

# VALLEES



**Ball Valves**

## BALL VALVES

### BALL VALVES....

Ball Valves are used in a wide variety of high pressure applications. Two factors make them popular. First, a full unrestricted flow that allows no product restrictions through the valve. Second, the three piece design and the removal of a minimal number of bolts allows service to be performed without removing the complete valve from the line.

VNE offers two way ball valves made of T316 (CF8M) stainless steel. PTFE seats are easily removed. Clamp and Weld ends are standard. Other connections are available upon request. 1/2" through 4" sizes are available.

VNE offers many options on automated ball valves.

### BALL VALVE SPECIFICATIONS....

<b>Size:</b>	1/2", 3/4", 1", 1 1/2", 2", 2 1/2", 3", 4"
<b>Material:</b>	Passivated 316 Stainless Steel (ASTM A351, CF8M)
<b>Connections:</b>	Clamp, Buttweld and Orbital weld - other connections available upon request
<b>Working Pressure:</b>	1/2" - 1"            1,000 psi 1 1/2" - 2"        1,000 psi 2 1/2" - 4"        600 psi

### ORDERING SPECIFICATIONS....

- Specify:**
- Quantity
  - Product description or Part No.
  - Size
  - Material Type



### IMPORTANT FEATURES...

- 3 - Piece design - allows valve ends to remain attached while servicing valve body
- 100% Tested
- Valves marked with heat numbers for full identification and traceability
- English hardware
- Maintenance and servicing is made easy with removal of a minimal number of bolts
- Reinforced Teflon® Seats
- PTFE Cavity Filler, fully encapsulated
- Locking device handle
- Air Actuator mounting kits which include ISO-5211 pads are available
- Repair kits are available

Teflon is a trademark

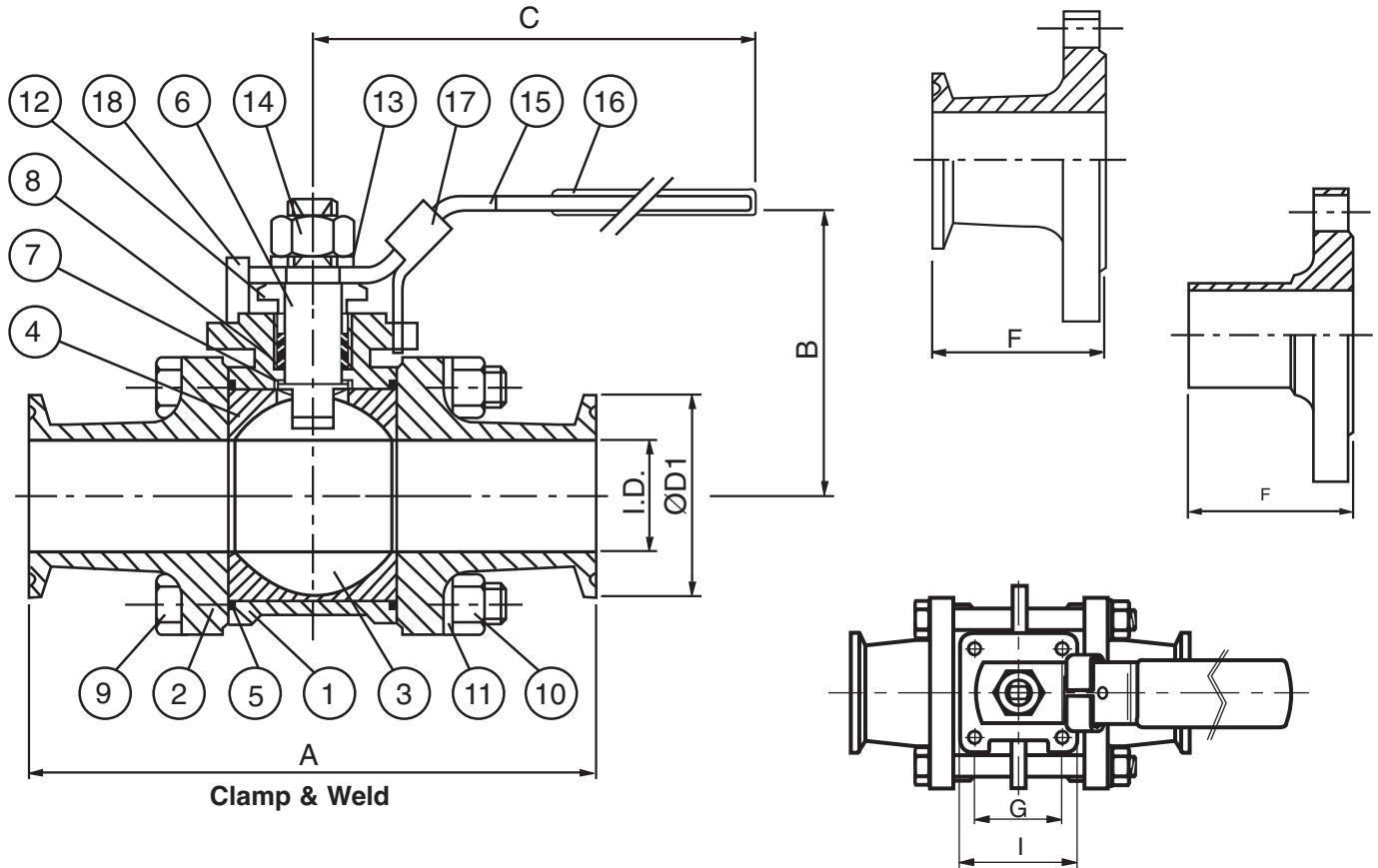
### VNE CORPORATION

P.O. Box 1698 • 1149 Barberry Drive • Janesville, WI 53547

TEL: 608-756-4930 • FAX: 608-756-3643 • 1-800-356-1111 • Web site: [vnestainless.com](http://vnestainless.com)

## CLAMP AND WELD VALVES

PART NUMBER EG90CC-6-SIZE = CLAMP  
E90WW-6-SIZE = WELD



## CLAMP & WELD DIMENSIONS

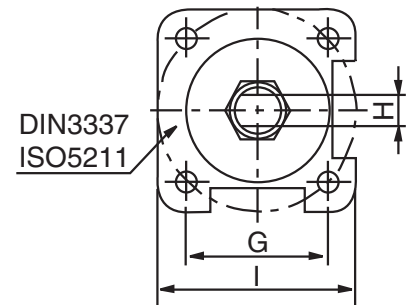
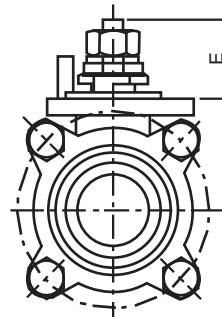
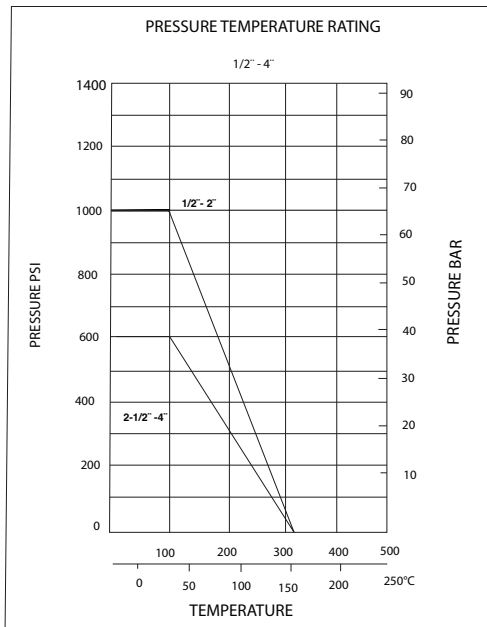
SIZE INCH	ISO- 5211	A	B	C	I.D.	ØD	ØD1	E	F	G	H	I
1/2"	F03	3.503	2.165	5.11	0.375	0.50	1.00	0.708	1.289	1.00	0.196	1.456
3/4"	F03	3.976	2.362	5.11	0.625	0.75	1.00	0.728	1.437	1.00	0.196	1.456
1"	F04	4.488	2.716	6.49	0.875	1.00	1.98	0.885	1.574	1.17	0.256	1.653
1 1/2"	F05	5.511	3.307	7.67	1.375	1.50	1.98	1.165	1.712	1.39	0.334	1.968
2"	F05	6.141	3.622	7.67	1.875	2.00	2.51	1.165	1.801	1.39	0.334	1.968
2 1/2"	F07	7.756	5.000	9.92	2.375	2.50	3.05	1.750	2.204	1.95	0.472	2.834
3"	F07	9.015	5.354	9.92	2.875	3.00	3.58	1.750	2.540	1.95	0.472	2.834
4"	F10	9.567	6.260	13.07	3.834	4.00	4.68	1.921	2.385	2.83	0.630	3.740

Also available with orbital weld end connections. Contact VNE for dimensions.

## CLAMP AND WELD VALVES

### PART LIST FOR CLAMP & WELD VALVES

Part Number	Description	Material	Qty.
Ball-1	Body	ASTM-A351-CF8M	1
Ball-2C	Clamp End Connection	ASTM-A351-CF8M	2
Ball-2W	Weld End Connection	ASTM-A351-CF8M	2
Ball-3	Ball	A351-CF8M	1
Ball-4	Seat	PTFE	2
Ball-5	Gasket	PTFE	2
Ball-6	Stem	AISI-316	1
Ball-7	Thrust Washer	PTFE	1
Ball-8	Stem Packing	PTFE	1
Ball-9	Bolt	AISI-304	4
Ball-10	Hex Nut	AISI-304	4
Ball-11	Bolt Washer	AISI-304	4
Ball-12	Gland	AISI-304	1
Ball-13	Washer	AISI-304	1
Ball-14	Nut	AISI-304	1
Ball-15	Handle	AISI-304	1
Ball-16	Plastic Cover	Plastic	1
Ball-17	Lock Device	AISI-304	1
Ball-18	Stop Pin	AISI-304	1



### BALL VALVE TORQUE....

3-PC Type full port stainless steel 316 sanitary ball valve ferrule-end and weld-end.

1/2"	- Breakaway Torque ----	42	In-LBS
3/4"	- Breakaway Torque ----	58	In-LBS
1"	- Breakaway Torque ----	83	In-LBS
1 1/2"	- Breakaway Torque ----	150	In-LBS
2"	- Breakaway Torque ----	298	In-LBS
2 1/2"	- Breakaway Torque ----	512	In-LBS
3"	- Breakaway Torque ----	685	In-LBS
4"	- Breakaway Torque ----	996	In-LBS

## BALL VALVES

### BALL VALVES...

Ball Valves are used in a wide variety of high pressure applications. A full unrestricted flow allows no product restrictions through the valve. Thus, allowing easy diversion.

VNE offers three way ball valves made of T316 (CF8M) stainless steel. With PTFE seats that are easily removed. Clamp and Weld ends are standard. Other connections are available upon request. 1/2" through 3" sizes are available.



### BALL VALVE SPECIFICATIONS...

<b>Size:</b>	1/2", 3/4", 1", 1 1/2", 2", 2 1/2", 3", 4"
<b>Material:</b>	Passivated 316 Stainless Steel (ASTM A351, CF8M)
<b>Connections:</b>	Clamp & weld - other connections available upon request
<b>Working Pressure:</b>	1/2" - 1"            1,000 psi 1 1/2" - 2"        1,000 psi 2 1/2" - 4"        800 psi
<b>Temperature Rating:</b>	-65 to 350 Degrees F

### ORDERING SPECIFICATIONS...

<b>Specify:</b>	<ul style="list-style-type: none"><li>• Quantity</li><li>• Product description or Part No.</li><li>• Size</li></ul>
-----------------	---

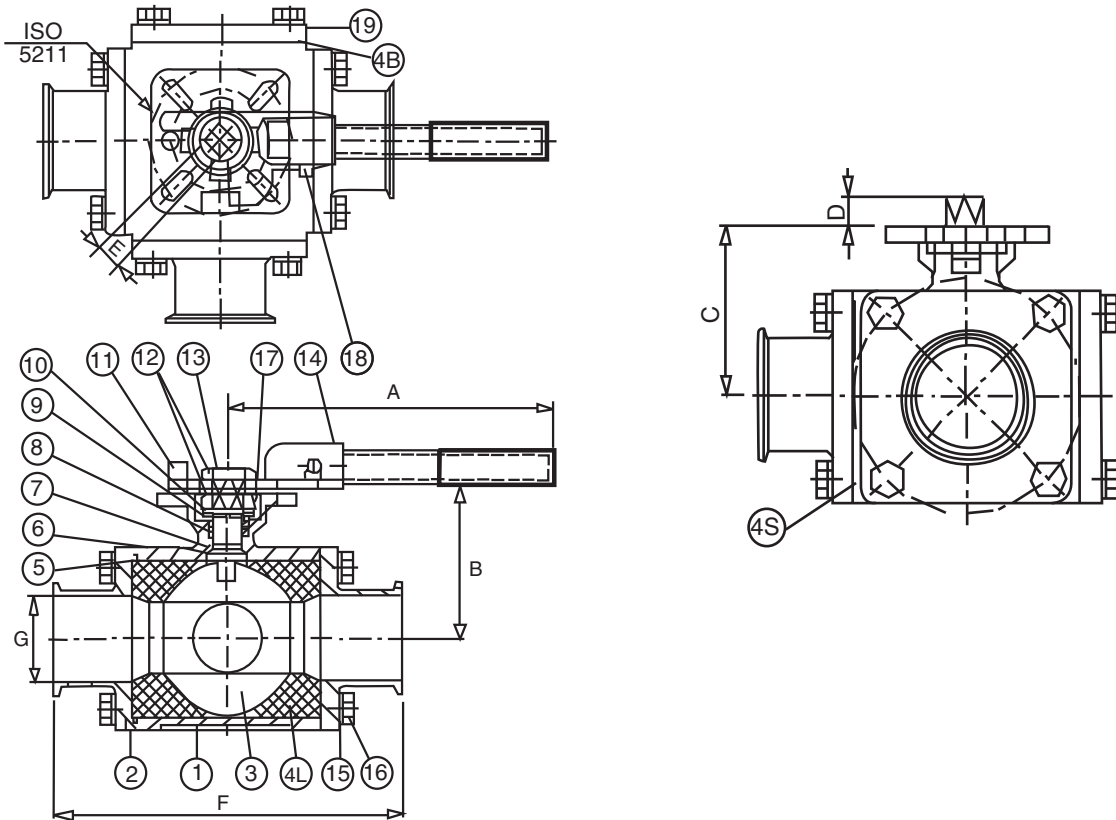
### IMPORTANT FEATURES...

- 100% Tested
- Valves marked with heat numbers for full identification and traceability
- English hardware
- Reinforced Teflon® Seats
- PTFE Cavity Filler, fully encapsulated
- Locking device handle
- Air Actuator ISO-5211 mounting pad standard on all valves
- Repair kits are available
- L Port is standard. T Port available upon request

## Clamp and Weld Valves

Part Number EG93CCC - 6 - Size = Clamp

Part Number E93WWW - 6 - Size = Weld

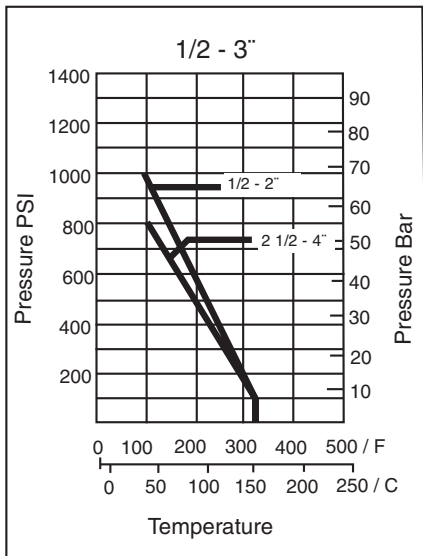


### CLAMP AND WELD DIMENSIONS

Size	ISO-	A	B	C	D	E	F	G
Inch	5211							
1/2"	F03/F04	4.75	3.0625	1.75	.354	.354	4.625	.375
3/4"	F03/F04	4.75	3.25	1.875	.354	.354	5.000	.625
1"	F04/F05	5.375	3.55	2.323	.433	.433	6.000	.875
1 1/2"	F05/F07	7.125	4.3125	2.8125	.551	.551	6.875	1.375
2"	F05/F07	7.125	4.50	3.25	.551	.551	7.500	1.895
2 1/2"	F07/F10	14.5625	4.25	3.9375	.669	.669	9.000	2.375
3"	F10/F12	15.75	5.25	5.00	.906	.866	10.250	2.875
4"	F10/F12	15.75	6.14	5.335	.906	.866	11.42	3.834

## Part List for Clamp and Weld Valves

Item Number	Part Number	Description	Material	Qty.
1	Ball - 3 - 1 - Size	Body	A351-CF8M	1
2	Ball - 3 - 2C - Size	Clamp End Connector	A351-CF8M	3
2	Ball - 3 - 2W - Size	Weld End Connector	A351-CF8M	3
3	Ball - 3 - 3 - Size	Ball	A351-CF8M	1
* 4	Ball - 3 - 4L - Size	Seat Large	PTFE	2
* 4	Ball - 3 - 4S - Size	Seat Small	PTFE	1
* 4	Ball - 3 - 4B - Size	Seat Back	PTFE	1
* 5	Ball - 3 - 5 - Size	Gasket	PTFE	1
* 6	Ball - 3 - 6 - Size	Thrust Washer	PTFE	2
* 7	Ball - 3 - 7 - Size	O -Ring	Viton	1
* 8	Ball - 3 - 8 - Size	Stem Packing	PTFE	1
9	Ball - 3 - 9 - Size	Ring	AISI-316	1
10	Ball - 3 - 10 - Size	Bevel Washer	AISI-301	3
11	Ball - 3 - 11 - Size	Stop Pin	AISI-316	1
12	Ball - 3 - 12 - Size	Nut	AISI- 304	2
13	Ball - 3 - 13 - Size	Stem	AISI-316	1
14	Ball - 3 - 14 - Size	Handle	AISI-304	1
15	Ball - 3 - 15 - Size	Washer	AISI-304	16
16	Ball - 3 - 16 - Size	Bolt	AISI-304	16
17	Ball - 3 - 17 - Size	Prevailing Device	AISI-304	1
18	Ball - 3 - 18 - Size	Nut Handle	AISI-304	1
19	Ball - 3 - 19 - Size	Body Cap	A351-CF8M	1
*Kit	Ball - 3 - Kit - Size	Replacement Seal kit	PTFE / Viton	1



## BALL VALVE TORQUE...

3-Way full port stainless steel 316 sanitary ball valve clamp and weld end. To convert In / LBS to Foot LBS X .083.

1/2"	- Breakaway Torque ---	79	In-LBS
3/4"	- Breakaway Torque ---	85	In-LBS
1"	- Breakaway Torque ---	110	In-LBS
1 1/2"	- Breakaway Torque ---	290	In-LBS
2"	- Breakaway Torque ---	680	In-LBS
2 1/2"	- Breakaway Torque ---	1287	In-LBS
3"	- Breakaway Torque ---	1770	In-LBS
4"	- Breakaway Torque ---	2035	In-LBS

## BALL VALVES

### BALL VALVES...

Ball Valves are used in a wide variety of high pressure applications. A full unrestricted flow allows no product restrictions through the valve. Thus, allowing easy diversion.

VNE offers TWO and THREE way ball valves made of T316 (CF8M) stainless steel. Ball Valves are available in Manual, Pneumatically Actuated, and Electrically Actuated versions. We also offer a full line of control options. Limit switches, Solenoids, and Positioners can be included with your automated valve assembly. VNE Ball Valves feature PTFE seats that are easily removed. Clamp and Weld ends are standard. Other connections are available upon request. 1/2" - 4" sizes are available.



### BALL VALVE SPECIFICATIONS...

<b>Size:</b>	1/2", 3/4", 1", 1 1/2", 2", 2 1/2", 3", 4"
<b>Material:</b>	Passivated 316 Stainless Steel (ASTM A351, CF8M)
<b>Connections:</b>	Clamp, Buttweld and Orbital Weld - other connections available upon request

### ORDERING SPECIFICATIONS...

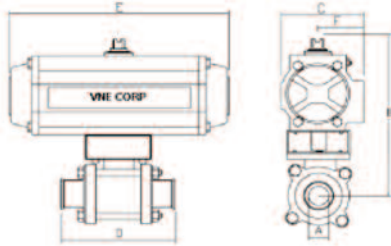
<b>Specify:</b>	<ul style="list-style-type: none"><li>• Quantity</li><li>• Product description or Part No.</li><li>• Size</li></ul>
-----------------	---

### IMPORTANT FEATURES...

- 100% Tested
- Valves marked with heat numbers for full identification and traceability
- Available with pneumatic and electric actuators

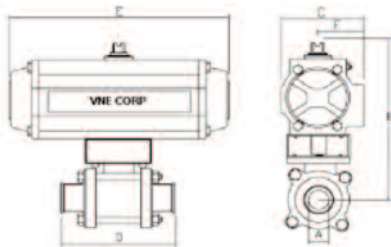


## Dimensions 2-way Spring Return Actuated Valve



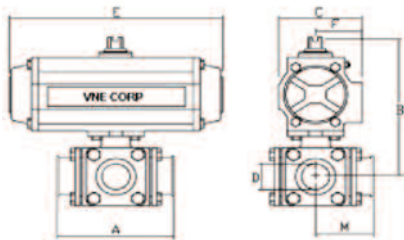
Valve Size	A	B	C	D	E	F	Weight	Cv Value
1/2	0.38	6.15	2.79	3.50	5.49	1.61	4.16	9
3/4	0.63	6.33	2.79	3.98	5.49	1.61	4.46	26
1	0.88	6.87	3.17	4.49	6.38	1.77	6.75	61
1 1/2	1.38	8.05	3.72	5.51	8.15	2.07	12.70	193
2	1.88	8.89	4.85	6.14	10.69	2.68	22.80	432
2 1/2	2.38	12.15	5.39	7.76	12.91	2.87	41.88	728
3	2.88	12.96	5.83	9.02	14.41	3.15	51.40	1125
4	3.83	15.68	7.350	9.57	16.93	3.94	111.20	1986

## Dimensions 2-way Air to Air Actuated Valve



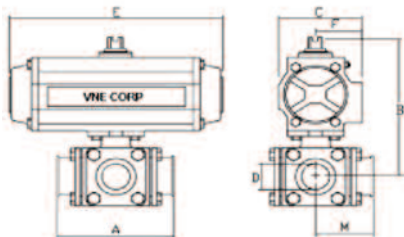
Valve Size	A	B	C	D	E	F	Weight	Cv Value
1/2	0.38	5.18	1.77	3.50	4.65	0.89	2.62	9
3/4	0.63	5.36	1.77	3.98	4.65	0.89	2.92	26
1	0.88	6.44	2.79	4.49	5.49	1.61	5.03	61
1 1/2	1.38	7.40	3.17	5.51	6.38	1.77	9.02	193
2	1.88	7.94	3.72	6.14	8.15	2.07	11.66	432
2 1/2	2.38	10.85	4.17	7.76	9.35	2.30	25.35	728
3	2.88	11.19	4.17	9.02	9.35	2.30	32.03	1125
4	3.83	13.30	5.39	9.57	12.91	2.87	63.91	1986

## Dimensions 3-way Spring Return Actuated Valve



Valve Size	A	B	C	D	E	F	M	Weight	Cv Value
1/2	4.65	7.17	3.17	0.38	6.38	1.77	2.33	7.97	L-8-T-6
3/4	5.00	7.29	3.17	0.63	6.38	1.77	2.50	8.97	L-17 T-13
1	6.00	6.92	3.72	0.88	8.15	2.07	3.00	13.94	L-25 T-19
1 1/2	6.88	8.38	4.85	1.38	10.69	2.68	3.44	28.40	L-62 T-46
2	7.50	10.08	5.83	1.88	14.41	3.15	3.75	50.76	L-148 T-92
2 1/2	9.00	12.68	7.350	2.38	16.93	3.94	4.50	93.04	L-247 T-156
3	10.25	13.74	7.350	2.88	16.93	3.94	5.13	110.04	L-351 T-230

## Dimensions 3-way Air to Air Actuated Valve

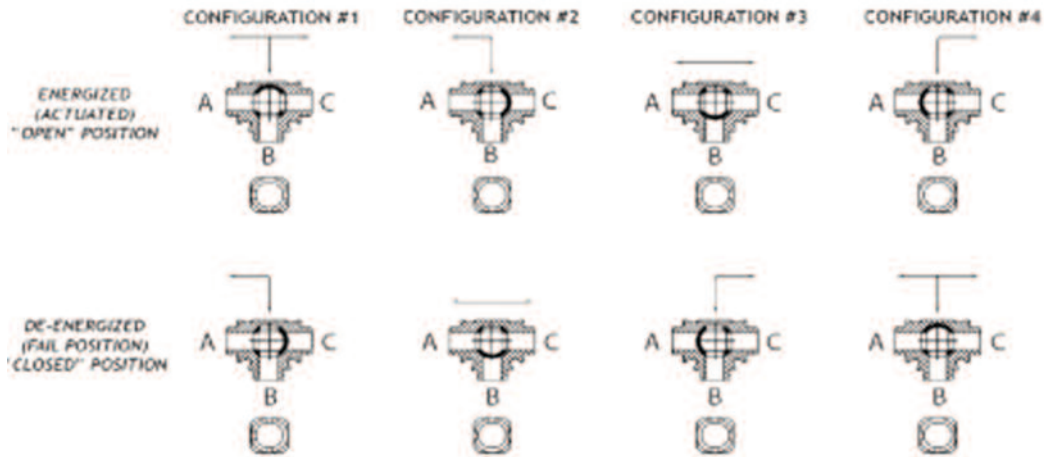


Valve Size	A	B	C	D	E	F	M	Weight	Cv Value
1/2	4.65	5.28	2.79	0.38	5.49	1.61	2.33	6.25	L-8 T-6
3/4	5.00	5.40	2.79	0.63	5.49	1.61	2.50	7.25	L-17 T-13
1	6.00	5.85	2.79	0.88	5.49	1.61	3.00	9.25	L-25 T-19
1 1/2	6.88	7.42	3.72	1.38	8.15	2.07	3.44	19.51	L-62 T-46
2	7.50	8.31	4.17	1.88	9.35	2.30	3.75	21.39	L-148 T-92
2 1/2	9.00	10.29	5.39	2.38	12.91	2.87	4.50	45.75	L-247 T-156
3	10.25	11.36	5.39	2.88	12.91	2.87	5.13	62.75	L-351 T 230

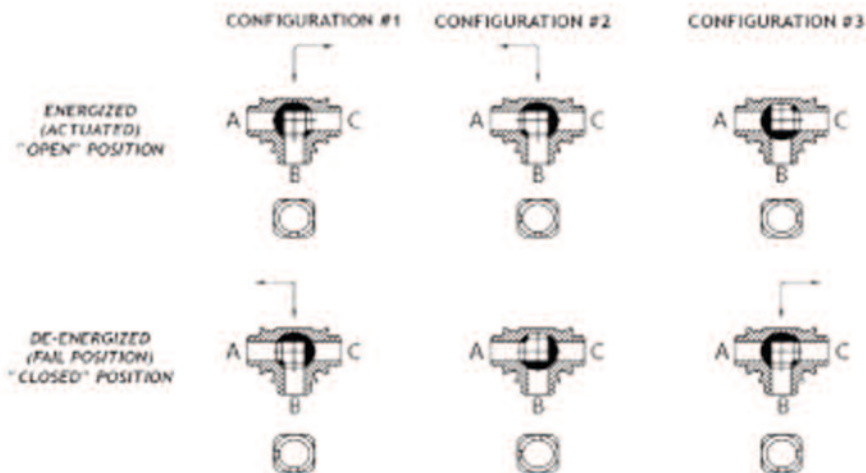
Dimensions shown are for assemblies sized for 80 PSI air supply. 1.2 Safety factor clean liquid products

## 3-WAY BALL VALVE CONFIGURATION OPTIONS Standard Actuator (CW to Close, CCW to Open)

### T-Port Design

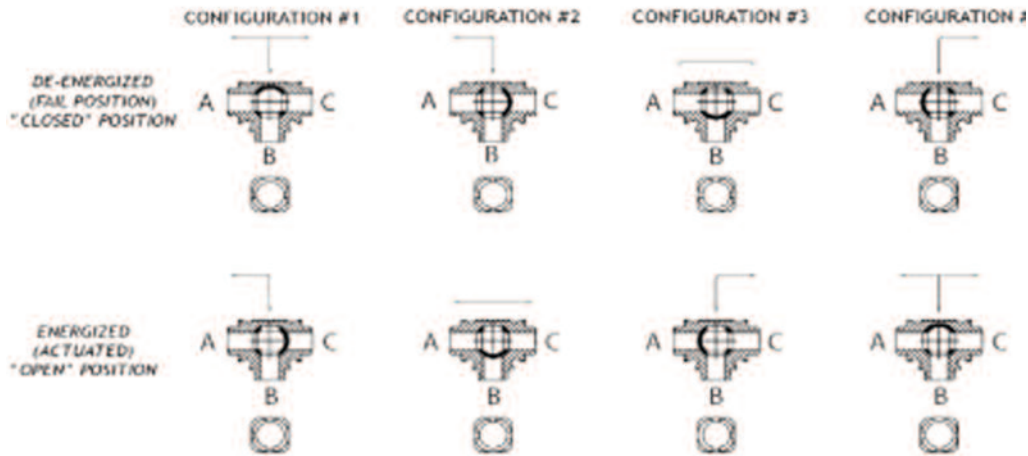


### L-Port Design

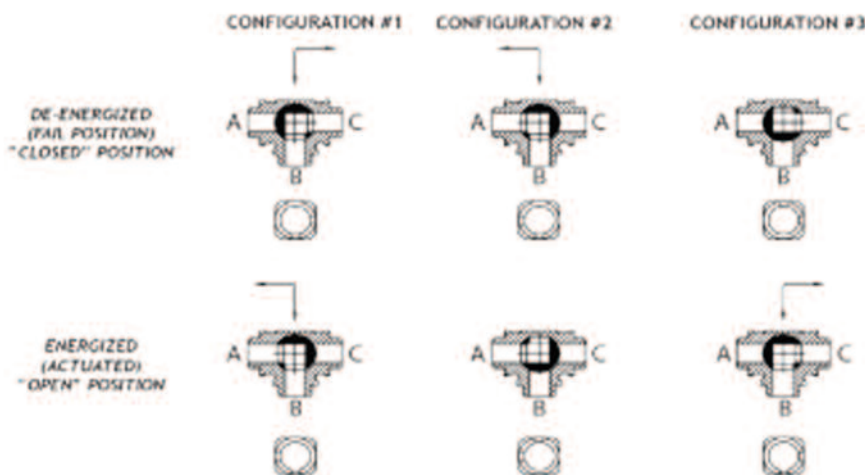


## 3-WAY BALL VALVE CONFIGURATION OPTIONS Reverse - Acting Actuator (CCW to Close, CW to Open)

### T-Port Design



### L-Port Design



## ACTUATED BALL VALVE PART NUMBERING

Example: 93C1.0C(actuator size)D2

1.0 Clamp End 3-Way Ball Valve L Port Configuration 2 with Double Acting Actuator

Valve Body	Size	Finish	Actuator	Action	Fail Position / Flow Pattern	Accessory 1 (Solenoid)	Accessory 2 (Limit Switch)
90C Clamp 2-Way	.5	C Standard	<b>* Contact VNE for Proper Actuator Sizing</b>	S Spring Return	O 2-Way Fail Open	X Omitted	X Omitted
90W Weld 2-Way	.75	D 20 Ra ID		D Double Acting	C 2-Way Fail Closed (Standard)	A 120VAC Nema 4	A 2SPDT Mech. Limit Switches / Dome Ind. Nema 4
93C Clamp 3-Way L Port	1.0	D 15 Ra EP ID		E Fully Electric	1 3-Way Configuration 1 (Standard)	B 24VDC Nema 4	B 2 Inductive Prox. Switches / Dome Ind. Nema 4
93W Weld 3-Way L Port	1.5			P Stainless Steel Spring Return	2 3-Way Configuration 2		
93CT Clamp 3-Way T Port	2.0			Q Stainless Steel Double Acting	3 3-Way Configuration 3		
93WT Weld 3-Way T Port	2.5				4 3-Way Configuration 4		
90AW Orbital Weld 2-Way	3.0				R1 Reverse-Acting 3-Way Configuration 1		
93AW Orbital Weld 3-Way	4.0				R2 Reverse-Acting 3-Way Configuration 2		
					R3 Reverse-Acting 3-Way Configuration 3		
					R4 Reverse-Acting 3-Way Configuration 4		

\*Conditions such as pressure, temperature, type of media, amount and kind of suspended material in the media, and frequency of operation all affect proper actuator sizing.