, Butt-Weld, Threaded, Flanged or others on request.
- Manual handle, pneumatic actuator, electric actuator are interchangeable.

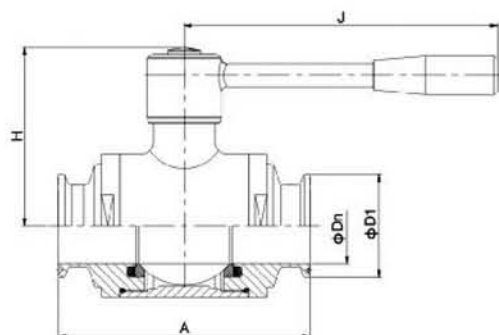
TECHNICAL PARAMETER

Material	Product wetted steel parts	AISI 304/ 316L (1.4306 /1.4404)	Provided with material inspection report
	Other steel parts	AISI 304	
Sealing	Standard	Teflon (PTFE)	All seal materials comply with FDA 21CFR117.2600
Material	Option	EPDM or VMQ (Silicone)	
Pressure	Working Pressure	0-10bar (0-145 PSI)	Please contact us if higher configuration needed.
	Supply pressure for air actuator	5~8 bar (70-120 PSI)	
Temperature	Working temperature	14° F to 248 ° F (-10°C to 120°C)	
	Sterilization temperature	150°C (Max 20min)	
Surface	Inside surface treatment	Ra 16-32 μ in (0.4-0.8 μm)	Standards: DIN 11850-2 with 11850-1 / SMS / 3A / ISO Series etc
Treatment	Outside surface treatment	Ra 32-64 μ in (0.8-1.6 μm)	
Connection	End connections: Butt-weld, Sanitary Clamp, Male and Female Threaded, Flange, I-line or others upon request		
Actuator	- Vertical type with stainless steel 304 material - Horizontal type with aluminum material - Electric actuator - With or without position sensor and solenoid valve		
	Normally Closed (NC)--Air to open and spring to close; (Single-acting)		
	Normally Open (NO)--Air to close and spring to open; (Single-acting)		
	Air to Air (AA)--Air to open, air to close. (Double-acting)		

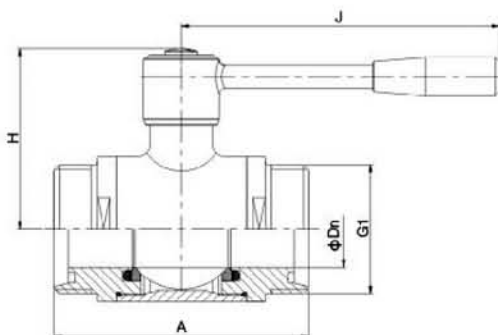




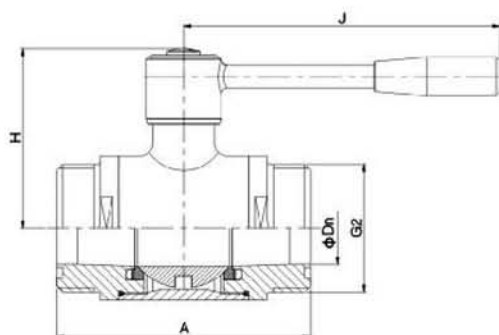
Butt-weld



Tri-clamp



Male/Male (DIN)



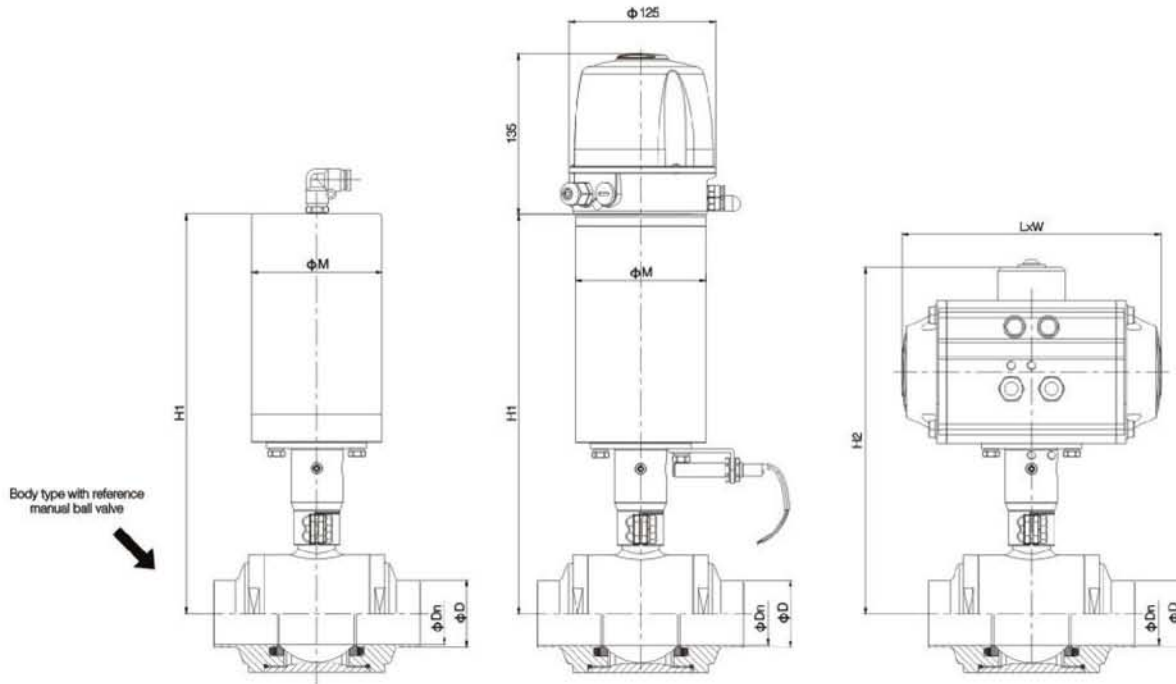
Male/Male (SMS)

DIN

Size	Dn		D		D1		A		H		J		G1 (DIN)
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	
DN10	0.382	9.7	0.512	13	1.339	34	3.740	95	2.283	58	4.980	126.5	Rd28x1/8"
DN15	0.630	16	0.748	19	1.339	34	3.740	95	2.283	58	4.980	126.5	Rd34x1/8"
DN20	0.748	19	0.866	22	1.339	34	3.740	95	2.283	58	4.980	126.5	Rd44x1/6"
DN25	0.984	25	1.102	28	1.988	50.5	3.937	100	2.677	68	4.980	126.5	Rd52x1/6"
DN32	1.220	31	1.339	34	1.988	50.5	4.252	108	2.756	70	4.980	126.5	Rd58x1/6"
DN40	1.457	37	1.575	40	1.988	50.5	4.843	123	3.543	90	6.476	164.5	Rd65x1/6"
DN50	1.929	49	2.047	52	2.520	64	5.354	136	3.858	98	6.476	164.5	Rd78x1/6"
DN65	2.598	66	2.756	70	3.583	91	6.378	162	4.843	123	7.264	184.5	Rd95x1/6"
DN80	3.189	81	3.346	85	4.173	106	7.087	180	5.315	135	9.173	233	Rd110x1/4"
DN100	3.937	100	4.094	104	4.685	119	8.110	206	5.906	150	9.173	233	Rd130x1/4"

INCH

Size	Dn		D		D1		A		H		J		G2 (SMS)
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	
1/2"	0.382	9.7	0.500	12.7	1.000	25.4	3.740	95	2.283	58	4.980	126.5	-
3/4"	0.634	16.1	0.752	19.1	1.000	25.4	3.740	95	2.283	58	4.980	126.5	Rd36x1/8"
1"	0.882	22.4	1.000	25.4	1.988	50.5	3.937	100	2.677	68	4.980	126.5	Rd40x1/6"
1¼"	1.134	28.8	1.252	31.8	1.988	50.5	4.252	108	2.756	70	4.980	126.5	Rd48x1/6"
1½"	1.382	35.1	1.500	38.1	1.988	50.5	4.843	123	3.543	90	6.476	164.5	Rd60x1/6"
2"	1.882	47.8	2.000	50.8	2.520	64	5.354	136	3.858	98	6.476	164.5	Rd70x1/6"
2½"	2.343	59.5	2.500	63.5	3.051	77.5	5.906	150	4.843	123	7.264	184.5	Rd85x1/6"
3"	2.843	72.2	3.000	76.2	3.583	91	6.772	172	5.315	135	7.264	184.5	Rd98x1/6"
4"	3.843	97.6	4.000	101.6	4.685	119	8.110	206	5.906	150	9.173	233	Rd125x1/4"



DIN

Size	Dn		D		H1		H2		M		L		W	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
DN10	0.382	9.7	0.512	13	7.913	201	6.358	161.5	3.386	86	6.319	160.5	3.268	83
DN15	0.630	16	0.748	19	7.913	201	6.358	161.5	3.386	86	6.319	160.5	3.268	83
DN20	0.748	19	0.866	22	7.913	201	6.358	161.5	3.386	86	6.319	160.5	3.268	83
DN25	0.984	25	1.102	28	8.307	211	6.752	171.5	3.386	86	6.319	160.5	3.268	83
DN32	1.220	31	1.339	34	8.386	213	7.500	190.5	3.386	86	6.319	160.5	3.268	83
DN40	1.457	37	1.575	40	8.937	227	8.051	204.5	3.386	86	8.543	217	3.720	94.5
DN50	1.929	49	2.047	52	9.252	235	8.878	225.5	3.386	86	8.543	217	3.720	94.5
DN65	2.598	66	2.756	70	11.634	295.5	10.354	263	4.449	113	9.843	250	4.173	106
DN80	3.189	81	3.346	85	13.425	341	11.850	301	5.236	133	10.571	268.5	4.843	123
DN100	3.937	100	4.094	104	14.035	356.5	12.933	328.5	6.535	166	12.402	315	5.551	141

INCH

Size	Dn		D		H1		H2		M		L		W	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
1/2"	0.382	9.7	0.500	12.7	8.839	224.5	6.358	161.5	3.386	86	6.319	160.5	3.268	83
3/4"	0.634	16.1	0.752	19.1	8.839	224.5	6.358	161.5	3.386	86	6.319	160.5	3.268	83
1"	0.882	22.4	1.000	25.4	9.232	234.5	6.358	161.5	3.386	86	6.319	160.5	3.268	83
1 1/4"	1.134	28.8	1.252	31.8	9.311	236.5	7.500	190.5	3.386	86	6.319	160.5	3.268	83
1 1/2"	1.382	35.1	1.500	38.1	10.709	272	8.051	204.5	3.386	86	8.543	217	3.720	94.5
2"	1.882	47.8	2.000	50.8	11.024	280	8.878	225.5	3.386	86	8.543	217	3.720	94.5
2 1/2"	2.343	59.5	2.500	63.5	12.933	328.5	9.843	250	4.449	113	9.843	250	4.173	106
3"	2.843	72.2	3.000	76.2	13.602	345.5	11.654	296	5.236	133	10.571	268.5	4.843	123
4"	3.843	97.6	4.000	101.6	15.807	401.5	12.933	328.5	6.535	166	12.402	315	5.551	141

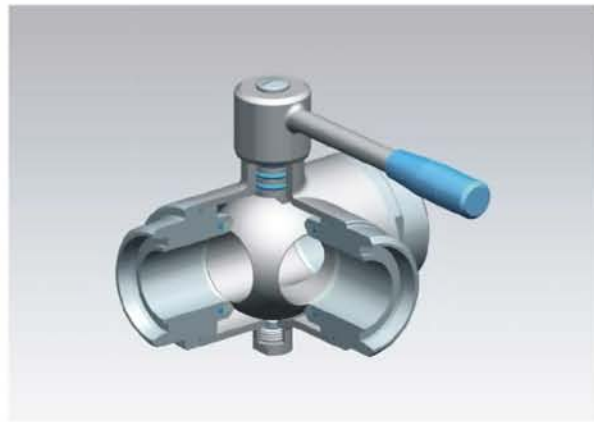
AV-2F-3W SANITARY FULL PORT BALL VALVE (3-WAY)



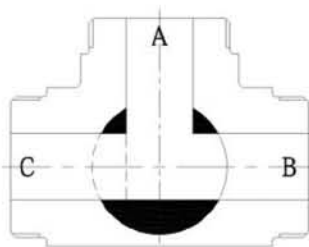
Pneumatic 3-way ball valve with flange ends
Horizontal Actuator



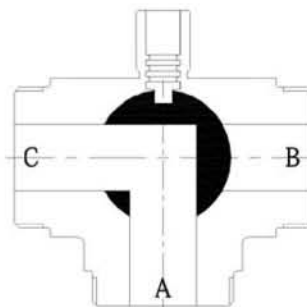
Pneumatic 3-way ball valve with flange ends
Vertical Actuator



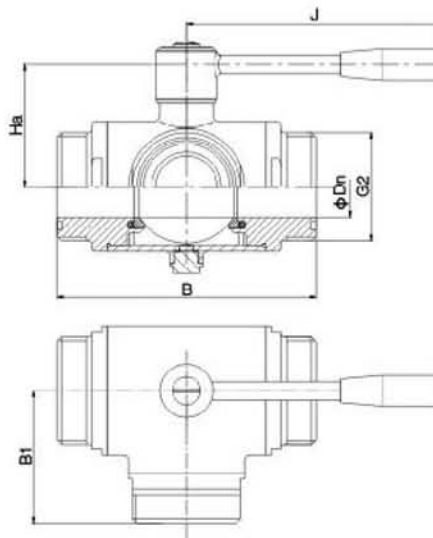
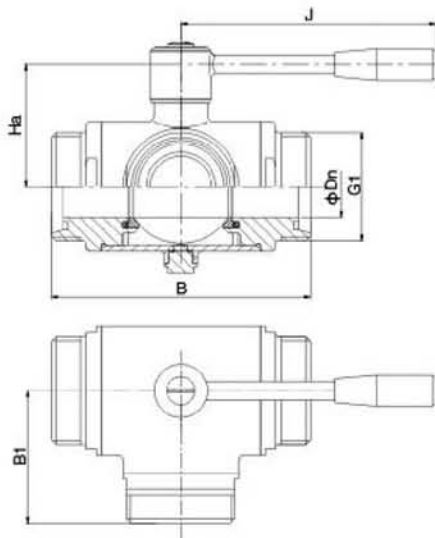
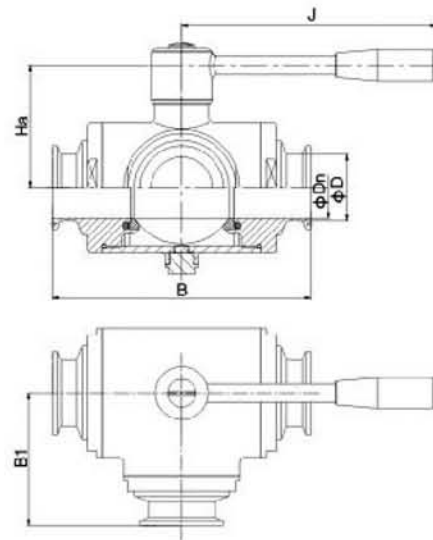
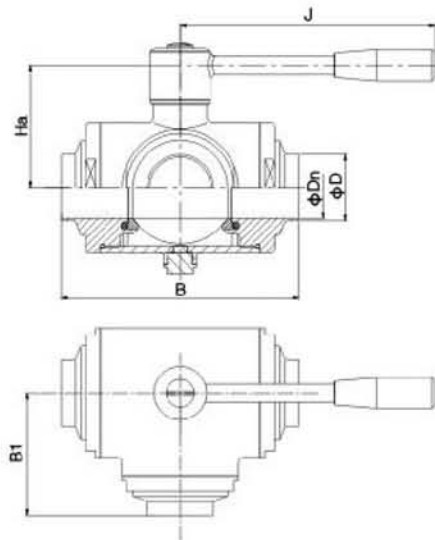
Ball Type



T Port



L Port

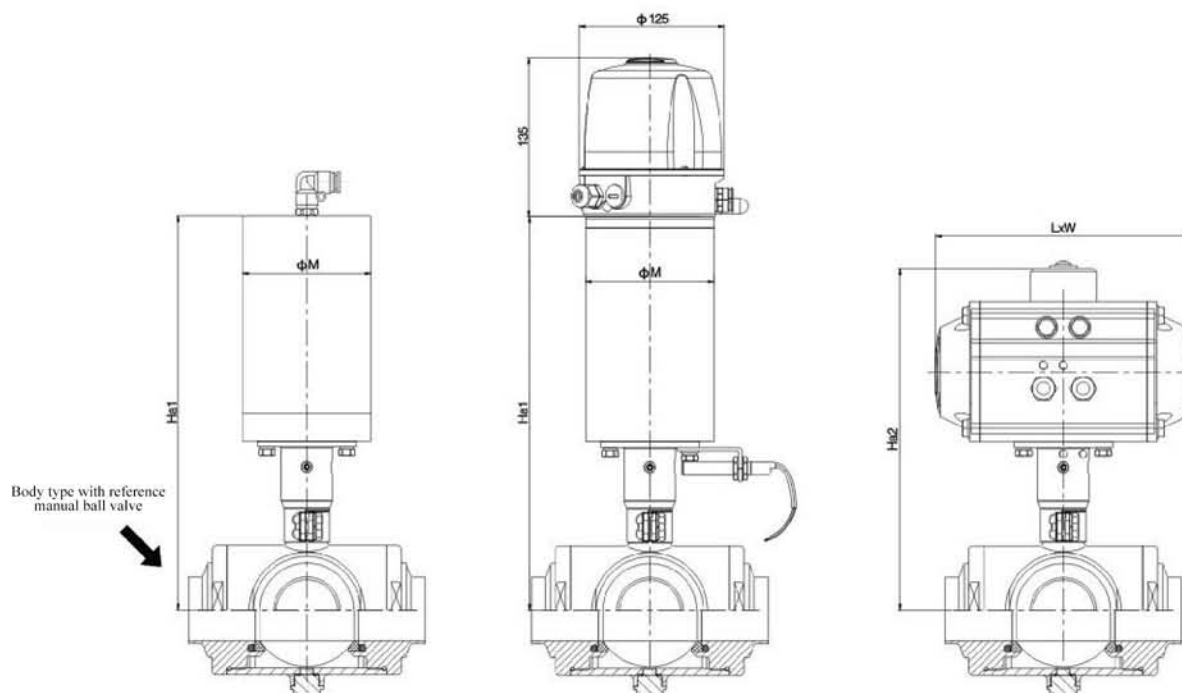


DIN

Size	Dn		D		D1		B		B1		J		G1 (DIN)
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	
DN10	0.382	9.7	0.512	13	1.339	34	5.354	136	2.677	68	4.980	126.5	Rd28x1/8"
DN15	0.630	16	0.748	19	1.339	34	5.354	136	2.677	68	4.980	126.5	Rd34x1/8"
DN20	0.748	19	0.866	22	1.339	34	5.354	136	2.677	68	4.980	126.5	Rd44x1/6"
DN25	0.984	25	1.102	28	1.988	50.5	5.354	136	2.677	68	4.980	126.5	Rd52x1/6"
DN32	1.220	31	1.339	34	1.988	50.5	5.433	138	3.583	91	4.980	126.5	Rd58x1/6"
DN40	1.457	37	1.575	40	1.988	50.5	6.142	156	3.150	80	6.476	164.5	Rd65x1/6"
DN50	1.929	49	2.047	52	2.520	64	6.693	170	3.346	85	6.476	164.5	Rd78x1/6"
DN65	2.598	66	2.756	70	3.583	91	8.031	204	4.213	107	7.264	184.5	Rd95x1/6"
DN80	3.189	81	3.346	85	4.173	106	8.898	226	4.843	123	9.173	233	Rd110x1/4"
DN100	3.937	100	4.094	104	4.685	119	10.394	264	5.591	142	9.173	233	Rd130x1/4"

INCH

Size	Dn		D		D1		B		B1		J		G2 (SMS)
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	
1/2"	0.382	9.7	0.500	12.7	1.000	25.4	5.354	136	2.677	68	4.980	126.5	-
3/4"	0.634	16.1	0.752	19.1	1.000	25.4	5.354	136	2.677	68	4.980	126.5	Rd36x1/8"
1"	0.882	22.4	1.000	25.4	1.988	50.5	5.354	136	2.677	68	4.980	126.5	Rd40x1/6"
1 1/4"	1.134	28.8	1.252	31.8	1.988	50.5	5.433	138	2.795	71	4.980	126.5	Rd48x1/6"
1 1/2"	1.382	35.1	1.500	38.1	1.988	50.5	6.142	156	3.150	80	6.476	164.5	Rd60x1/6"
2"	1.882	47.8	2.000	50.8	2.520	64	6.693	170	3.346	85	6.476	164.5	Rd70x1/6"
2 1/2"	2.343	59.5	2.500	63.5	3.051	77.5	7.638	194	4.016	102	7.264	184.5	Rd85x1/6"
3"	2.843	72.2	3.000	76.2	3.583	91	8.661	220	4.646	118	7.264	184.5	Rd98x1/6"
4"	3.843	97.6	4.000	101.6	4.685	119	10.394	264	5.591	142	9.173	233	Rd125x1/4"



DIN

Size	Dn		D		Ha1		Ha2		M		L		W	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
DN10	0.382	9.7	0.512	13	7.913	201	6.949	176.5	3.386	86	6.319	160.5	3.268	83
DN15	0.630	16	0.748	19	7.913	201	6.949	176.5	3.386	86	6.319	160.5	3.268	83
DN20	0.748	19	0.866	22	7.913	201	6.949	176.5	3.386	86	6.319	160.5	3.268	83
DN25	0.984	25	1.102	28	8.307	211	6.949	176.5	3.386	86	6.319	160.5	3.268	83
DN32	1.220	31	1.339	34	8.386	213	7.657	194.5	3.386	86	8.543	217	3.720	94.5
DN40	1.457	37	1.575	40	8.937	227	8.248	209.5	3.386	86	8.543	217	3.720	94.5
DN50	1.929	49	2.047	52	9.252	235	9.055	230	3.386	86	9.843	250	4.173	106
DN65	2.598	66	2.756	70	11.634	295.5	10.551	268	4.449	113	10.571	268.5	4.843	123
DN80	3.189	81	3.346	85	13.425	341	12.598	320	5.236	133	12.402	315	5.551	141
DN100	3.937	100	4.094	104	14.035	356.5	14.035	356.5	6.535	166	13.583	345	5.906	150

INCH

Size	Dn		D		H1		H2		M		L		W	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
1/2"	0.382	9.7	0.500	12.7	8.839	224.5	6.949	176.5	3.386	86	6.319	160.5	3.268	83
3/4"	0.634	16.1	0.752	19.1	8.839	224.5	6.949	176.5	3.386	86	6.319	160.5	3.268	83
1"	0.882	22.4	1.000	25.4	9.232	234.5	6.949	176.5	3.386	86	6.319	160.5	3.268	83
1¼"	1.134	28.8	1.252	31.8	9.311	236.5	7.657	194.5	3.386	86	8.543	217	3.720	94.5
1½"	1.382	35.1	1.500	38.1	10.709	272	8.248	209.5	3.386	86	8.543	217	3.720	94.5
2"	1.882	47.8	2.000	50.8	11.024	280	9.055	230	3.386	86	9.843	250	4.173	106
2½"	2.343	59.5	2.500	63.5	12.933	328.5	10.551	268	4.449	113	10.571	268.5	4.843	123
3"	2.843	72.2	3.000	76.2	13.602	345.5	12.598	320	5.236	133	12.402	315	5.551	141
4"	3.843	97.6	4.000	101.6	15.807	401.5	14.035	356.5	6.535	166	13.583	345	5.906	150



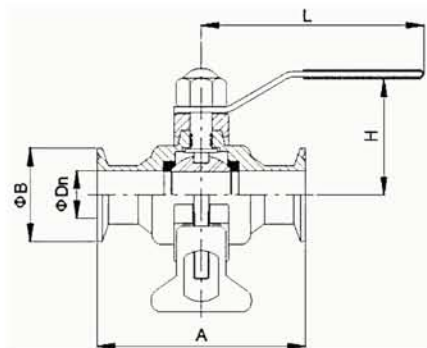
AV-2CF SANITARY CAVITY FILLED BALL VALVE

APPLICATION

AV-2CF series is also known as non-retention ball valve. Its valve body design prevents the medium from retaining inside after medium flow. This ball valve is designed for pharmaceutical and biotechnology industries.

DESIGN & FEATURES

- Combined valve bodies, sanitary clamp connection
- Easily disassemble without special tools
- Small operating torque
- Seats and gaskets comply with FDA 21CFR177. 2600
- End connections: Sanitary Clamp, Butt-weld, Threaded or others upon request.



DIN

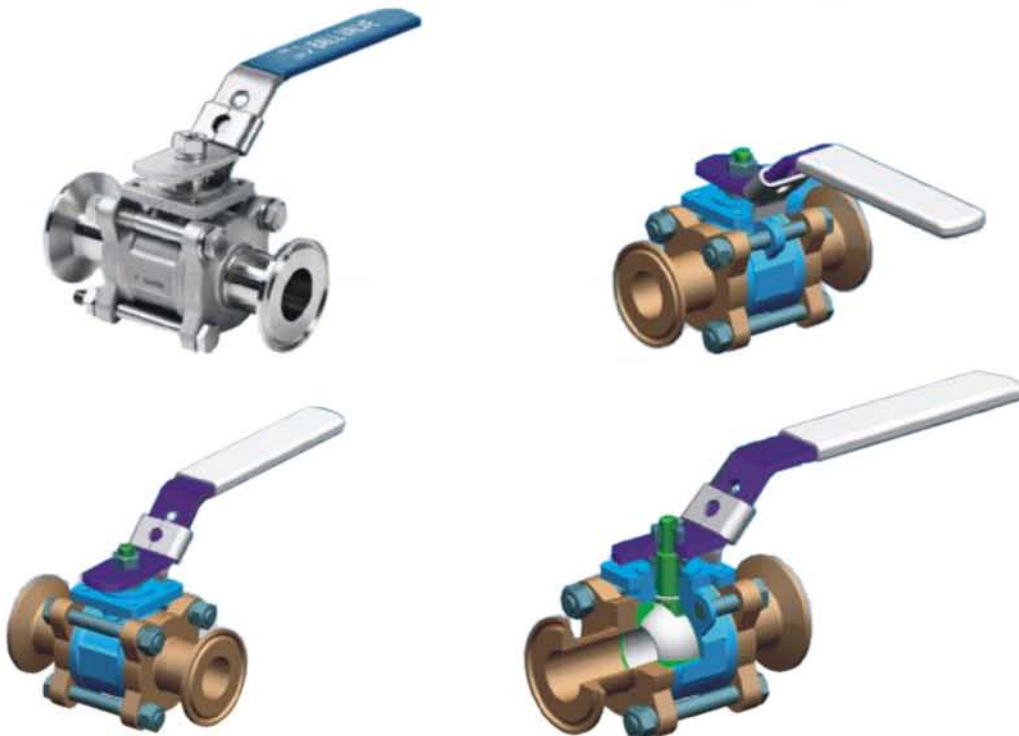
Size	A		L		H		B		Dn	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
DN15	3.543	90	4.134	105	2.559	65	1.339	34	0.591	15
DN20	3.937	100	4.134	105	2.559	65	1.339	34	0.748	19
DN25	4.331	110	4.134	105	2.756	70	1.988	50.5	0.984	25
DN32	4.724	120	5.118	130	3.150	80	1.988	50.5	1.220	31
DN40	5.512	140	5.906	150	3.150	80	1.988	50.5	1.457	37
DN50	6.457	164	6.299	160	3.346	85	2.520	64	1.929	49
DN65	7.087	180	7.087	180	4.331	110	3.583	91	2.598	66

INCH

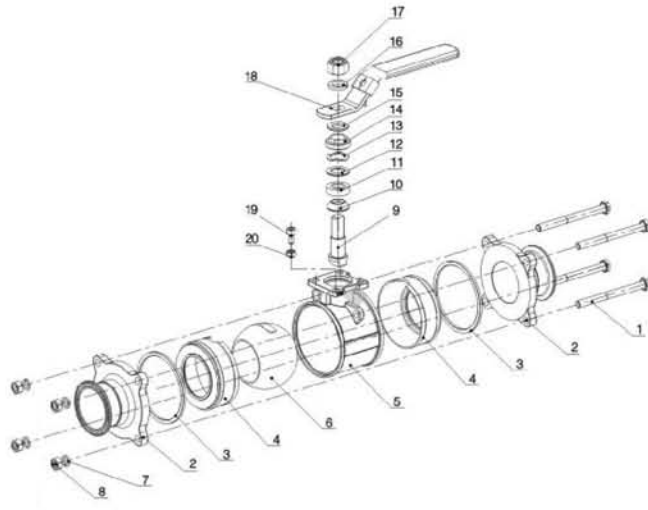
Size	A		L		H		B		Dn	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
3/4"	3.543	90	4.134	105	2.559	65	1.000	25.4	0.630	16
1"	3.937	100	4.134	105	2.559	65	1.988	50.5	0.882	22.4
1 1/4"	4.331	110	4.134	105	2.756	70	1.988	50.5	1.134	28.8
1 1/2"	4.724	120	5.118	130	3.150	80	1.988	50.5	1.382	35.1
2"	5.512	140	5.906	150	3.150	80	2.520	64	1.882	47.8
2 1/4"	6.457	164	6.299	160	3.346	85	3.051	77.5	2.087	53
2 1/2"	7.087	180	7.087	180	4.331	110	3.051	77.5	2.343	59.5



AV-2EBC-P ENCAPSULATED SANITARY 3 PIECE BALL VALVE



Explosive View of Encapsulated Sanitary 3 Piece Ball Valve



Surface Finish

All surfaces which come directly or indirectly in contact with the product are machined to 0.625 micron (25 micro inch Ra, Grit 180). Mechanical polishing to higher levels of surface finish up to 0.25 micron (10 micro inch Ra, Grit 320) are available including internal or external Electropolishing.

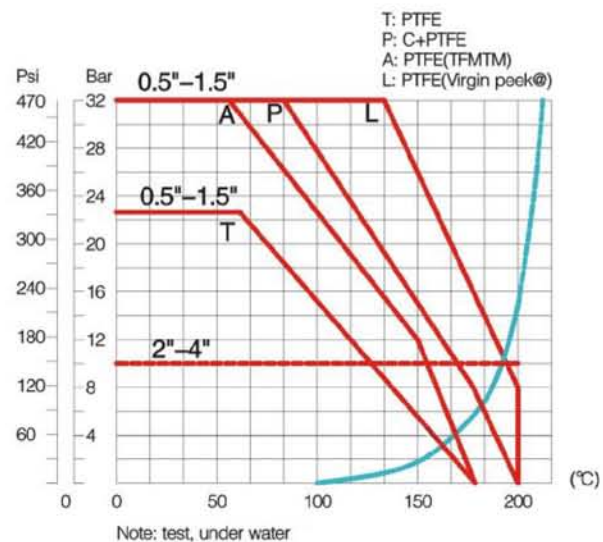
Conversion Table of Surface Finishes

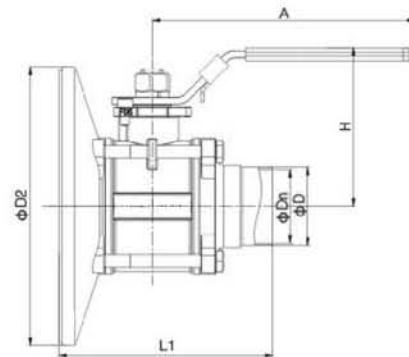
Surface Designation		Mechanically Polished			
ASME	GRIT	Ra Average		Ra Max	
BPE		μ-in	μ-m	μ-in	μ-m
SFV 1	GRIT 320	15	0.375	20	0.50
SFV 2	GRIT 240	20	0.50	25	0.625
SFV 3	GRIT 180	25	0.625	30	0.75

Surface Designation		Mechanically Polished			
ASME	GRIT	Ra Average		Ra Max	
BPE		μ-in	μ-m	μ-in	μ-m
SFV 4	GRIT 320	10	0.25	15	0.375
SFV 5	GRIT 240	15	0.375	20	0.50
SFV 6	GRIT 180	20	0.50	25	0.625

No.	Spare Name	Qty	Material	Note
01	Hexagonal Head Bolt	4	A2-70	6 Pcs for Valve Size Above 2.5"
02	Flange(Clamp/Weld)	2	304/316L	
	Flange(Female)	2	304/316L	
	Flange(Tanks Bottom)	2	304/316L	
03	Periphery Seal	2	PTFE	
04	Lining Seal	2	PTFE	
05	Valve Body	1	304/316L	
06	Ball Body	1	304/316L	
07	Elastic Ring	4	A2-70	6 Pcs for Valve Size Above 2.5"
08	Hex Nut	4	A2-70	6 Pcs for Valve Size Above 2.5"
09	Valve Stem	1	304/316L	
10	Stem Seal-I	1	PTFE	
11	Stem Seal-II	1	PTFE	
12	Stem Wearing Gasket	1	POM	
13	Wave Washer	1	304	1 Piece for The Valve Size Under 1.5"
14	Stem Seal Lock Nut	1	304	
15	Handle Support Washer	1	304	1 Piece for The Valve Size Under 1.5"
16	Elastic Ring	1	A2-70	
17	Hex Lock Nut	1	A2-70	
18	Handle Spare Part	1		
19	Hex Scoketscrew	1	A2-70	
20	Hex Nut	1	A2-70	

Pressure and Temperature Curve





Tank Bottom Encapsulated Sanitary 3 Piece Ball Valve

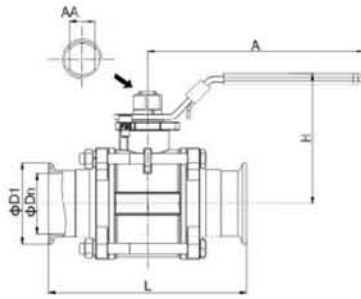
Tank Bottom Encapsulated Sanitary 3 Piece Ball Valve - DIN

Size	ISO5211	Dn		D		D2		L1		H		A		A1		H2		A2		H3		AA	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
DN40	F05	1.457	37	1.575	40	5.512	140	4.685	119	3.701	94	6.693	170	8.287	210.5	9.567	243	3.386	86	14.882	378	0.394	10
DN50	F05	1.929	49	2.047	52	5.512	140	5.256	133.5	4.035	102.5	6.693	170	8.287	210.5	9.882	251	3.386	86	15.197	386	0.394	10
DN65	F07	2.598	66	2.756	70	7.087	180	6.457	164	4.961	126	9.449	240	9.744	247.5	13.425	341	4.449	113	18.740	476	0.472	12

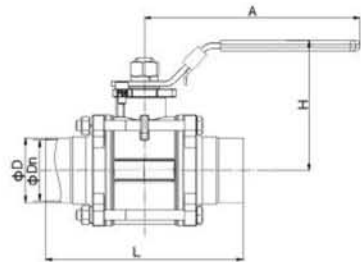
Tank Bottom Encapsulated Sanitary 3 Piece Ball Valve - INCH

Size	ISO5211	Dn		D		D2		L1		H		A		A1		H2		A2		H3		AA	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
1 1/2"	F05	1.382	35.1	1.500	38.1	5.512	140	4.685	119	3.701	94	6.693	170	8.287	210.5	9.567	243	3.386	86	14.882	378	0.394	10
2"	F05	1.882	47.8	2.000	50.8	5.512	140	5.256	133.5	4.035	102.5	6.693	170	8.287	210.5	9.882	251	3.386	86	15.197	386	0.394	10
2 1/2"	F07	2.343	59.5	2.500	63.5	7.087	180	6.457	164	4.724	120	9.449	240	9.744	247.5	13.189	335	4.449	113	18.504	470	0.472	12
3"	F07	2.843	72.2	3.000	76.2	7.874	200	6.457	164	4.724	120	9.449	240	10.571	268.5	14.567	370	5.197	132	19.882	505	0.472	12

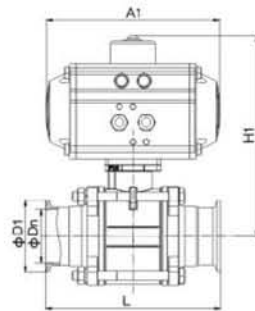
Encapsulated Sanitary 3 Piece Ball Valves



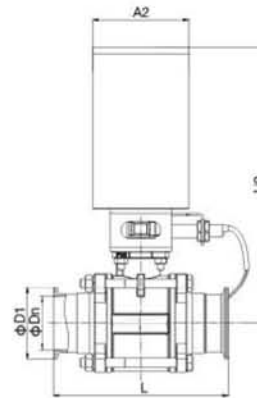
Tri-clamp Ends



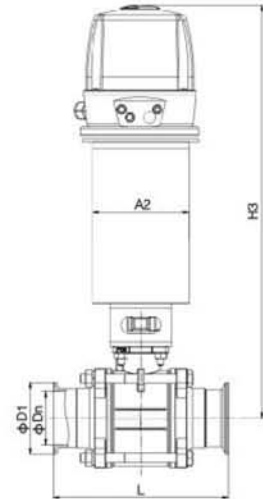
Butt-weld Ends



Horizontal Pneumatic Ball Valve
(Air-air)



SS Pneumatic Ball Valve



Pneumatic Ball Valve+C-TOP

INCH

Size	ISO5211	Dn		D		D1		L		H		A		H1		A1		H2		A2		H3		AA	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
0.5"	F04	0.382	9.7	0.500	12.7	1.000	25.4	3.504	89	3.012	76.5	6.496	165	5.315	135	5.531	140.5	8.937	227	3.386	86	14.252	362	0.236	6
0.75"	F04	0.634	16.1	0.752	19.1	1.000	25.4	3.504	89	3.012	76.5	6.496	165	5.315	135	5.531	140.5	8.937	227	3.386	86	14.252	362	0.236	6
1"	F04	0.882	22.4	1.000	25.4	1.988	50.5	4.488	114	3.150	80	6.496	165	5.512	140	5.531	140.5	9.055	230	3.386	86	14.370	365	0.236	6
1.25"	F04	1.134	28.8	1.252	31.8	1.988	50.5	4.488	114	3.346	85	6.496	165	5.709	145	5.531	140.5	9.252	235	3.386	86	14.567	370	0.236	6
1.5"	F05	1.382	35.1	1.500	38.1	1.988	50.5	5.512	140	3.701	94	6.693	170	7.283	185	8.287	210.5	9.567	243	3.386	86	14.882	378	0.394	10
2"	F05	1.882	47.8	2.000	50.8	2.520	64	6.142	156	4.035	102.5	6.693	170	7.677	195	8.287	210.5	9.882	251	3.386	86	15.197	386	0.394	10
2.5"	F07	2.343	59.5	2.500	63.5	3.051	77.5	7.756	197	4.724	120	9.449	240	8.858	225	9.744	247.5	13.189	335	4.449	113	18.504	470	0.472	12
3"	F07	2.843	72.2	3.000	76.2	3.583	91	8.701	221	5.118	130	9.449	240	9.843	250	10.571	268.5	14.567	370	5.197	132	19.882	505	0.472	12
3.5"	F07	3.346	85	3.504	89	4.173	106	9.016	229	5.354	136	9.449	240	10.039	255	10.571	268.5	14.803	376	5.197	132	20.118	511	0.472	12
4"	F10	3.843	97.6	4.000	101.6	4.685	119	9.488	241	6.063	154	10.039	255	11.811	300	12.402	315	16.181	411	6.535	166	21.496	546	0.472	12

DIN

Size	ISO5211	Dn		D		D1		L		H		A		H1		A1		H2		A2		H3		AA	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
DN10	F04	0.354	9	0.472	12	1.339	34	3.504	89	3.012	76.5	6.496	165	5.315	135	5.531	140.5	8.937	227	3.386	86	14.252	362	0.236	6
DN15	F04	0.591	15	0.709	18	1.339	34	3.504	89	3.012	76.5	6.496	165	5.315	135	5.531	140.5	8.937	227	3.386	86	14.252	362	0.236	6
DN20	F04	0.748	19	0.866	22	1.339	34	3.504	89	3.012	76.5	6.496	165	5.315	135	5.531	140.5	8.937	227	3.386	86	14.252	362	0.236	6
DN25	F04	0.984	25	1.102	28	1.988	50.5	4.488	114	3.150	80	6.496	165	5.512	140	5.531	140.5	9.055	230	3.386	86	14.370	365	0.236	6
DN32	F04	1.220	31	1.339	34	1.988	50.5	4.488	114	3.346	85	6.496	165	5.709	145	5.531	140.5	9.252	235	3.386	86	14.567	370	0.236	6
DN40	F05	1.457	37	1.575	40	1.988	50.5	5.512	140	3.701	94	6.693	170	7.283	185	8.287	210.5	9.567	243	3.386	86	14.882	378	0.394	10
DN50	F05	1.929	49	2.047	52	2.520	64	6.142	156	4.035	102.5	6.693	170	7.677	195	8.287	210.5	9.882	251	3.386	86	15.197	386	0.394	10
DN65	F07	2.598	66	2.756	70	3.583	91	7.756	197	4.961	126	9.449	240	9.055	230	9.744	247.5	13.425	341	4.449	113	18.740	476	0.472	12
DN80	F07	3.189	81	3.346	85	4.173	106	9.016	229	5.354	136	9.449	240	10.039	255	10.571	268.5	14.803	376	5.197	132	20.118	511	0.472	12
DN100	F10	3.937	100	4.094	104	4.685	119	9.488	241	6.063	154	10.039	255	11.811	300	12.402	315	16.181	411	6.535	166	21.496	546	0.472	12



**Pneumatic Encapsulated
Sanitary 3 Piece Ball Valve,
Vertical SS Head**

Size: 1/2"-4", DN10-DN100

Optional Position Feedback



Pneumatic Encapsulated Sanitary 3 Piece Ball Valve,
Horizontal Aluminum Head, Air to Air



**Pneumatic Sanitary 3 Piece Ball Valve
+Valve Positioner**

Size: 1/2"-4", DN10-DN100

Input: 0/4-20mA, 0-5/10V
Output: 0/4-20mA, 0-5/10V
(Position Feedback)
Bus: DEVICE NET BUS
Single/Double Action



Electric Ball Valve

Switching Type
Intelligen(4-20mA)
Position Feedback
Power DC.24V



Pneumatic Ball Valve+C-TOP

Power: DC 24V±10%
PLC Connection Automatically Control
Single/Double Action
Basic Version: Terminal Block
Bus: AS-I DEVICE NET
BUS(Options)



AV-2EBC-P-3W 3-WAY ENCAPSULATED SANITARY 3 PIECE BALL VALVE

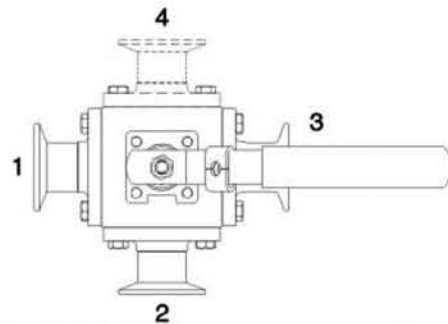
APPLICATION

The hygienic design of the valve is widely used in the field of food processing, beverages, fruit juices, wine, biopharmaceutical. Flexible body combinations, L-Port or T-Port can be interchangeable, non-retention design.

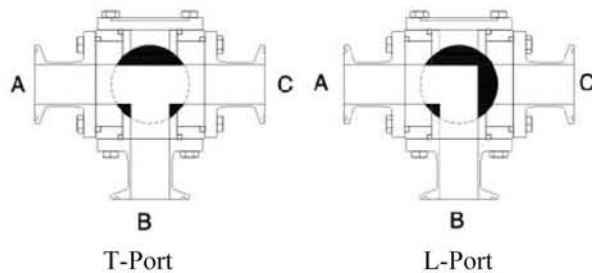


TECHNICAL SPECIFICATIONS

- Size: 1"- 4", DN25-DN100
- Material: 304 (1.4301), 316L (1.4404)
- Gaskets: PTFE/TFM (FDA 177.1550)
- Temperature: -20°C- 150°C (Standard)
-30°C- 200°C (Option)
- Pressure: 10-30bar (Depending on seal material and temperature)
- Operating Modes: Manual, pneumatic, electric
- Surface Finishing: Internal surface Ra0.6 µm, external surface sand blast
- Certificate: PED/97/23/EC, 3A, FDA
- Control: Process controller, valve positioning (see controller directory)
- C-TOP control unit, AS-1 Device Net bus communication
- Terminal connection (options), position sensor PNP.NPN (options)



The ball valve has 4 directions(Figure 1,2,3,4), flanges can be installed in different numbers and directions according to customers' require.





**Pneumatic 3-way Encapsulated
Sanitary 3 Piece Ball Valve,
Vertical SS Head**

Size: 1"-4", DN25-DN100
Optional Position Sensor
Air/Spring, Air/Air



Pneumatic 3-way Encapsulated Sanitary 3 Piece Ball Valve,
Horizontal Aluminum Head, Air to Air



**Pneumatic Three-way
Ball Valve+C-TOP**

Pneumatic Ball Valve+C-TOP
Power: DC 24V±10%
PLC Connection Automatically Control
Single/Double Action (Options)
Basic Version: Terminal Block
Bus Version: AS-I BUS
Device Net (Options)



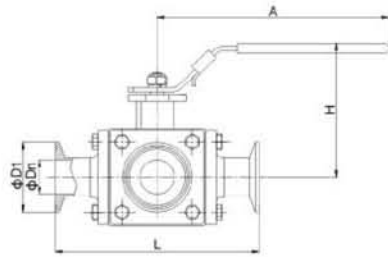
Electric Three-way Ball Valve

On/Off Type
Intelligen(4-20mA)
Position Sensor
Power DC.24V

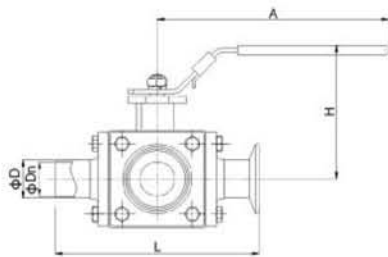


**Pneumatic Three0-way
Ball Valve+Valve Positioner**

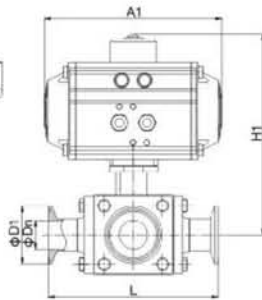
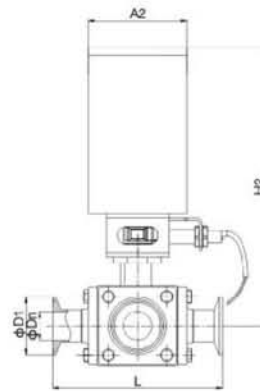
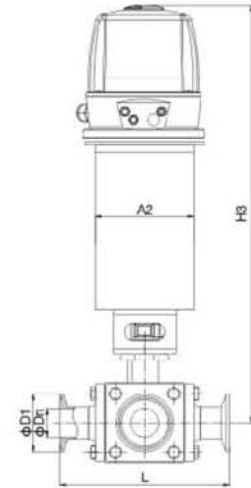
Size: 1/2"-4", DN10-DN100
Input: 0/4-20mA/0-5/10V
Output: 0/4=20mA/0-5/10V(Position Sensor)
Bus: DEVICE NET BUS
Air/Spring, Air/Air



Tri-clamp Ends



Butt-weld End


Three-way Ball Valve with
Horizontal Pneumatic Head

Three-way Ball Valve with
Vertical Pneumatic Head

Three-way Ball Valve with
Vertical Pneumatic Head+C-TOP

INCH

Size	ISO5211	Dn		D		D1		L		H		A		H1		A1		H2		A2		H3	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
1"	F04/F05	0.882	22.4	1.000	25.4	1.988	50.5	5.827	148	3.819	97	6.496	165	6.181	157	6.319	160.5	9.724	247	3.386	86	15.039	382
1.25"	F04/F05	1.134	28.8	1.252	31.8	1.988	50.5	5.984	152	4.016	102	6.496	165	6.378	162	8.543	217	9.921	252	3.386	86	15.236	387
1.5"	F05/F07	1.382	35.1	1.500	38.1	1.988	50.5	7.087	180	4.449	113	6.693	170	8.031	204	8.543	217	10.315	262	3.386	86	15.630	397
2"	F05/F07	1.882	47.8	2.000	50.8	2.520	64	7.874	200	4.803	122	6.693	170	8.465	215	9.843	250	10.669	271	3.386	86	15.984	406
2.5"	F07/F010	2.343	59.5	2.500	63.5	3.051	77.5	9.921	252	5.512	140	9.449	240	5.709	145	10.571	268.5	13.976	355	4.449	113	19.291	490
3"	F07/F010	3.000	76.2	3.000	76.2	3.583	91	11.181	284	5.945	151	9.449	240	10.669	271	12.402	315	15.394	391	5.197	132	20.709	526
4"	F07/F010	3.843	97.6	4.000	101.6	4.685	119	12.638	321	6.969	177	10.039	255	12.717	323	13.583	345	17.087	434	6.535	166	22.402	569

DIN

Size	ISO5211	Dn		D		D1		L		H		A		H1		A1		H2		A2		H3	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
DN25	F04/F05	0.984	25	1.102	28	1.988	50.5	5.827	148	3.819	97	6.496	165	6.181	157	6.319	160.5	9.724	247	3.386	86	15.039	382
DN32	F04/F05	1.220	31	1.339	34	1.988	50.5	5.984	152	4.016	102	6.496	165	6.378	162	8.543	217	9.921	252	3.386	86	15.236	387
DN40	F05/F07	1.457	37	1.575	40	1.988	50.5	7.087	180	4.449	113	6.693	170	8.031	204	8.543	217	10.315	262	3.386	86	15.630	397
DN50	F05/F07	1.929	49	2.047	52	2.520	64	7.874	200	4.803	122	6.693	170	8.465	215	9.843	250	10.669	271	3.386	86	15.984	406
DN65	F07/F010	2.598	66	2.756	70	3.583	91	10.394	264	5.709	145	0.787	20	9.803	249	10.571	268.5	14.173	360	4.449	113	19.488	495
DN80	F07/F010	3.189	81	3.346	85	4.173	106	11.654	296	6.181	157	9.449	240	10.866	276	12.402	315	15.630	397	5.197	132	20.945	532
DN100	F07/F010	3.937	100	4.094	104	4.685	119	12.638	321	6.969	177	10.039	255	12.717	323	13.583	345	17.087	434	6.535	166	22.402	569



AV-2BB SANITARY BUTTERFLY-TYPE BALL VALVE

APPLICATION

AV-2BB series is a kind of automatically or manually operated butterfly-type ball valve. With good capacity in dealing with viscous medium or particulate, it is widely used in food, beverage, pharmaceutical and chemical industrial piping system, especially the brewing industry, to regulate and control the medium flow.

MATERIAL

Product wetted parts: AISI 304/ AISI 316L

Seat: VMQ (Silicone) (Default)

Inside polish: Ra 16-32 μin (0.4-0.8 μm)

Outside polish: Ra 32 μin (0.8 μm)

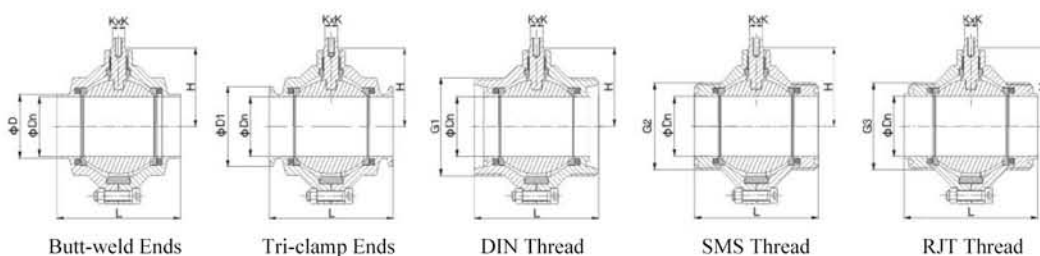
Options:

- End connections: Sanitary Clamp, Butt-weld, Threaded or others upon request.
- Seats and gasket can be EPDM, VMQ (Silicone), all complying with FDA 21CFR177.2600
- Handle: 2-position, 3-position, and 4-position pull handle, multi-position handle in either pure stainless steel or with plastic cover.
- Actuator: pneumatic stainless steel actuator, pneumatic aluminum actuator, electric actuator.
- Intelligent C top control: AS-I connection, electronic connection.
- Max. Temperature: 120°C (EPDM); Max. pressure: 10bar (145psi)

DESIGN & FEATURES

- Free of maintenance
- Portable and compact
- Seats and gaskets comply with FDA 21CFR177.2600
- Small torque
- Drainable

AV-2MBB SANITARY MANUAL BUTTERFLY-TYPE BALL VALVE



DIN

Size	Dn		D		D1		L		H		KxK	G1 (DIN)
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
DN10	0.354	9	0.472	12	1.339	34	2.835	72	1.575	40	8x8	Rd28x1/8"
DN15	0.591	15	0.709	18	1.339	34	2.835	72	1.575	40	8x8	Rd34x1/8"
DN20	0.748	19	0.866	22	1.339	34	2.835	72	1.575	40	8x8	Rd44x1/8"
DN25	0.984	25	1.102	28	1.988	50.5	2.835	72	1.634	41.5	8x8	Rd52x1/6"
DN32	1.220	31	1.339	34	1.988	50.5	3.268	83	1.831	46.5	8x8	Rd58x1/6"
DN40	1.457	37	1.575	40	1.988	50.5	3.425	87	2.165	55	10x10	Rd65x1/6"
DN50	1.929	49	2.047	52	2.520	64	3.976	101	2.520	64	10x10	Rd78x1/6"
DN65	2.598	66	2.756	70	3.583	91	4.921	125	3.150	80	11x11	Rd95x1/6"
DN80	3.189	81	3.346	85	4.173	106	5.709	145	3.661	93	11x11	Rd110x1/4"
DN100	3.937	100	4.094	104	4.685	119	7.283	185	4.193	106.5	14x14	Rd130x1/4"

INCH

Size	Dn		D		D1		L		H		KxK	G2 (SMS)	G3 (RJT)
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm			
1/2"	0.382	9.7	0.500	12.7	1.000	25.4	2.835	72	1.575	40	8x8	-	-
3/4"	0.634	16.1	0.752	19.1	1.000	25.4	2.835	72	1.575	40	8x8	Rd36x1/8"	-
1"	0.882	22.4	1.000	25.4	1.988	50.5	2.835	72	1.634	41.5	8x8	Rd40x1/6"	45.7x8TPIWHIT
1 1/4"	1.134	28.8	1.252	31.8	1.988	50.5	3.268	83	1.831	46.5	8x8	Rd48x1/6"	-
1 1/2"	1.382	35.1	1.500	38.1	1.988	50.5	3.425	87	2.165	55	10x10	Rd60x1/6"	58.4x8TPIWHIT
2"	1.882	47.8	2.000	50.8	2.520	64	3.976	101	2.520	64	10x10	Rd70x1/6"	72.7x6TPIWHIT
2 1/2"	2.343	59.5	2.500	63.5	3.051	77.5	4.764	121	2.972	75.5	11x11	Rd85x1/6"	85.4x6TPIWHIT
3"	2.843	72.2	3.000	76.2	3.583	91	5.315	135	3.366	85.5	11x11	Rd98x1/6"	98.1x6TPIWHIT
4"	3.843	97.6	4.000	101.6	4.685	119	7.283	185	4.193	106.5	14x14	Rd125x1/4"	123.5x6TPIWHIT

AV-2PBB SANITARY PNEUMATIC BUTTERFLY-TYPE BALL VALVE



DIN																										
Size	Dn		D		L1		H1		H2		H3		H4		H5		M		L		W		L1		W1	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
DN10	0.354	9	0.472	12	4.961	126	1.713	43.5	6.791	172.5	12.165	309	5.512	140	5.551	141	3.386	86	6.319	160.5	3.268	83	6.378	162	4.528	115
DN15	0.591	15	0.709	18	4.961	126	1.713	43.5	6.791	172.5	12.165	309	5.512	140	5.551	141	3.386	86	6.319	160.5	3.268	83	6.378	162	4.528	115
DN20	0.748	19	0.866	22	4.961	126	1.713	43.5	6.791	172.5	12.165	309	5.512	140	5.551	141	3.386	86	6.319	160.5	3.268	83	6.378	162	4.528	115
DN25	0.984	25	1.102	28	4.961	126	1.713	43.5	6.791	172.5	12.165	309	5.512	140	5.551	141	3.386	86	6.319	160.5	3.268	83	6.378	162	4.528	115
DN32	1.220	31	1.339	34	4.961	126	1.713	43.5	6.791	172.5	12.165	309	5.512	140	5.551	141	3.386	86	6.319	160.5	3.268	83	6.378	162	4.528	115
DN40	1.457	37	1.575	40	5.236	133	1.870	47.5	6.791	172.5	12.165	309	6.181	157	5.551	141	3.386	86	8.543	217	3.720	94.5	6.378	162	4.528	115
DN50	1.929	49	2.047	52	5.669	144	1.870	47.5	6.791	172.5	12.165	309	6.181	157	5.512	140	3.386	86	8.543	217	3.720	94.5	6.378	162	4.528	115
DN65	2.598	66	2.756	70	6.299	160	1.969	50	9.764	248	15.157	385	7.559	192	7.244	184	4.449	113	9.843	250	4.173	106	8.189	208	4.803	122
DN80	3.189	81	3.346	85	8.661	220	2.067	52.5	11.220	285	16.614	422	8.031	204	8.189	208	5.236	133	10.551	268	4.843	123	10.157	258	5.827	148
DN100	3.937	100	4.094	104	11.181	284	2.067	52.5	11.575	294	16.969	431	9.055	230	8.189	208	6.535	166	12.402	315	5.551	141	10.157	258	5.827	148

INCH																										
Size	Dn		D		L1		H1		H2		H3		H4		H5		M		L		W		L1		W1	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
1/2"	0.382	9.7	0.500	12.7	4.961	126	1.713	43.5	6.791	172.5	12.165	309	5.512	140	5.551	141	3.386	86	6.319	160.5	3.268	83	6.378	162	4.528	115
3/4"	0.634	16.1	0.752	19.1	4.961	126	1.713	43.5	6.791	172.5	12.165	309	5.512	140	5.551	141	3.386	86	6.319	160.5	3.268	83	6.378	162	4.528	115
1"	0.882	22.4	1.000	25.4	4.961	126	1.713	43.5	6.791	172.5	12.165	309	5.512	140	5.551	141	3.386	86	6.319	160.5	3.268	83	6.378	162	4.528	115
1 1/4"	1.134	28.8	1.252	31.8	4.961	126	1.713	43.5	6.791	172.5	12.165	309	5.512	140	5.551	141	3.386	86	6.319	160.5	3.268	83	6.378	162	4.528	115
1 1/2"	1.382	35.1	1.500	38.1	4.961	126	1.870	47.5	6.791	172.5	12.165	309	6.181	157	5.551	141	3.386	86	8.543	217	3.720	94.5	6.378	162	4.528	115
2"	1.882	47.8	2.000	50.8	5.236	133	1.870	47.5	6.791	172.5	12.165	309	6.181	157	5.551	141	3.386	86	8.543	217	3.720	94.5	6.378	162	4.528	115
2 1/2"	2.343	59.5	2.500	63.5	5.669	144	1.969	50	9.764	248	15.157	385	7.559	192	7.244	184	4.449	113	9.843	250	4.173	106	8.189	208	4.803	122
3"	2.843	72.2	3.000	76.2	6.299	160	2.067	52.5	11.220	285	16.614	422	8.031	204	8.189	208	5.236	133	10.551	268	4.843	123	10.157	258	5.827	148
4"	3.843	97.6	4.000	101.6	11.181	284	2.067	52.5	11.575	294	16.969	431	9.055	230	8.189	208	6.535	166	12.402	315	5.551	141	10.157	258	5.827	148