



# Stainless Steel Valves

## Product Catalog

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### STAINLESS STEEL FITTINGS & MORE

VNE Corporation, located in Janesville, WI - is a leading manufacturer of stainless steel fittings, valves, and specialty related products, both for sanitary and industrial applications. VNE also offers stainless steel sanitary and industrial tubing.

VNE Corporation is dedicated to continuing the traditions that have made its parent company a success; exceptional quality, advanced manufacturing technology, great customer service, and intensive research to develop new products directly related to customer needs. Our reputation is built on these principles.

VNE serves the dairy, food processing, beverage, pharmaceutical, brewery, cosmetics, chemical, water treatment, and many other industries. All orders - large or small - receive our immediate attention and carry the quality, name, and reputation of VNE.



### The NEUMO Ehrenberg Group

The NEUMO Ehrenberg Group is one of the World's largest privately owned manufacturers and distributors of stainless steel products and metal cutting tools. Founded in Germany in 1947 by the late Senator Henry Ehrenberg, the NEUMO Ehrenberg group employs more than 1,300 people worldwide.

The group is an integrated network of member companies operating in three core areas: Stainless Steel Flow Technology, Tooling, and Stainless Steel Trading.

In addition to sales, manufacturing and warehousing locations across three continents, the group is represented through a well-developed network of distributors in more than 40 countries.

Worldwide, the NEUMO Ehrenberg group employs people that are dedicated to turning innovative ideas into leading products and engineering services in order to increase productivity, product quality and profitability for our customers.



## 51 SERIES BUTTERFLY VALVES

Butterfly Valves are available in Manual, Air Actuated, or Air Actuated with proximity switches and 24V Solenoid Valve. Clamp or Weld ends are standard. Other connections are available upon request.

Available seat materials include Silicone, Viton®, and EPDM. Sizes range from 1" through 6". All product contact surfaces are available in either T304L or T316L stainless steel.



### BUTTERFLY VALVES SPECIFICATIONS....

<b>Size:</b>	1" through 6" sizes available
<b>Materials:</b>	T304L, T316L
<b>Finish:</b>	20 Ra $\mu$ -in. ID 32 Ra $\mu$ -in. OD
<b>Connections:</b>	Clamp, Buttweld, other connections available upon request
<b>Seat / Seals:</b>	Silicone seats are standard - other seats available are EPDM and Viton®
<b>Pressure:</b>	Maximum product pressure 145 psi
<b>Temperature Rating:</b>	15° - 200° F  Maximum short time sterilization temperature  266°F EPDM 266°F Silicone 284°F Viton

### ORDERING SPECIFICATIONS....

<b>Specify:</b>	<ul style="list-style-type: none"> <li>• Quantity</li> <li>• Product Description or Part number</li> <li>• Size</li> <li>• Material Type</li> </ul>
<b>Important Features:</b>	<p>Choice of four handles are available.</p> <p>Product Handle Type - 4 position and 12 position. Including a 12 position locking handle.</p> <p>Surface finish meets 3A, FDA and USDA standards. Seats and Seals are FDA approved.</p> <p>Valves marked with heat numbers for full identification and traceability. MTR'S available upon request</p>

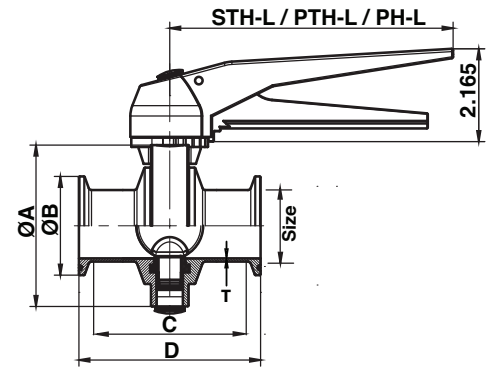
## 51 SERIES BUTTERFLY VALVES

### MANUAL BUTTERFLY VALVES

Size	A	B	C	D	STH-L	PTH-L	PH-L	T	Torque in-lbs
1	3.071	1.988	1.969	2.598	5.709	5.709	5.350	0.065	17
1 1/2	3.386	1.988	1.969	2.756	5.709	5.709	5.350	0.065	40
2	3.937	2.519	2.047	2.992	5.709	5.709	5.350	0.065	78
2 1/2	4.528	3.051	2.205	3.150	5.709	5.709	5.350	0.065	111
3	5.040	3.582	2.283	3.307	5.709	5.709	6.420	0.065	160
4	6.063	4.685	2.520	4.094	5.709	5.709	6.420	0.083	280
6	8.858	6.567	3.150	5.118	*	*	7.280	0.109	531

\* Available with 4 position pull handle only

C column = Weld face to face dimension D column = Clamp face to face dimensions  
Locking trigger handle (LTH) dimensions match the stainless trigger handle (STH)

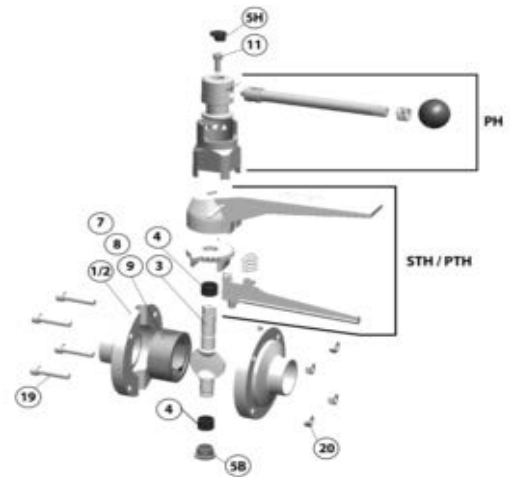


### PARTS LIST

Item	Part Number	Description
1	51-BVP-1-(SIZE)*	Clamp Body
2	51-BVP-2-(SIZE)	Weld Body
3	51-BVP-3-(SIZE)	Disc
4	51-BVP-4-(SIZE)	ABS Bush
5B	51-BVP-5B-(SIZE)	ABS Cap Plug (bottom)
5H	51-BVP-5H-(SIZE)	ABS Cap Plug (handle)
7	51-BVP-7-(SIZE)	Silicone Seat (red)
8	51-BVP-8-(SIZE)	EPDM Seat (red)
9	51-BVP-9-(SIZE)	Viton® Seat (green)
11	51-BVP-11-(SIZE)	Handle Screw
19	51-BVP-19-(SIZE)	Bolt
20	51-BVP-20-(SIZE)	Nut
STH	51-BVP-STH-(SIZE)	12 position stainless trigger handle
LTH	51-BVP-LTH-(SIZE)	12 position stainless locking trigger handle
PTH	51-BVP-PTH-(SIZE)	12 position polymer trigger handle
PH	51-BVP-PH-(SIZE)	4 position pull handle

\* To order above items in T316L stainless steel add a 6 before size. IE: 51-BVP-3-6-(SIZE)

\*\* Included in handle kit - handle screw, cap plug (handle)

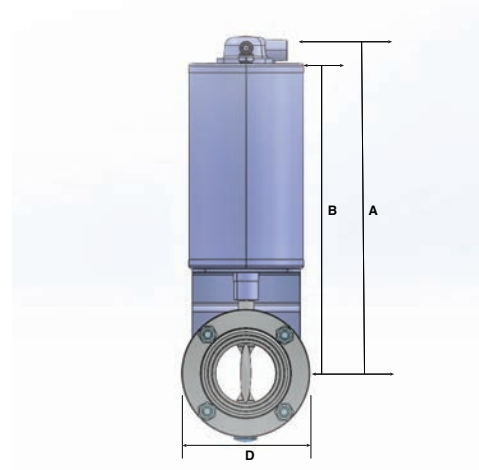
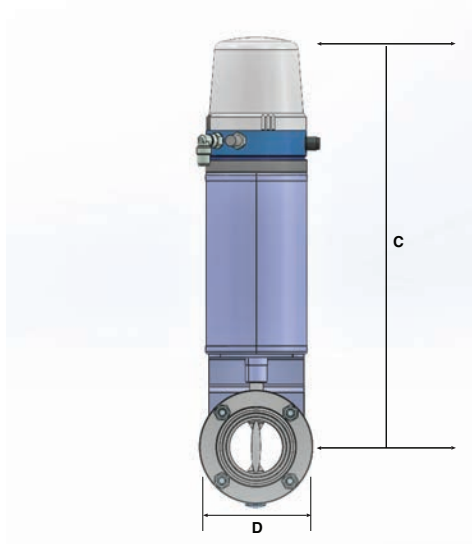


## 51 SERIES BUTTERFLY VALVES

### PNEUMATICALLY OPERATED BUTTERFLY VALVE INFORMATION

- Corrosion resistant 304 stainless steel body
- Polished surface finish and sanitary construction allows for easy cleaning
- Air to open, spring to close is standard
- Unique design provides higher torque at final closing of disc
- One actuator fits 1" through 4" valves
- Air pressure required 72.5-145 psi to operate
- Temperature rating of actuator 15° - 170°F
- No spare parts required
- Maintenance free actuator

Reference the pneumatic actuator VBA section on pages 11-12 for detailed specifications.



### DIMENSIONAL CHART

Size	A	B	C	E
1	9.928	9.082	13.748	3.071
1 1/2	10.090	9.244	13.910	3.386
2	10.360	9.514	14.180	3.937
2 1/2	10.638	9.792	14.458	4.528
3	10.939	10.093	14.759	5.040
4	11.404	10.558	15.224	6.063



## 51 SERIES BUTTERFLY VALVE - PART NUMBERING

Example:		51W	-6	4.0	A	V	VBA	Actuated Valves Only			
								C	-	X	X
<b>Valve Body</b>											
51C	Clamp Ends (standard)										
51W	Weld Ends (standard)										
51CW	Clamp by Weld Ends										
51P	Plain Bevel Ends										
51T	Threaded Bevel Ends										
51PT	Plain by Threaded Bevel Ends										
51M	Male E Line Ends										
51F	Female E Line Ends										
51FM	Female by Male E Line Ends										
51Q	Q Line Ends										
51J	Plain John Perry Ends										
51H	Threaded John Perry Ends										
51JH	Plain by Threaded John Perry Ends										
<b>Material Type</b>											
Blank	T304L										
-6	T316L										
<b>Size</b>											
1.0	2.5	6.0									
1.5	3.0										
2.0	4.0										
<b>Manual / Actuator Designator</b>											
M	Manual Valve										
A	Actuated Valve										
<b>Seat Material</b>											
S	Silicone										
E	EPDM										
V	Viton										
<b>Actuator / Handle</b>											
STH	12 Position Stainless Trigger Handle (standard)										
LTH	12 Position Stainless Locking Trigger Handle										
PTH	12 Position Polymer Trigger Handle										
PH	4 Position Pull Handle										
VBA	Stainless canister spring return pneumatic actuator										
VMON	Stainless canister spring return pneumatic actuator w/ control head										
<b>Fail Position / Flow Pattern</b>											
O	Fail Open										
C	Fail Closed (standard)										
<b>Accessory 1</b>											
X	Omitted / Standard for VBA Actuator										
24V	24VDC VMON control head - solenoid, open/closed proximity switch with LED indicator										
ASI	ASI 3.0 VMON control head - solenoid, open/closed proximity switch with LED indicator										
<b>Accessory</b>											
X	Omitted / Standard for VBA Actuator										

Rack and pinion or fully electric actuators available. Call VNE for sizing.

Namur mounted solenoid valves available on R&P actuators. Call VNE for options.

## “B”SERIES BUTTERFLY VALVES

The “B” series butterfly valves are in the process of being discontinued. The valves will be limited to the supply available on hand or currently in production. Repair and maintenance components such as seats, stem bushings, manual handles, actuators and actuator accessories will still be available for purchase. The 51 series butterfly valves are readily available as an alternative option. If you have any questions regarding this transition please contact your regional sales manager.



### BUTTERFLY VALVES SPECIFICATIONS....

<b>Size:</b>	1" through 4" sizes available
<b>Materials:</b>	T304, T316
<b>Finish:</b>	20 Ra $\mu$ -in. ID 32 Ra $\mu$ -in. OD
<b>Connections:</b>	Clamp, Butt weld, other connections available upon request
<b>Seat/Seals:</b>	Silicone seats are standard- other seats available are EPDM and Viton®
<b>Pressure:</b>	Maximum product pressure 145 psi
<b>Temperature Rating:</b>	15° - 200° F  Maximum short time sterilization temperature  266°F EPDM 266°F Silicone 284°F Viton

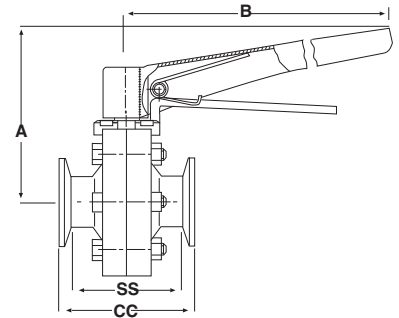
### ORDERING SPECIFICATIONS....

<b>Specify:</b>	<ul style="list-style-type: none"> <li>• Quantity</li> <li>• Product Description or Part number</li> <li>• Size</li> <li>• Material Type</li> </ul>
<b>Important Features:</b>	<p>All stainless handle with eight positions is standard. Each position is set in 45° increments</p> <p>Surface finish meets 3A, FDA and USDA standards. Seats and Seals are FDA approved</p> <p>Valves marked with heat numbers for full identification and traceability. MTR's available upon request</p>

## “B” SERIES BUTTERFLY VALVE

### Manual Butterfly Valve

Size	CC	SS	A	B	# of Bolts
1	2.812	1.812	4.593	7.000	4
1 1/2	2.812	1.812	4.718	7.000	4
2	2.812	1.812	4.937	7.000	6
2 1/2	3.375	2.375	5.156	7.000	6
3	3.750	2.750	5.375	7.000	6
4	4.000	2.750	5.937	7.000	8



### PART NUMBER SEQUENCE WHEN ORDERING MANUAL VALVES

Clamp Connections / Silicone Seat - EGCCB-(Valve Size)

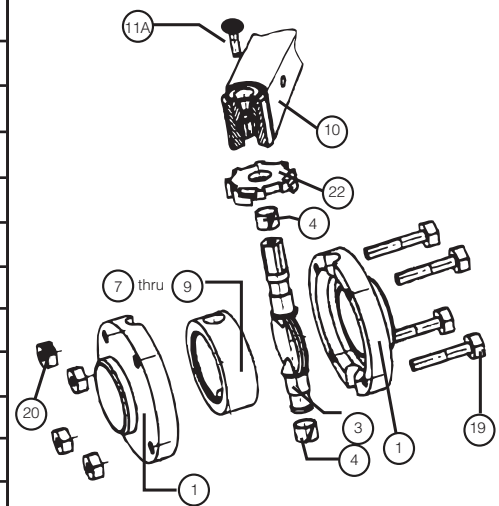
Weld Ends / Silicone Seat - EGSSB-(Valve Size)

Note: To order above items in T316L add a 6 before size (Ex: EGSSB-6-Size)

Note: If other Elastomer is required add suffix as follows: (E) EPDM (V) Viton®

### Parts List

Item	Part Number	Description
1	*BVP-B-96-1-(SIZE)	Body Half-Weld End
1A	*BVP-B-96-1A-(SIZE)	Body Half-Bevel Seat Thread**
2	*BVP-B-96-2-(SIZE)	Body Half-Clamp**
3	*BVP-B-96-3-(SIZE)-H	Disc
4	BVP-B-96-4-(SIZE)-H	Telfon Bushing (2 required)
7	BVP-B-96-7-(SIZE)-H	Seat - Silicone - Orange
8	BVP-B-96-8-(SIZE)-H	Seat - EDPM - Black
9	BVP-B-96-9-(SIZE)-H	Seat - Viton® - Dark Blue
10	BVP-B-96-10	All Stainless Handle
11A	BVP-B-96-11A	Allen Head Handle Seat Screw
19	BVP-B-96-19	Bolts for Body Half
19L	BVP-B-96-19L	Long Bolts for Mounting Actuator Bracket**
20	BVP-B-96-20	Nuts for Body Half
20A	BVP-B-96-20A	Wing Nuts for Body Half**
20AS	BVP-B-96-20AS	Wing Nuts for 3" Body Half Only**
22	BVP-B-96-22	Handle Seat



\*To order above items in T316L stainless steel add a 6 before size. IE: BVP-B-96-1-6-SIZE

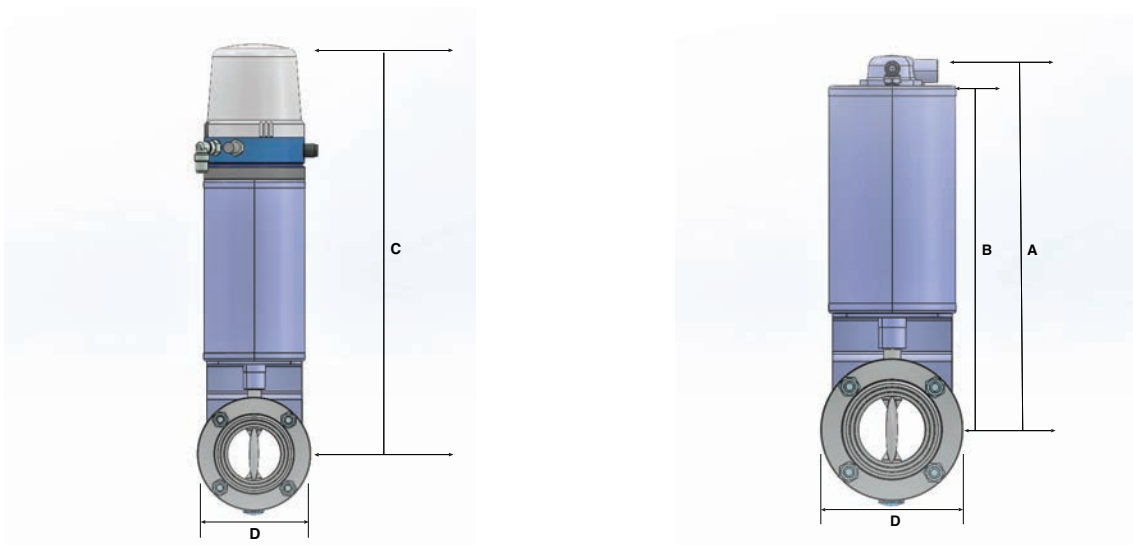
\*\*Item not shown in drawing

## “B” SERIES BUTTERFLY VALVES

### PNEUMATICALLY OPERATED BUTTERFLY VALVE INFORMATION

- Corrosion resistant 304 stainless steel body
- Polished surface finish and sanitary construction allows for easy cleaning
- Air to open, spring to close is standard
- Unique design provides higher torque at final closing of disc
- One actuator fits 1” through 4” valves
- Air pressure required 72.5-145 psi to operate
- Temperature rating of actuator 15° - 170°F
- No spare parts required
- Maintenance free actuator

Reference the pneumatic actuator VBA section on pages 11-12 for detailed specifications.



**DIMENSIONAL CHART**

Size	A	B	C	D
1	9.833	8.987	13.653	2.953
1 1/2	10.012	9.166	13.832	3.188
2	10.377	9.531	14.197	3.656
2 1/2	10.526	9.680	14.346	4.094
3	10.748	9.902	14.568	4.531
4	11.371	10.525	15.191	5.672

## “B” SERIES BUTTERFLY VALVE PNEUMATICALLY OPERATED - PART NUMBERING

Example:		VBA	CCB	-6	NC	2.0	-	E
<b>Actuator</b>								
VBA	Stainless Canister Spring Return Pneumatic Actuator							
VMON24	Stainless Canister Spring Return Pneumatic Actuator with VMON Control Head - 24VDC Solenoid, Open and Close Proximity Switch with LED Indicator							
VMONASI	Stainless Canister Spring Return Pneumatic Actuator with VMON Control Head -AS-I 3.0 Solenoid, Open and Close Proximity Switch with LED Indicator							
<b>Valve Body</b>								
CCB	Clamp Ends (standard)							
SSB	Weld Ends (standard)							
CSB	Clamp by Weld Ends							
PPB	Plain Bevel Ends							
TTB	Threaded Bevel Ends							
PTB	Plain by Threaded Bevel Ends							
MMB	Male E Line Ends							
FFB	Female E Line Ends							
FMB	Female by Male E Line Ends							
QQB	Q Line Ends							
JJB	Plain John Perry Ends							
HHB	Threaded John Perry Ends							
JHB	Plain by Threaded John Perry Ends							
<b>Material Type</b>								
Blank	T304							
-6	T316L							
<b>Fail Position / Flow Pattern</b>								
NO	Fail Open							
NC	Fail Closed (standard)							
<b>Size</b>								
1.0	2.5							
1.5	3.0							
2.0	4.0							
<b>Seat Material</b>								
S	Silicone							
E	EPDM							
V	Viton							

Rack and pinion or fully electric actuators available. Call VNE for sizing.  
 Namur mounted solenoid valves available on R&P actuators. Call VNE for options.

## VBA Pneumatic Canister Actuator for Butterfly Valves

The latest innovation in VNE actuation technology is the VBA pneumatic actuator. The VBA comes standard with a visual position dome indicator allowing for local confirmation of open and close position. The position dome indicator can accommodate twin M12 threaded proximity sensors for remote position indication. The VBA pneumatic actuator allows for easy adaptation of control heads which can include open and close LED position indication controlled by two integrated position sensors combined with an integral solenoid.



### VBA PNEUMATIC ACTUATOR SPECIFICATIONS....

<b>Size:</b>	One actuator fits 1" through 4" sizes
<b>Materials:</b>	T304
<b>Finish:</b>	Polished
<b>Pressure:</b>	Minimum - 72.5 PSI Maximum - 145 PSI
<b>Air Connector: Thread/Push To Connect</b>	1/8" BSP x 1/4"

### ORDERING SPECIFICATIONS....

<b>Specify:</b>	<ul style="list-style-type: none"> <li>• Quantity</li> <li>• Product Description or Part number</li> <li>• Size and type of valve being mounted to</li> </ul>
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Note: Mounting brackets are purchased separately, please see part number section for details.

<b>Important Features:</b>	<ul style="list-style-type: none"> <li>Compact design</li> <li>Robust stainless steel construction</li> <li>Direct drive shaft with double bearing</li> <li>Optimized power transmission</li> <li>Greater torque at opening and seating positions</li> <li>High Reliability - Tested to 1,000,000 cycles</li> <li>Built in position indicator</li> <li>Holding devices for proximity switches included</li> </ul>
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## VBA PNEUMATIC CANISTER ACTUATOR INFORMATION

- The VBA canister actuator item ACT-VBA comes with the visual indicator kit as standard
- The visual indicator kit item ACT-VBA-VISKIT includes the components necessary to mount the visual position dome indicator. It also includes the push to connect air connector and four M10 bolts to mount the valve bracket.
- Valve brackets are sold separately for the 51 series butterfly valves. If you need assistance identifying which bracket is required, please contact VNE.
- The ACT-VBA actuator (introduced January 2020) is a direct replacement for the ACT-AP-NE-B actuator.

### Parts List

Item	Part Number	Description
1	ACT-VBA	Actuator spring return + visual indicator kit
2	ACT-VBA-VISKIT	Visual indicator kit
3	51-BVP-VBA-BRACKET-1.0-2.5	51 series Butterfly Valve bracket 1" - 2.5"
4	51-BVP-VBA-BRACKET-3.0	51 series Butterfly Valve bracket 3"
5	51-BVP-VBA-BRACKET-4.0	51 series Butterfly Valve bracket 4"
6	BVP-B-96-VBA-BRACKET	B series Butterfly Valve bracket 1.0" - 4.0"



ACT-VBA



ACT-VBA-VISKIT



51-BVP-VBA-BRACKET-1.0-2.5  
51-BVP-VBA-BRACKET-3.0  
51-BVP-VBA-BRACKET-4.0



BVP-B-96-VBA-BRACKET

## BALL CHECK VALVES

Check Valves are widely used for both sanitary and industrial applications to prevent backflow of product.

Ball Check Valves are designed to allow full product flow during processing. Once the product flow stops the ball rolls back to the seat at inlet preventing back flow. Ball Check Valves are commonly used with liquid products and installed horizontally. Sizes range 1 1/2" - 3".



### BALL CHECK VALVE SPECIFICATIONS....

<b>Size:</b>	1 1/2" through 3" sizes available
<b>Materials:</b>	T316L
<b>Finish:</b>	32 Ra $\mu$ -in. ID/OD
<b>Connections:</b>	Clamp, Buttweld, other connections available upon request
<b>Seats / Seals:</b>	Buna ball and seats are standard - other seats available are Viton®. Metal detectable and EPDM are available as a special option

### ORDERING SPECIFICATIONS....

**Specify:**

- Quantity
- Product Description or Part number
- Size

**Important Features:**

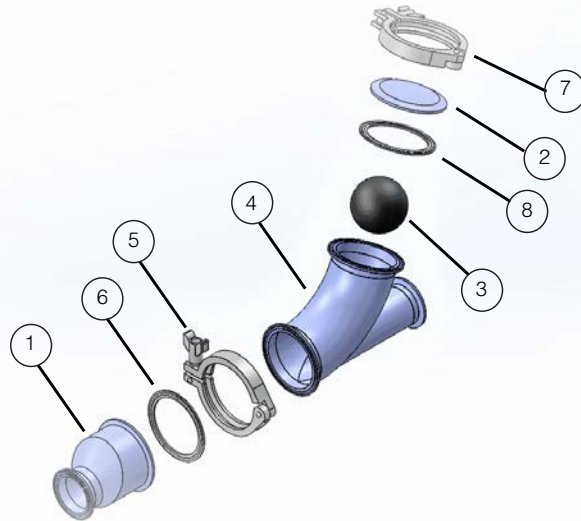
- Precision machined seat to ensure positive shut off
- Two-piece design construction for easier alignment during installation
- Conform to 3A Sanitary Standards for vacuum breakers and check valves. Standard number 58-02. Certificate authorization number 3573. Seats and seals are FDA approved.
- Valves marked with heat numbers for full identification and traceability. MTR'S are available upon request



## Ball Check Valve

### PARTS BREAKDOWN

1. Seat body - (Clamp)
- 1W. Seat body - (Weld)
2. Cap
- 3B. Ball-(Buna-N)
- 3V. Ball-(Viton®)
4. Angle body
- 4W. Angle body-(Weld)
5. Body clamp
- 6B. Body gasket-(Buna-N)
- 6V. Body gasket-(Viton®)
7. Cap clamp
- 8B. Cap gasket-(Buna-N)
- 8V. Cap gasket-(Viton®)



### PART NUMBER SEQUENCE WHEN ORDERING COMPLETE VALVE:

Clamp connections EG45BY-6 (valve size)

Weld ends E45BYWW-6 (valve size)

Note: If Viton® elastomers are required, add "V" after size

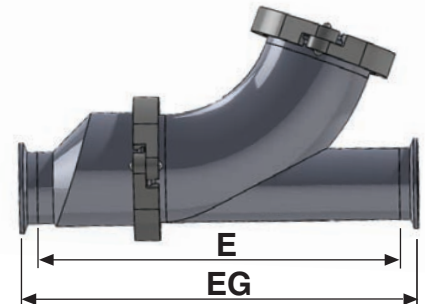
Metal detectable elastomer options are available. Please contact VNE for details.

### PART NUMBER SEQUENCE WHEN ORDERING REPLACEMENT PARTS:

BCV (item number) - (valve size)

Example: BCV3B-1.5 = Buna-N ball for 1.5 valve

Valve Size	Actual Size	Overall Length		Approx. Wt. Lbs.
	Ball	EG Clamp	E Weld	
1 1/2	2.125	10.000	9.000	4.80
2	2.625	11.000	10.000	6.30
2 1/2	3.312	14.125	13.125	10.20
3	3.312	13.625	12.625	11.50



## SPRING CHECK VALVE

Check Valves are widely used for both sanitary and industrial applications to prevent backflow of product.

Spring Check Valves are designed to prevent fluid from flowing back and to create a positive shutoff. They are commonly used with liquid products and installed in the vertical position.



### ORDERING SPECIFICATIONS....

#### SPRING CHECK VALVE SPECIFICATIONS....

<b>Size:</b>	.5" through 4" sizes available
<b>Materials:</b>	T316L
<b>Finish:</b>	32 Ra $\mu$ -in. ID/OD
<b>Connections:</b>	Clamp, Butt weld, other connections available upon request
<b>Seats / Seals:</b>	EPDM and Viton® are standard. Metal detectable, silicone and Kalrez®, are available as a special option.
<b>Pressure:</b>	Maximum product pressure 145 psi
<b>Temperature Rating:</b>	0° - 200° F

#### Specify:

- Quantity
- Product Description or Part number
- Size

#### Important Features:

One piece stem with O-Ring construction. (easy seal replacement and positive shut off)

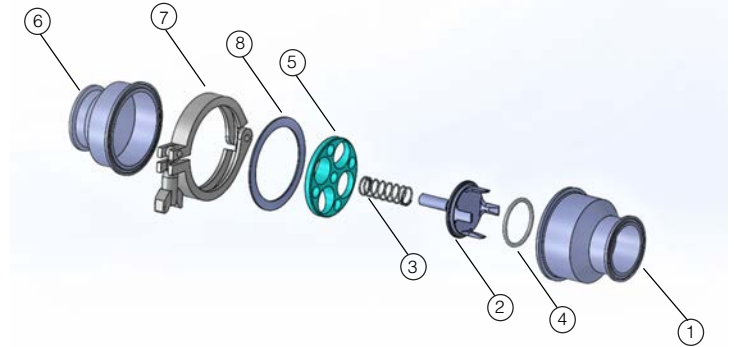
Conform to 3A Sanitary Standards for vacuum breakers and check valves. Standard number 58-02. Certificate authorization number 3573. Seats and seals are FDA approved.

Valves marked with heat numbers for full identification and traceability. MTR'S are available upon request

## SPRING CHECK VALVE

### PARTS BREAKDOWN

1. Lower body - (Body)
2. Stem - (2.0 thru 4.0 have guide fingers)
3. Spring - (3-5 psi) (Available upon request)
- 3L. Spring Light - (1-3 psi) Standard
4. O -Ring - standard Viton
5. Stem guide
6. Upper body - (Bonnet)
7. Body Clamp .5" and .75" = 13MHHM1.5 - H  
Body Clamp 1.0" and 1.5" = 13MHHM2.5 - H  
Body Clamp 2.0" = 13MHHM3.0 - H  
Body Clamp 2.5" = 13MHHM4.0 - H  
Body Clamp 3.0" = 13MHHM5.0 - H  
Body Clamp 4.0" = 13MHP6.0
8. Clamp Gasket .5" and .75" = EG40V 1.5  
Clamp Gasket 1.0" and 1.5" = EG40V 2.5  
Clamp Gasket 2.0" = EG40V 3.0  
Clamp Gasket 2.5" = EG40V 4.0  
Clamp Gasket 3.0" = EG40V 5.0  
Clamp Gasket 4.0" = EG40V 6.0



### PART NUMBER SEQUENCE WHEN ORDERING COMPLETE VALVE:

45 (spring check) C (clamp) 6 (T316L) 2.0 (size) V (seat material) Example: 45C - 6 2.0 - V

When requesting O-Ring changes add the following to the end of part number

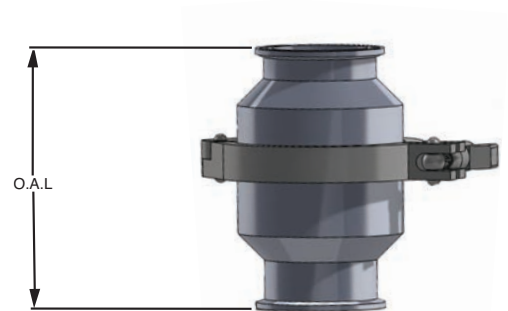
Note: V=Viton E=EDPM S=Silicone Metal detectable elastomer options are available. Please contact VNE for details

### PART NUMBER SEQUENCE WHEN ORDERING REPLACEMENT PARTS:

45-SCV (item number) - (valve size)

Example: 45-SCV1C-1.5 = Lower body clamp for 1.5 valve

Valve Size	Overall Length		Approx Wt. Lbs.
	Standard Clamp	Weld and Other	
1/2	3.500	A.O.R.	2.20
3/4	3.500	A.O.R.	2.20
1	4.125	A.O.R.	3.50
1 1/2	4.562	A.O.R.	3.50
2	5.062	A.O.R.	5.40
2 1/2	5.375	A.O.R.	6.00
3	6.125	A.O.R.	6.25
4	8.125	A.O.R.	16.00



## AIR BLOW CHECK VALVE

Check Valves are widely used for both sanitary and industrial applications to prevent backflow of product.

Air Blow Check Valves are designed to evacuate lines of product or CIP solutions. Air Blow Check Valves are made of T316L Stainless Steel



### ORDERING SPECIFICATIONS....

#### AIR BLOW CHECK VALVE SPECIFICATIONS....

<b>Size:</b>	1.5" through 4" sizes available
<b>Materials:</b>	T316L
<b>Finish:</b>	32 Ra $\mu$ -in. ID/OD
<b>Connections:</b>	Clamp end only
<b>Seats / Seals:</b>	EPDM seats are standard. Other seats available are Viton®

#### Specify:

- Quantity
- Product Description or Part number
- Size

#### Important Features:

Fail Safe Operation - backflow of product or CIP solution prevented by simple air to open, spring to close operation

Easy Assembly / Disassembly  
Clamp connections permit quick disassembly and assembly for replacing Filter Media, cleaning or inspection

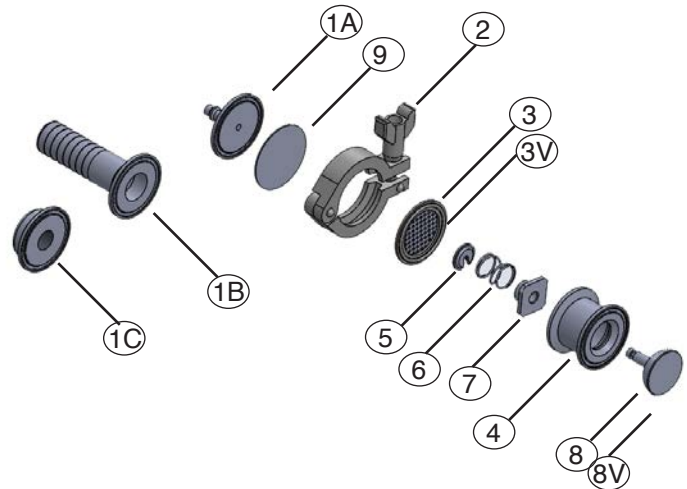
Conform to 3A Sanitary Standards for vacuum breakers and check valves. Standard number 58-02. Certificate authorization number 3573. Seats and seals are FDA approved.

Valves marked with heat numbers for full identification and traceability. MTR'S are available upon request

## AIR BLOW CHECK VALVE

### PARTS LIST

- 1A. Air Line Quick Disconnect - fits all sizes  
.25" Standard / .375" Available
- 1B. Rubber Hose Barb = EG14RT-6L1.0  
1" Standard / Other sizes available upon request
- 1C. FNPT Thermometer Cap = EG23B-6L1.0  
.5" Standard / Other sizes available upon request
- 2. Clamp - fits all sizes = 13MHHM1.5
- 3. 1.5" EPDM Perforated Disc - fits all sizes\*
- 3V. 1.5" Viton® Perforated Disc - fits all sizes\*
- 4. Valve Body
- 5. Spring Retainer - fits all sizes
- 6. Spring - fits all sizes
- 7. Stem Guide - fits all sizes
- 8. EPDM Stem - fits all sizes
- 8V. Viton® Stem - fits all sizes
- 9. Filter Disc - fits all sizes (50 / PKG)



\* Hole diameter of disc: .1/2517 Micron equivalent

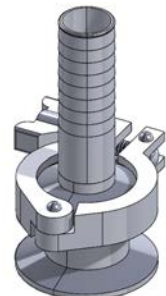
### PART NUMBER SEQUENCE WHEN ORDERING COMPLETE VALVE

- EG62A-6L SIZE = "A" Connection
- EG62B-6L SIZE = "B" Connection (shown)
- EG62C-6L SIZE = "C" Connection
- For Viton® Add "V" to end of part number

### PART NUMBER SEQUENCE WHEN ORDERING REPLACEMENT PARTS:

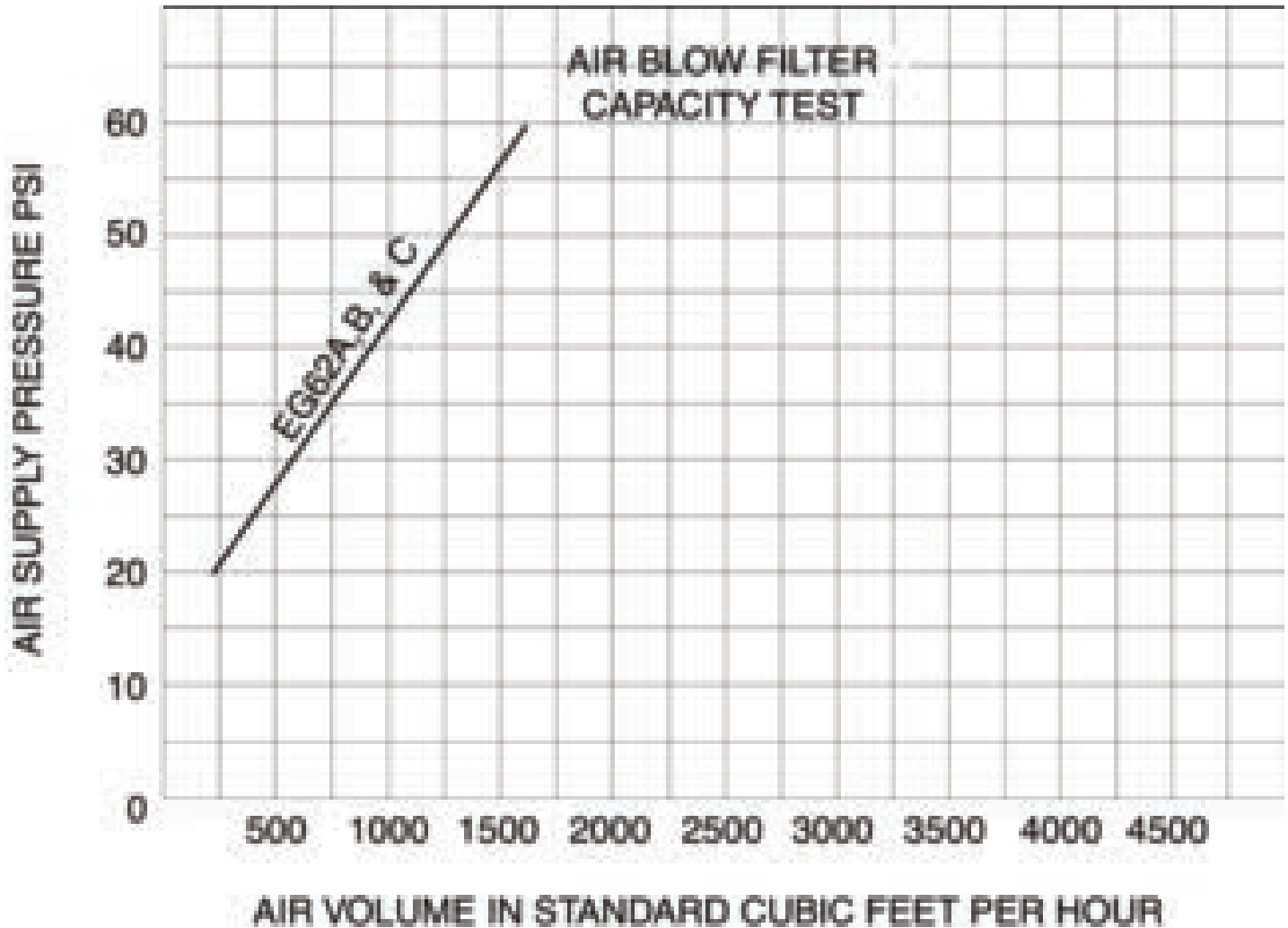
- ABV (item number) - (valve size)
- Example: ABV1A - .25 = .25" Air line quick disconnect (fits all sizes)

Valve Size	Overall Length			Approx. Wt. Lbs.		
	EG62A	EG62B	EG62C	EG62A	EG62B	EG62C
1 1/2	2.500	4.875	2.000	1.20	1.25	1.30
2	2.500	4.875	2.000	1.35	1.40	1.45
2 1/2	2.500	4.875	2.000	1.45	1.50	1.55
3	2.500	4.875	2.000	1.65	1.70	1.75
4	2.500	4.875	2.000	2.15	2.20	2.25



## AIR BLOW CHECK VALVE

### DISPOSABLE AIR FILTER MEDIA CAPACITY TEST



Note: The Air Blow Check Valve must be used with a Filter Disc. These Filter Discs are available in packages of 50.

## AIR BLOW CHECK VALVE

### BALL CHECK WITH AIR BLOW CHECK VALVE

- Air Blow Check Valves are commonly used on ball check valves to evacuate lines of product or CIP solutions
- Easy assembly and disassembly of Air Blow Check Valve
- Buna Ball Check Valve offered standard with EPDM Air Blow Check Valve with Viton® options

### PARTS LIST

#### CLAMP

EG45ABA-6 SIZE = "A" Connection

EG45ABB-6 SIZE = "B" Connection

EG45ABC-6 SIZE = "C" Connection

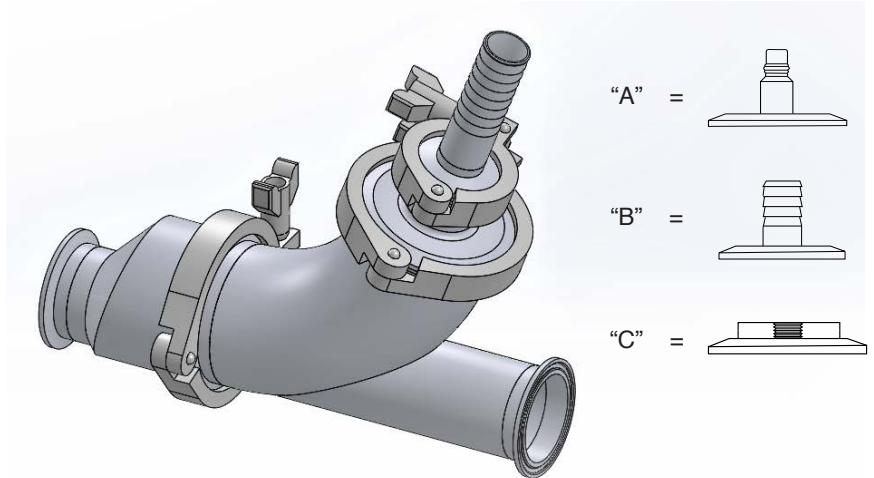
#### WELD

E45WWABA-6 SIZE = "A" Connection

E45WWABB-6 SIZE = "B" Connection

E45WWABC-6 SIZE = "C" Connection

\*For Viton® Ball, Stem, and Elastomers  
Add "V" to end of part number



\* For parts list and dimensional information see individual components

- \* For use on Ball Check Valves:
  - 1 1/2" Ball Check Valve uses 2 1/2" Air Blow Valve
  - 2" Ball Check Valve uses 3" Air Blow Valve
  - 2 1/2" Ball Check Valve uses 4" Air Blow Valve
  - 3" Ball Check Valve uses 4" Air Blow Valve

## 2 - WAY 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 VALVES SPECIFICATIONS....

<b>Size:</b>	1/2" through 4" sizes available
<b>Materials:</b>	Passivated 316 Stainless Steel (ASTM A351, CF8M)
<b>Finish:</b>	20 Ra $\mu$ -in. ID
<b>Connections:</b>	Clamp, Buttweld, Orbital Weld, other connections available upon request
<b>Seat / Seals:</b>	Dyneon TF 1641 PTFE Cavity filler, fully encapsulated
<b>Pressure:</b>	1/2" - 1" 1,000psi 1 1/2" - 2" 1,000psi 2 1/2" - 4" 600 psi
<b>Temperature Rating:</b>	-65° to 320° F

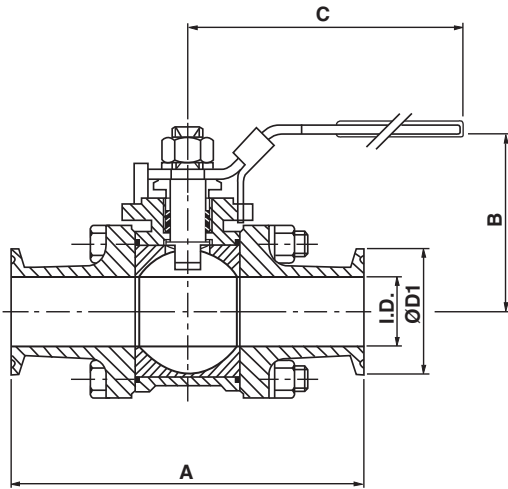
### ORDERING SPECIFICATIONS....

<b>Specify:</b>	<ul style="list-style-type: none"> <li>• Quantity</li> <li>• Product Description or Part number</li> <li>• Size</li> </ul>
<b>Important Features:</b>	<ul style="list-style-type: none"> <li>3-piece design</li> <li>Maintenance and servicing is made easy with removal of a minimal number of bolts</li> <li>Locking device handle</li> <li>ISO-5211 pad - Air Actuated mounting kits available</li> <li>Conform to 3A sanitary standards for Ball-Type valves. Standard number 68-00. Certificate authorization number 3511. Seat and seals are FDA approved.</li> <li>Valves marked with heat numbers for full identification and traceability. MTR'S are available upon request</li> </ul>

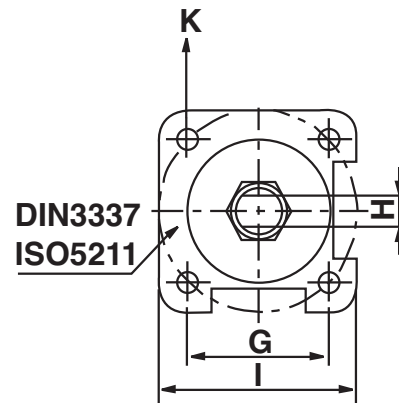
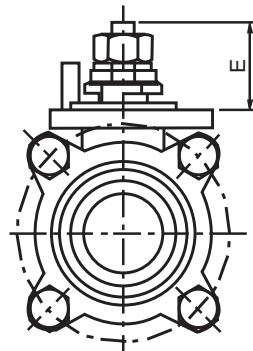
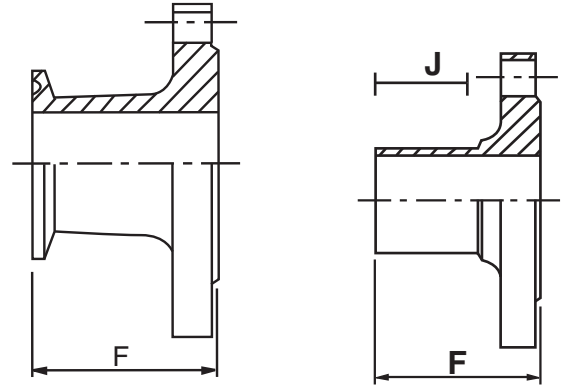


## CLAMP AND WELD VALVES

PART NUMBER EG90CC-6-SIZE = Clamp E90AWF-6-SIZE = Orbital Weld  
E90WW-6-SIZE = Weld



Clamp & Weld



## CLAMP & WELD DIMENSIONS

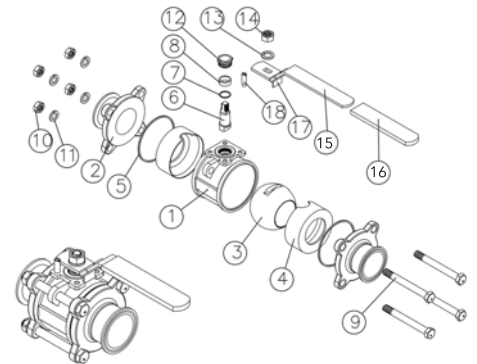
SIZE INCH	ISO-5211	A	B	C	I.D	OD	OD1	E	F	G	H	I	J	K
1/2	F03	3.503	2.362	5.197	0.370	0.500	0.984	0.709	1.291	1.000	0.196	1.456	0.750	10-24
3/4	F03	3.976	2.559	5.197	0.620	0.750	0.984	0.728	1.437	1.000	0.196	1.456	0.750	10-24
1	F04	4.488	2.717	6.496	0.870	1.000	1.984	0.886	1.575	1.770	0.256	1.653	0.875	10-24
1 1/2	F05	5.511	3.504	7.638	1.370	1.500	1.984	1.165	1.713	1.390	0.334	1.968	0.875	1/4-20
2	F06	6.141	3.819	7.638	1.870	2.000	2.516	1.165	1.803	1.390	0.334	1.968	0.875	1/4-20
2 1/2	F07	7.756	5.000	9.921	2.370	2.500	3.047	1.752	2.205	1.950	0.472	2.834	1.375	5/16-18
3	F07	9.015	5.315	9.921	2.870	3.000	3.579	1.752	2.539	1.950	0.472	2.834	1.750	5/16-18
4	F10	9.567	6.260	13.110	3.834	4.000	4.682	1.921	2.386	2.830	0.630	3.740	1.250	3/8-16

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

## CLAMP AND WELD VALVES

### PARTS LIST

Part Number	Description	Material	Qty
BALL-1-(SIZE)	Body	ASTM-A351	1
BALL-2C-(SIZE)	Clamp End	ASTM-A351	2
BALL-2W-(SIZE)	Weld End	ASTM-A351	2
BALL-3-(SIZE)	Ball	A351-CF8M	1
BALL-4-(SIZE)*	Seat	PTFE	2*
BALL-5-(SIZE)*	Gasket	PTFE	2*
BALL-6-(SIZE)	Stem	AISI-316	1
BALL-7-(SIZE)*	Thrust Washer	PTFE	1*
BALL-8-(SIZE)*	Stem Packing	PTFE	1*
BALL-9-(SIZE)	Bolt	AISI-304	4
BALL-10-(SIZE)	Hex Nut	AISI-304	4
BALL-11-(SIZE)	Bolt Washer	AISI-304	4
BALL12-(SIZE)	Gland	AISI-304	1
BALL-13-(SIZE)	Washer	AISI-304	1
BALL-14-(SIZE)	Nut	AISI-304	1
BALL-15-(SIZE)	Handle	AISI-304	1
BALL-16-(SIZE)	Plastic Cover	Plastic	1
BALL-17-(SIZE)	Lock Device	AISI-304	1
BALL-18-(SIZE)	Stop Pin	AISI-304	1
BALLREPAIRKIT-(SIZE)	Repair Kit	Teflon	*Items above



\* items included in the repair kit.

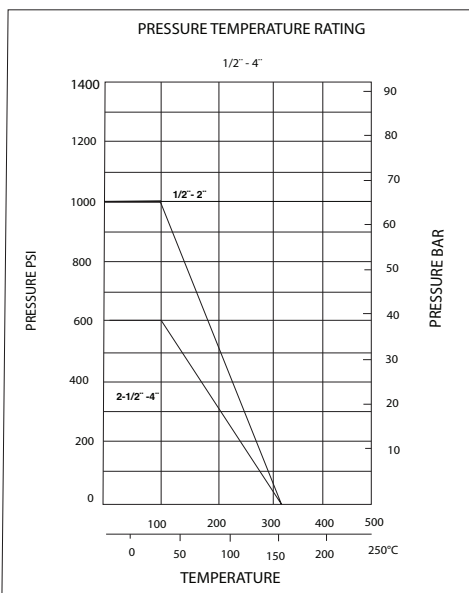
\*\* 4" size valves will have 6 bolts, 6 hex nuts, and 6 washers

### BALL VALVE TORQUE....

2- Way full port stainless steel 316 sanitary ball valve clamp 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

\*To convert In/LBS to FT/LBS - x.083

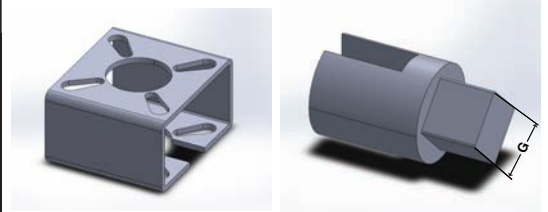


## ACTUATION MOUNTING ACCESSORIES

### ISO 5211 MOUNTING KITS - T304 STAINLESS STEEL

Mounting kits are utilized when automating the VNE 2-way ball valves. Although VNE offers full automation packages sometimes it is required to use a specific brand actuator specified by the end user that we are not able to provide. These mounting kits will assist with mounting to any pneumatic or electric actuator with an ISO 5211 mounting pad and offset square or double star drive shaft. Mounting kit includes the bracket and drive coupler made from T304 Stainless steel. Stainless steel mounting hardware (bolts, threaded studs, washers, nuts) can be provided separately.

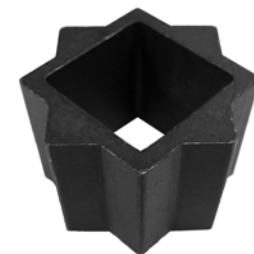
Part Number	ISO Pad	Bracket Height	G Dimension	
			mm	inches
BALLACTMOUNTKIT- .5/.75	F03, F04, F05	1.496	9	0.354
BALLACTMOUNTKIT- 1.0	F04, F05, F07	1.496	11	0.433
BALLACTMOUNTKIT- 1.5/2.0	F04, F05, F07	1.575	14	0.551
BALLACTMOUNTKIT- 2.5/3.0	F07, F10, F12	2.756	17	0.669
BALLACTMOUNTKIT- 4.0	F07, F10, F12	2.756	22	0.866



### STEM SHAFT / ALUMINUM INSERTS

Stem shaft inserts are utilized when the drive coupler of a mounting bracket or direct mount valve stem does not match the exact dimensions of the actuator drive shaft. Stem shaft inserts come in common ISO 5211 drive shaft dimensions and are made from aluminum. Other sizes, shapes and materials are available upon request.

Part Number	ID Dimension	OD Dimension
INSERT .354 X .433	9 mm	11 mm
INSERT .354 X .551	9 mm	14 mm
INSERT .433 X .551	11 mm	14 mm
INSERT .433 X .669	11mm	17 mm
INSERT .551 X .669	14 mm	17 mm
INSERT .551 X .866	14 mm	22 mm
INSERT .669 X .866	17 mm	22 mm
INSERT .669 X 1.063	17 mm	27 mm
INSERT .866 X 1.063	22 mm	27 mm



## 3 - WAY 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 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 valves.



### BALL VALVES SPECIFICATIONS....

<b>Size:</b>	1/2" through 4" sizes available
<b>Materials:</b>	Passivated 316 Stainless Steel (ASTM A351, CF8M)
<b>Finish:</b>	20 Ra $\mu$ -in. ID
<b>Connections:</b>	Clamp, Weld, other connections available upon request
<b>Seat / Seals:</b>	Dyneon TF 1641 PTFE Cavity filler, fully encapsulated
<b>Pressure:</b>	1/2" - 2" 1,000psi 2 1/2" - 3" 600psi 4" 400 psi
<b>Temperature Rating:</b>	-65° to 320° F

### ORDERING SPECIFICATIONS....

<b>Specify:</b>	<ul style="list-style-type: none"> <li>• Quantity</li> <li>• Product Description or Part number</li> <li>• Size</li> </ul>
<b>Important Features:</b>	<ul style="list-style-type: none"> <li>100% Tested</li> <li>Locking device handle</li> <li>ISO-5211 mounting pads standard on all valves</li> <li>Repair kits are available</li> <li>Full Port L and T flow configurations are standard</li> <li>Conform to 3A sanitary standards for Ball-Type valves. Standard number 68-00. Certificate authorization number 3511. Seat and seals are FDA approved.</li> <li>Valves marked with heat numbers for full identification and traceability. MTR'S are available upon request</li> </ul>

## 3 - WAY BALL VALVES

Clamp and Weld Valves (L Port)

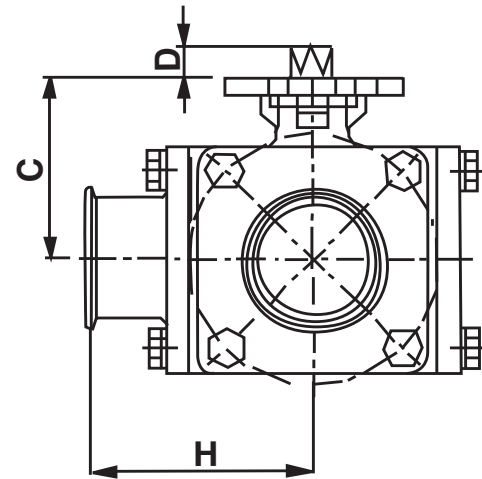
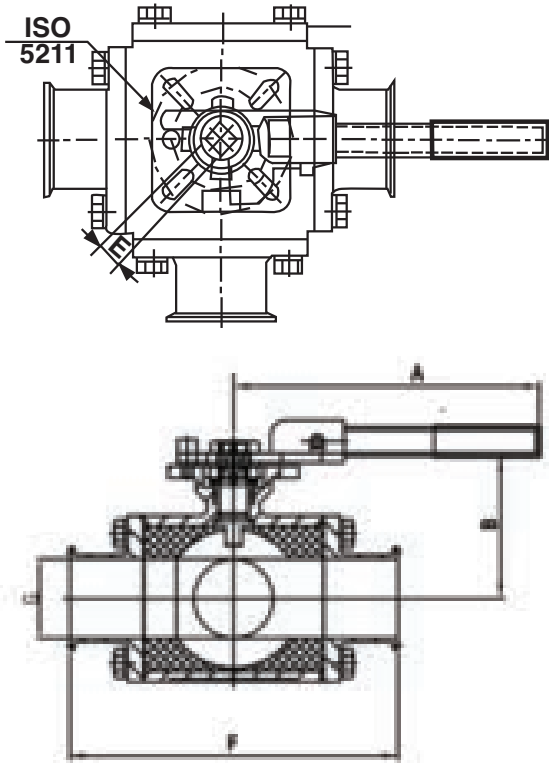
Part Number EG93CCC - 6 - Size = Clamp L Port

Part Number E93WWW - 6 - Size = Weld L Port

Clamp and Weld Valves (T Port)

Part Number EG93CCC - 6 - Size- T = Clamp T Port

Part Number E93WWW - 6 - Size- T = Weld T Port



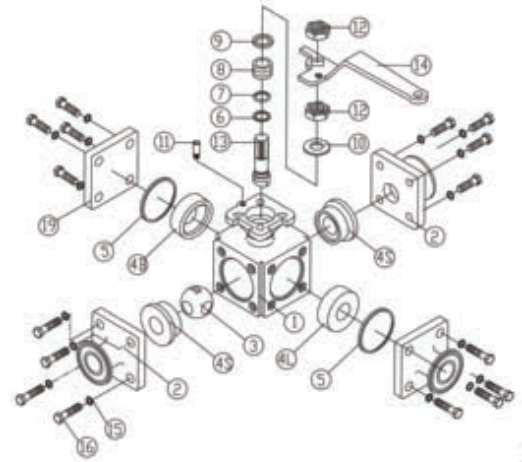
Size / Inch	ISO-5211	A	B	C	D	E	F	G	H
1/2	F03/F04	4.764	3.071	1.752	0.354	0.354	4.646	0.370	2.322
3/4	F03/F04	4.764	3.228	1.890	0.354	0.354	5.000	0.620	2.499
1	F04/F05	5.394	3.543	2.323	0.433	0.433	6.000	0.870	2.999
1 1/2	F05/F07	7.165	4.173	2.835	0.551	0.551	6.890	1.370	3.444
2	F05/F07	7.165	4.516	3.228	0.551	0.551	7.480	1.870	3.740
2 1/2	F07/F10	14.606	4.291	3.976	0.669	0.669	8.976	2.370	4.212
3	F10/F12	15.984	5.276	4.941	0.886	0.866	10.236	2.870	4.803
4	F10/F12/F14	15.984	5.748	5.354	0.886	0.866	11.417	3.834	5.688

## CLAMP AND WELD VALVES

### PARTS LIST

Part Number	Description	Material	Qty
BALL-3-1-(SIZE)	Body	A351-CF8M	1
BALL-3-2C-(SIZE)	Clamp End	A351-CF8M	3
BALL-3-2W-(SIZE)	Weld End	A351-CF8M	3
BALL-3-3-(SIZE)	L-Port Ball	A351-CF8M	1
BALL-3-3-(SIZE)-T	T-Port Ball	A351-CF8M	1
BALL-3-4L-(SIZE)*	Seat Large	PTFE	2
BALL-3-4S-(SIZE)*	Seat Small	PTFE	1
BALL-3-4B-(SIZE)*	Seat Back	PTFE	1
BALL-3-5(SIZE)*	Gasket	PTFE	2
BALL-3-6-(SIZE)*	Thurst Washer	PTFE	1
BALL-3-7-(SIZE)*	O-Ring	VITON	1
BALL-3-8-(SIZE)*	Stem Packing	PTFE	1
BALL-3-9-(SIZE)	Ring	AISI-316	1
BALL-3-10-(SIZE)	Bevel Washer	AISI-304	1
BALL-3-11-(SIZE)	Stop Pin	AISI-316	1
BALL-3-12-(SIZE)	Nut	AISI-304	2
BALL-3-13-(SIZE)	Stem	AISI-316	1
BALL-3-14-(SIZE)	Handle	AISI-304	1
BALL-3-15-(SIZE)	Washer	AISI-304	16
BALL-3-16-(SIZE)	Bolt	AISI-304	16
BALL-3-17-(SIZE)	Prevailing Device	AISI-304	1
BALL-3-18-(SIZE)	Nut Handle	AISI-304	1
BALL-3-19-(SIZE)	Body Cap	A351-CF8M	1
BALL-3-KIT-(SIZE)	Repair Kit	PTFE/VITON	*items above

\* items included in the repair kit

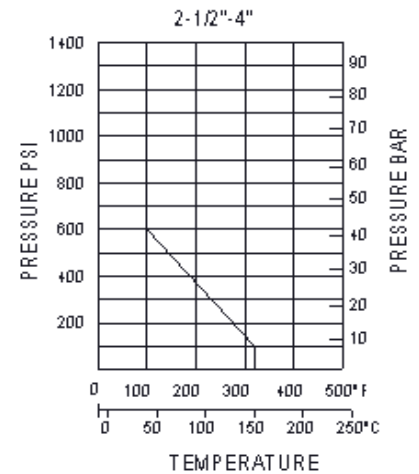
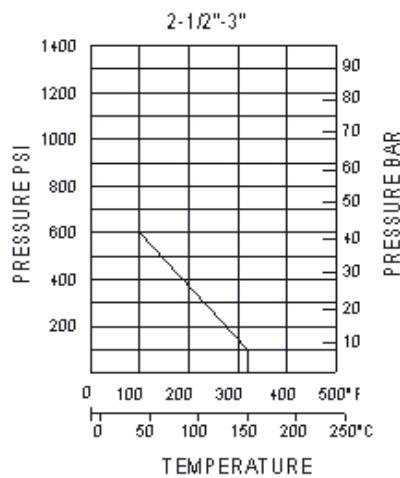
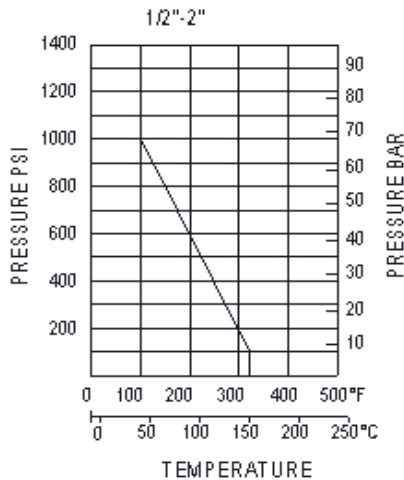


## BALL VALVE TORQUE...

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 ---	2200	In-Lbs

## WORKING PRESSURE CHARTS



## ACTUATED 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 2-way and 3-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.

VNE offers many options on automated valves.



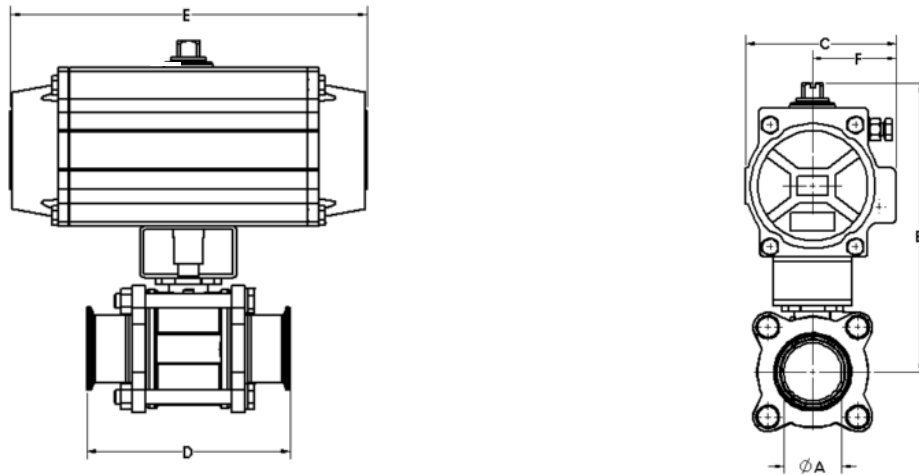
### BALL VALVES SPECIFICATIONS....

<b>Size:</b>	1/2" through 4" sizes available
<b>Materials:</b>	Passivated 316 Stainless Steel (ASTM A351, CF8M)
<b>Finish:</b>	20 Ra $\mu$ -in. ID
<b>Connections:</b>	Clamp, Buttweld, Orbital Weld, other connections available upon request
<b>Seat / Seals:</b>	Dyneon TF 1641 PTFE Cavity filler, fully encapsulated
<b>Pressure:</b>	Reference applicable manual valve specifications
<b>Temperature Rating:</b>	Reference applicable manual valve specifications

### ORDERING SPECIFICATIONS....

<b>Specify:</b>	<ul style="list-style-type: none"> <li>• Quantity</li> <li>• Product Description or Part number</li> <li>• Size</li> <li>• Material Type</li> </ul>
<b>Important Features:</b>	<p>100% Tested</p> <p>Available with pneumatic and electric actuators</p> <p>Conform to 3A sanitary standards for Ball-Type valves. Standard number 68-00. Certificate authorization number 3511. Seat and seals are FDA approved</p> <p>Valves marked with heat numbers for full identification and traceability. MTR'S are available upon request</p>





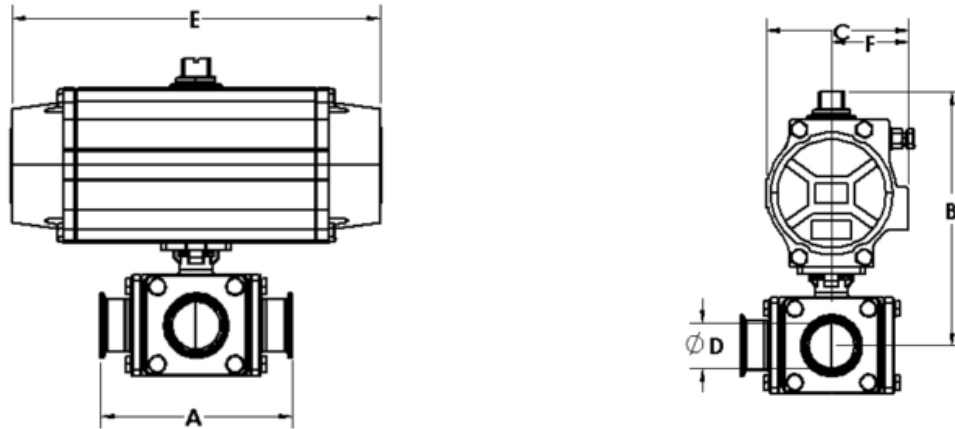
## DIMENSIONS 2-WAY SPRING RETURN ACTUATED VALVE

Valve Part Number Clamp End Valve	Size	A	B	C	D	E	F	Weight	Cv Value
90C.5C/52-5SC-XX	1/2	0.370	6.177	2.790	3.504	5.490	1.610	4.16	9
90C.75C/52-5SC-XX	3/4	0.620	6.355	2.790	3.976	5.490	1.610	4.46	26
90C1.0C/63-5SC-XX	1	0.870	6.814	3.170	4.488	6.380	1.770	6.75	61
90C1.5C/75-5SC-XX	1 1/2	1.370	8.075	3.720	5.512	8.150	2.070	12.70	193
90C2.0C/100-5SC-XX	2	1.870	9.227	4.850	6.142	10.690	2.680	22.80	432
90C2.5C/115-5SC-XX	2 1/2	2.370	12.490	5.390	7.756	12.910	2.870	41.88	728
90C3.0C/125-5SC-XX	3	2.870	13.303	5.830	9.016	14.410	3.150	51.40	1125
90C4.0C/161-5SC-XX	4	3.834	15.630	7.350	9.567	16.930	3.940	111.20	1986

## DIMENSIONS 2-WAY AIR TO AIR ACTUATED VALVE

Valve Part Number Clamp End Valve	Size	A	B	C	D	E	F	Weight	Cv Value
90C.5C/32DC-XX	1/2	0.370	5.214	1.770	3.504	4.650	0.890	2.62	9
90C.75C/52DC-XX	3/4	0.620	6.355	1.770	3.976	4.650	0.890	2.92	26
90C1.0C/52DC-XX	1	0.870	6.374	2.790	4.488	5.490	1.610	5.03	61
90C1.5C/63DC-XX	1 1/2	1.370	7.425	3.170	5.512	6.380	1.770	9.02	193
90C2.0C/75DC-XX	2	1.870	8.267	3.720	6.142	8.150	2.070	11.66	432
90C2.5C/85DC-XX	2 1/2	2.370	11.070	4.170	7.756	9.350	2.300	25.35	728
90C3.0C/85DC-XX	3	2.870	11.413	4.170	9.016	9.350	2.300	32.03	1125
90C4.0C/115DC-XX	4	3.834	13.640	5.390	9.567	12.910	2.870	63.91	1986

Dimensions shown are for assemblies sized for 80 PSI air supply. 1.2 Safety factor for clean liquid products. 90C part number designates a clamp end valve. -XX Designates no solenoid, control top or positioner. See part number structures on page 34 for designators for other end connections, fail positions and add on accessories.



### DIMENSIONS 3-WAY SPRING RETURN ACTUATED VALVE

Valve Part Number Clamp End Valve	Size	A	B	C	D	E	F	Weight	Cv Value
93C.5C/63-5S1-XX	1/2	4.646	7.170	3.170	0.370	6.380	1.770	7.59	L=8 T=6
93C.75C/63-5S1-XX	3/4	5.000	7.290	3.170	0.620	6.380	1.770	8.29	L=17 T=13
93C1.0C/75-5S1-XX	1	6.000	6.920	3.720	0.870	8.150	2.070	13.70	L=25 T=19
93C1.5C/100-5S1-XX	1 1/2	6.890	8.380	4.850	1.370	10.690	2.680	27.40	L=62 T= 46
93C2.0C/125-5S1-XX	2	7.480	10.080	4.290	1.870	9.650	2.360	47.01	L=148 T=92
93C2.5C/161-5S1-XX	2 1/2	8.976	12.680	7.350	2.370	16.930	3.940	93.04	L=247 T=156
93C3.0C/161-6S1-XX	3	10.236	13.740	7.350	2.870	16.930	3.940	110.04	L=351 T=230
93C4.0C/181-6S1-XX	4	11.417	15.350	8.040	3.834	18.980	4.020	133.10	Contact VNE

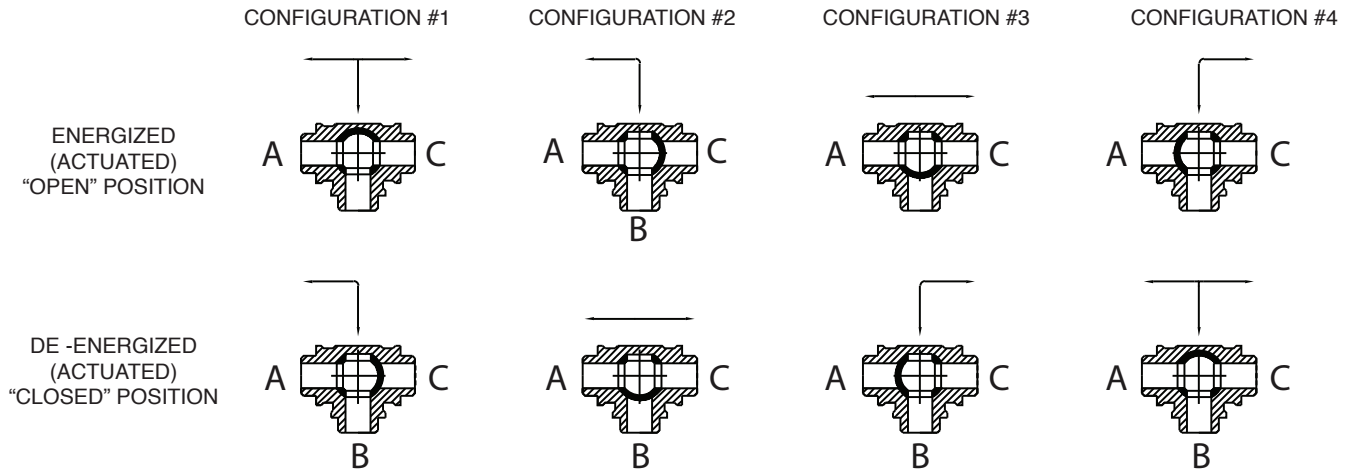
### DIMENSIONS 3-WAY AIR TO AIR ACTUATED VALVE

Valve Part Number Clamp End Valve	Size	A	B	C	D	E	F	Weight	Cv Value
93C.5C/52D1-XX	1/2	4.646	5.280	2.790	0.370	5.490	1.610	6.25	L=8 T=6
93C.75C/52D1-XX	3/4	5.000	5.400	2.790	0.620	5.490	1.610	7.25	L=17 T=13
93C1.0C/52D1-XX	1	6.000	5.850	2.790	0.870	5.490	1.610	9.25	L=25 T=19
93C1.5C/75D1-XX	1 1/2	6.890	7.420	3.720	1.370	8.150	2.070	19.51	L=62 T= 46
93C2.0C/85D1-XX	2	7.480	10.080	4.290	1.870	9.650	2.360	21.39	L=148 T=92
93C2.5C/115D1-XX	2 1/2	8.976	10.290	5.390	2.370	12.910	2.870	45.75	L=247 T=156
93C3.0C/115D1-XX	3	10.236	11.360	5.390	2.870	12.910	2.870	62.75	L=351 T=230
93C4.0C/140D1-XX	4	11.417	13.660	6.630	3.834	15.790	3.540	96.46	Contact VNE

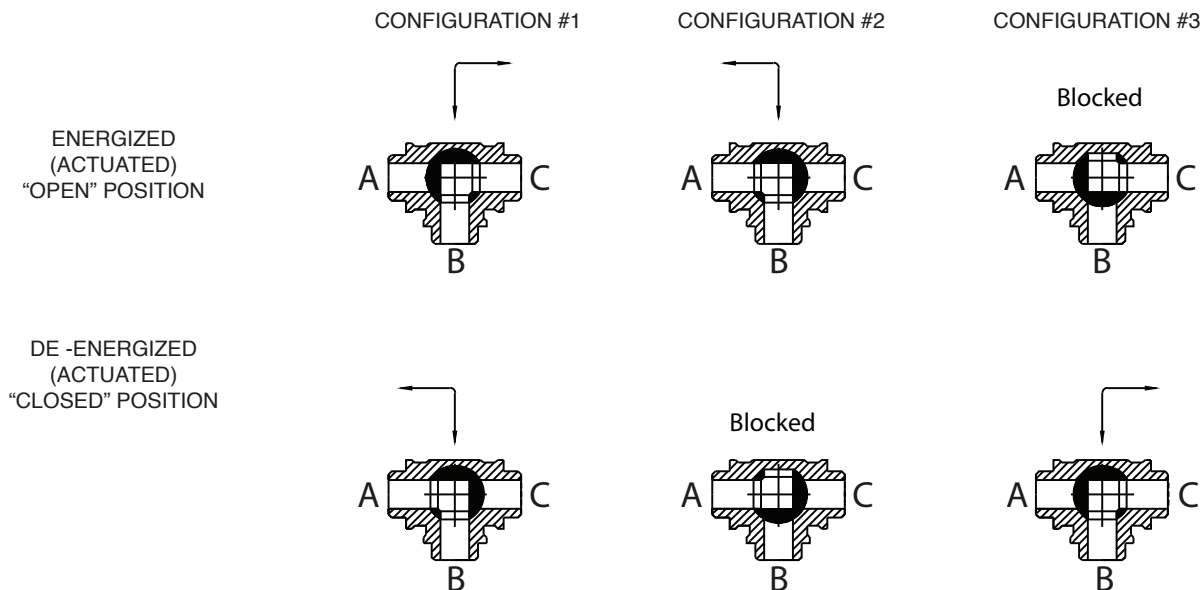
Dimensions shown are for assemblies sized for 80 PSI air supply. 1.2 Safety factor for clean liquid products. 93C part number designates a clamp end valve. -XX Designates no solenoid, control top or positioner. See part number structures on page 34 for designators for other end connections, flow configurations and add on accessories.

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

### T-Port Design



### L-Port Design

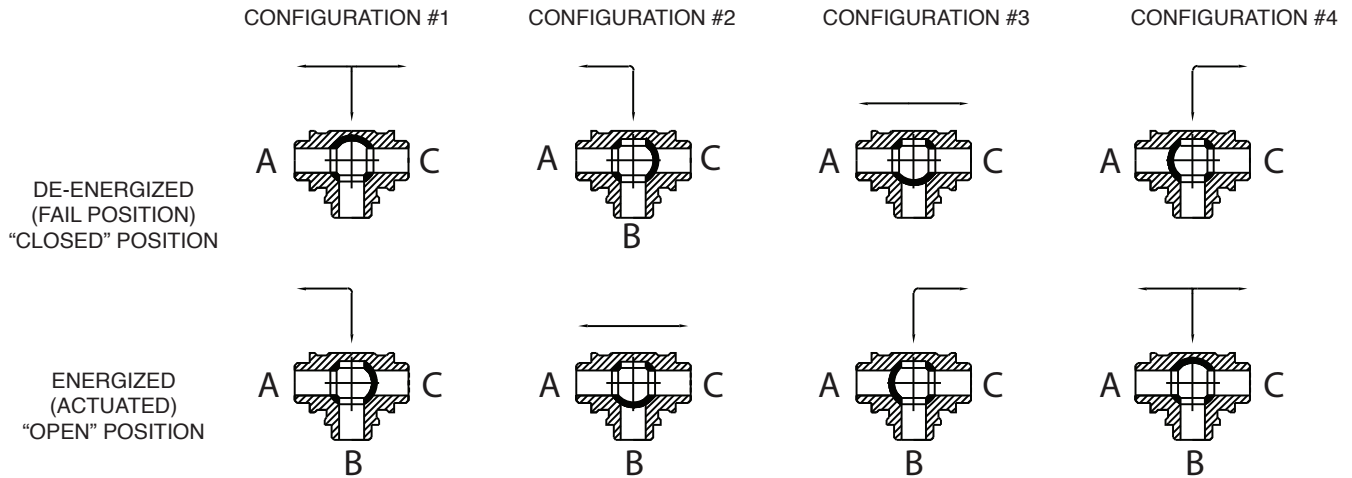


180° rotation actuators allowing for 2 or 3 position control are available upon request

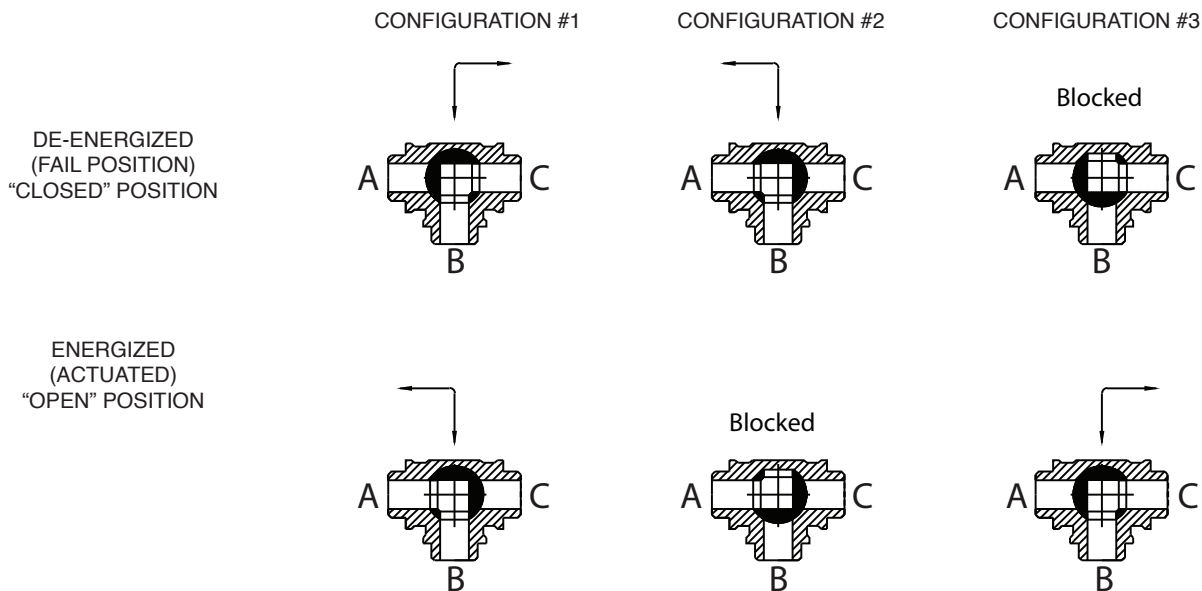
## 3-WAY BALL VALVE CONFIGURATION OPTIONS

### Reverse Actuator (CCW to Close, CW to Open)

#### T-Port Design



#### L-Port Design



180° rotation actuators allowing for 2 or 3 position control are available upon request

## ACTUATED BALL VALVE PART NUMBERING

Example:		90C	1.0	C	/	*	S	C	-	X	X
<b>Valve Body</b>											
90C	Clamp 2-Way										
90W	Weld 2-Way										
93C	Clamp 3-Way										
93W	Weld 3-Way L Port										
93CT	Clamp 3-Way T port										
93WT	Weld 3-Way T Port										
90AW	Orbital Weld 2-Way										
93AW	Orbital Weld 3-way										
<b>Size</b>											
.5	1.5	3.0									
.75	2.0	4.0									
1.0	2.5										
<b>Finish</b>											
C	Standard 20 Ra ID										
D	15 Ra EP ID										
<b>Actuator</b>											
*Standard sizing for 80 PSI air supply and 1.2 safety factor is listed on pages 30&31											
<b>Action</b>											
S	Spring Return										
D	Double Acting										
E	Fully Electric										
P	Stainless Steel Spring Return										
Q	Stainless Steel Double Acting										
<b>Fail Position / Flow Pattern</b>											
O	2-Way Fail Open										
C	2-Way Fail Closed (Standard)										
1	3-Way Configuration 1 (Standard)										
2	3-Way Configuration 2										
3	3-Way Configuration 3										
4	3-Way Configuration 4										
R1	Reverse-Acting 3-Way Configuration 1										
R2	Reverse-Acting 3-Way Configuration 2										
R3	Reverse-Acting 3-Way Configuration 3										
R4	Reverse-Acting 3-Way Configuration 4										
<b>Accessory 1 (Solenoid)</b>											
X	Ommitted										
A	120VAC Nema 4										
B	24VDC Nema 4										
<b>Accessory 2 (Limit Switch)</b>											
X	Ommitted										
A	2SPDT Mech. Limit Switches / Dome Ind. Nema 4										

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\*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.

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