



### BV3S/4S-Series Sanitary Multi-Port Ball Valve

#### Applications

- The BV3S/4S-series sanitary multi-port ball valve can be used for diversion or control of processing fluid
- They are found in the food processing, beverage, winery, brewery, pet product, and industrial markets

#### Sizes

- 1/2" to 4"

#### Features

- Live-loaded stem packing
- Integral ISO 5211 mounting pad
- Lockable handle can prevent accidental actuation
- Standard internal entry blow-out proof stem design
- Precision stainless steel balls reduce torque and friction losses while extending shelf life
- Full port design on 1/2" through 3" and reduced port design on 4"
- Compact design for areas with tight space restrictions
- Fully encapsulated construction produces bubble tight seal
- Identification tagging available
- Balanced encapsulated construction minimizes cold flow

#### Specifications

- Standard connections: clamp
- Valve data
  - Maximum pressure
    - 1/2" to 2": **1000 PSI WOG**
    - 2-1/2" to 4": **800 PSI WOG**
- Materials of construction:
  - Product contact metal components: CF8M
  - Non-product contact metal components: 304 stainless steel
  - Product contact seals: virgin PTFE, 15% reinforced PTFE, UHMW polyethylene, 50% stainless steel reinforced PTFE, 25% carbon reinforced PTFE
- Surface finish
  - Product contact metal components:  $\leq 32$  Ra
  - Non-product contact metal components: as cast or  $Ra \leq 63$
  - Seat lubricant: BESSI F-100
  - Stem lubricant: G.A. BESSIL 25



### BV3S/4S-Series Multi-Port Sanitary Ball Valve - Part Number Key

BV3S/4S-Series Multi-Port Sanitary Ball Valve Part Number Key Example: BV3SVTF050C-A		Valve Style	Seat Material	Ball Configuration	Port Size	Size	Connections		Handle	Surface Finish
		BV3S	V	T	F	050	C	-	A	
<b>Valve Style</b>	<b>Code</b>									
3-way	BV3S	←								
4-way	BV4S									
<b>Seat Material</b>	<b>Code</b>									
Virgin PTFE	V	←								
15% glass reinforced PTFE	G									
25% carbon reinforced PTFE	C									
50% stainless steel reinforced PTFE	S									
Ultra high molecular weight polyethylene	U									
<b>Ball Configuration</b>	<b>Code</b>									
T Port	T	←								
L Port	L									
<b>Port Size</b>	<b>Code</b>									
Full port	F	←								
Reduced port (4" only)	R									
<b>Size</b>	<b>Code</b>									
1/2"	050	←								
3/4"	075									
1"	100									
1-1/2"	150									
2"	200									
2-1/2"	250									
3"	300									
4"	400									
<b>Connections</b>	<b>Code</b>									
Clamp (standard)	C	←								
Weld	B									
Female I-Line	F									
Male I-Line	M									
Threaded Bevel	T									
Plain Bevel with Nut	P									
Q-Line	Q									
John Perry Plain with Nut	J									
John Perry Threaded	H									
<b>Handle</b>	<b>Code</b>									
Manual Handle	A	←								
<b>Surface Finish</b>	<b>Code</b>									
32 Ra I.D.	blank	←								
25 Ra I.D.	-2									
20 Ra I.D.	-1									
15 Ra I.D.	-4									
10 Ra I.D.	-7									

**BV3S/4S-Series Actuated Ball Valve - Part Number Key**

<b>BV3/4S-Series Multi-Port Sanitary Ball Valve Part Number Key</b> Example: BV3SVTF050C-A		Valve Style	Seat Material	Size	Connections	Surface Finish
		3CL	V	50	C	A
<b>Valve Style</b>	<b>Code</b>					
3-Way L-Port	3CL	←	←	←	←	←
3-Way T-Port	3CT					
4-Way L-Port	4CL					
4-Way T-Port	4CT					
<b>Seat Material</b>	<b>Code</b>					
Virgin PTFE	V					
RTFE (15% glass reinforced PTFE)	G					
25% carbon reinforced PTFE	C					
50% stainless steel reinforced PTFE	S					
UHMW	U					
<b>Size</b>	<b>Code</b>					
1/2"	50					
3/4"	75					
1"	10					
1-1/2"	15					
2"	20					
2-1/2"	25					
3"	30					
4"	40					
<b>Connections</b>	<b>Code</b>					
Clamp	C					
Weld	B					
Female I-Line	F					
Male I-Line	M					
Threaded Bevel	T					
Plain Bevel with Nut	P					
Q-Line	Q					
Female NPT	1					
Flange	K					
<b>Surface Finish</b>	<b>Code</b>					
32 Ra	A					
25 Ra	B					
20 Ra	C					
15 Ra	D					
10 Ra	E					

Continue number selection by following column 1 or 2 on page 5.

## BV3S/4S-Series Actuated Ball Valve - Part Number Key

1. Pneumatic Actuator, Spring Return Manual Handle, or Manual Handle with Feedback				2. Electric Actuator				
Actuator	Feedback	Control	Flow Path	Actuator	Voltage	Option 1	Option 2	Flow Path
1	00	XX	10	E	B	1	1	12
<b>Actuator</b>			<b>Code</b>	<b>Actuator</b>			<b>Code</b>	
Aluminum Spring Return Pneumatic Rack and Pinion			1	Electric			E	
Aluminum Double Acting Pneumatic Rack and Pinion			2	Oversized (1-UP) Electric			F	
Stainless-Steel Spring Return Pneumatic Rack and Pinion			3	Nema 7 Electric			G	
Stainless-Steel Double Acting Pneumatic Rack and Pinion			4	Electric with Riser Kit			H	
Manual Handle			5	<b>Voltage</b>			<b>Code</b>	
Dead Man Spring Return Handle			6	115VAC			B	
Oversized (1-UP) Aluminum Spring Return Pneumatic Rack and Pinion			7	12VDC			C	
Technopolymer Spring Return Pneumatic Rack and Pinion			8	24VAC			D	
Oversized (1-UP) Aluminum Double Acting Pneumatic Rack and Pinion			9	24VDC			E	
<b>Feedback</b>			<b>Code</b>	220VAC			F	
None			00	12VAC			G	
Limit Switch Box, Position Indicator, (2) SPDT Mech. Switches			11	<b>Option 1</b>			<b>Code</b>	
Limit Switch Box, Position Indicator, (2) Switches, Magnetic Reed SPDT, Hermetically Sealed, up to SIL3, Exia ready, cULusClass 1/2 Div1/2			12	None			1	
Limit Switch Box, Position Indicator, AS-I			13	Torque switches			2	
Limit Switch Box, Position Indicator, (2) Proximity SPDT Switches, Aluminum Exd IIB certified enclosure			14	4-20 mA input/output modulating controller			3	
Limit Switch Box, Position Indicator, (2) DPDT Mech. Switches			15	Current position transmitter			4	
Limit Switch Box, Position Indicator, (2) Switches, Electro mec. SPDT, silver contacts, up to SIL3, cULus Class 1/2 Div 1			16	Potentiometer			5	
Limit Switch Box, Position Indicator, Inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO			17	Local control unit			6	
Limit Switch Box, Position Indicator, 4-20ma Analog Position Transmitter			18	Two extra travel cams and switches			7	
Limit Switch Box, Position Indicator, SPDT Proximity, 0.25A@120VAC, 0.416A@48VDC, Resistive			19	Three position cam set			8	
Limit Switch Box, Position Indicator, 4-20ma Analog Position Transmitter + 2 SPDT Mechanical Switches			20	Local control unit with lock			9	
Stainless Steel Limit Switch Box, Position Indicator, (2) Proximity SPDT Switches			21	1-5V input/2-10V output modulating controller			A	
<b>Control</b>			<b>Code</b>	2-10V input/output modulating controller			B	
None			XX	75% duty cycle			C	
Single Coil Solenoid, 120VAC			AA	Relay			D	
Single Coil Solenoid, 24VDC			AB	Four position cam set			E	
Single Coil Solenoid, 12VDC			AC	25% duty cycle (actuator code G only)			F	
Single Coil Solenoid, 220VAC			AD	75% duty cycle (actuator code G only)			G	
Dual Coil Solenoid, 120VAC			AE	<b>Option 2</b>			<b>Code</b>	
Dual Coil Solenoid, 24VDC			AF	None			1	
Dual Coil Solenoid, 220VAC			AG	Torque Switches			2	
Pneumatic Positioner <b>3-15 PSI</b> input, no feedback			AH	4-20mA input/output modulating controller			3	
Pneumatic Positioner <b>3-15 PSI</b> input, (2) SPDT Mech. Switches for Feedback			AI	Current Position Transmitter			4	

**BV3S/4S-Series Actuated Ball Valve - Part Number Key**

Pneumatic Positioner <b>3-15 PSI</b> input, 4-20mA for Feedback	AJ	Potentiometer	5
Electropneumatic Positioner 4-20mA input, no Feedback	AK	Local control unit	6
Electropneumatic Positioner 4-20mA input, (2) SPDT Mech. Switches for Feedback	AL	Two extra travel cams and switches	7
Electropneumatic Positioner 4-20mA input, 4-20mA for Feedback	AM	Three position cam set	8
Electropneumatic Positioner 0-10v input, no Feedback	AN	Local unit with lock	9
Electropneumatic Positioner 0-10v input, (2) SPDT Mech. Switches for Feedback	AO	1-5V input/2-10V output modulating controller	A
Electropneumatic Positioner 0-10v input, 4-20mA for Feedback	AP	2-10V input/output modulating controller	B
V200 Rotary Electropneumatic Positioner 4-20mA input, 4-20mA Feedback	AQ	75% duty cycle	C
Electropneumatic Positioner 4-20mA input, no Feedback, Class 1, Div II Explosion Proof	AR	Relay	D
Single Coil Solenoid, 24VDC and 24V Banjo Solenoid Valve with Form B Plug	AS	Four position cam set	E
Single Coil Solenoid, 24VDC, AS-I, 2.5W Low Power	AT	25% duty cycle (actuator code G only)	F
Single Coil Solenoid, 24VDC, Intrinsically Safe	AU	75% duty cycle (actuator code G only)	G
Single Coil Solenoid, 24VDC, Pre-Wired to Limit Switch WITH CORDSET (Dual Keyway, 1/2"-20 UNF Mating Thread, Single Ended, Straight Female Connector, 22 AWG PVC, Auto Color Code 2P to 6P Cable, 12' Length)	AV	<b>Flow Path</b>	<b>Code</b>
Single Coil Solenoid, 24VDC, Exp. Proof, Class H Coil	AW	Energize A, Energize B	12
Single Coil Solenoid, 24VAC	AX	Energize A, Energize D	13
V200 Rotary Electropneumatic Positioner 4-20mA input, 4-20mA Feedback, Class 1, Div II Explosion Proof	AY	Energize A, Energize B, Energize D (180)	39
Single Coil Solenoid, 24VDC, Molded LED, Ind. Form, 2M Leads	AZ		
TUFRAM COATED Electropneumatic Positioner 4-20mA input, no Feedback	BA		
V200 Rotary Pneumatic Positioner, (2) REED SWITCH Feedback	BB		
Single Coil Solenoid, 120VAC, Exp. Proof, Class H Coil	BC		
Single Coil Solenoid, 24VDC, Pre-Wired to Limit Switch, 6P MALE CONNECTOR	BD		
NON-INTEGRAL 304 SS NEMA 4/4X 3 POSITION CONTROL BOX, INCLUDES 3 MANIFOLD MOUNT SOLENOIDS TIME DELAY RELAY AND TERMINAL STRIP. (3 INPUT CONTROL, DOES NOT REQUIRE PLC). 24VDC	BE		
NON-INTEGRAL 304 SS NEMA 4/4X 3 POSITION CONTROL BOX, INCLUDES 3 MANIFOLD MOUNT SOLENOIDS TIME DELAY RELAY AND TERMINAL STRIP. (3 INPUT CONTROL, DOES NOT REQUIRE PLC). 120VAC	BF		
<b>Flow Path</b>	<b>Code</b>		
Rest A, Energize B (spring return)	10		
Rest A, Energize D (spring return)	11		
Energize A, Energize B (double acting)	12		
Energize A, Energize D (double acting)	13		
Rest B, Energize A, Energize D (spring return, 180°)	14		
Rest B, Enegerize A (spring return)	15		

NOTE: Refer to the flow path codes on the following pages for other available configurations.

### Flow Path Position Codes

#### 3-Way L-Port

A



B



C



#### 3-Way T-Port

A



B



C



D



#### 4-Way L-Port

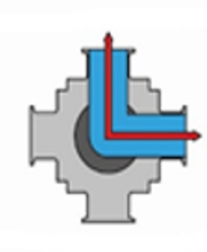
A



B



C



D



#### 4-Way T-Port

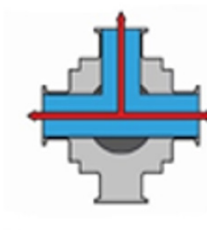
A



B



C



D



Flow Path Position Codes

2 Position

3-Way | L-Port | Spring Return

Code	10	16	15	17	18	19
Rotation	90°	90°	90°	90°	90°	90°
Air Rotation Detection	CCW	CW	CW	CCW	CCW	CW
	A	A	B	B	C	C
Rest Position						
	B	C	A	C	A	B
Energize Position						

3-Way | L-Port | Double Acting or Electric

Code	12	20	21
Rotation	90°	90°	90°
	A	A	B
Energize Position			
	B	C	C
Energize Position			



### Flow Path Position Codes

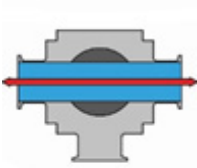
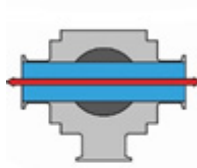
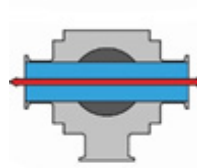

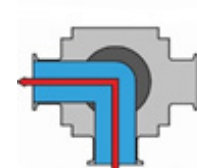
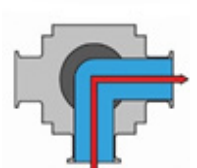
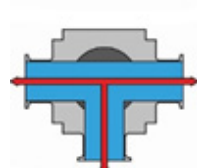



#### 3-Way | T-Port | Spring Return

Code	10	16	15	11	17	18
Rotation	90°	180°	90°	90°	90°	180°
Air Rotation Detection	CW	Either	CCW	CCW	CW	Either
	A	A	B	A	B	C
Rest Position						
	B	C	A	D	C	A
Energize Position						



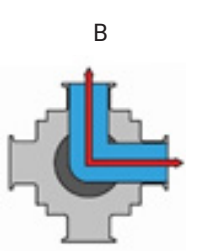
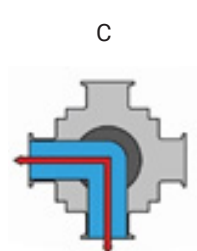
Code	19	22	23	24
Rotation	90°	90°	90°	90°
Air Rotation Detection	CCW	CW	CW	CCW
	C	C	D	D
Rest Position				
	B	D	A	C
Energize Position				

Flow Path Position Codes


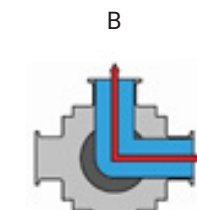
3-Way | T-Port | Double Acting or Electric

Code	12	20	13	21	25
Rotation	90°	180°	90°	90°	90°
	A	A	A	B	D
Energize Position					
	B	C	D	C	C
Energize Position					

4-Way | L-Port | Spring Return

Code	10	16
Rotation	180°	180°
Air Rotation Detection	Either	Either
Rest Position		
	B	C
Energize Position		

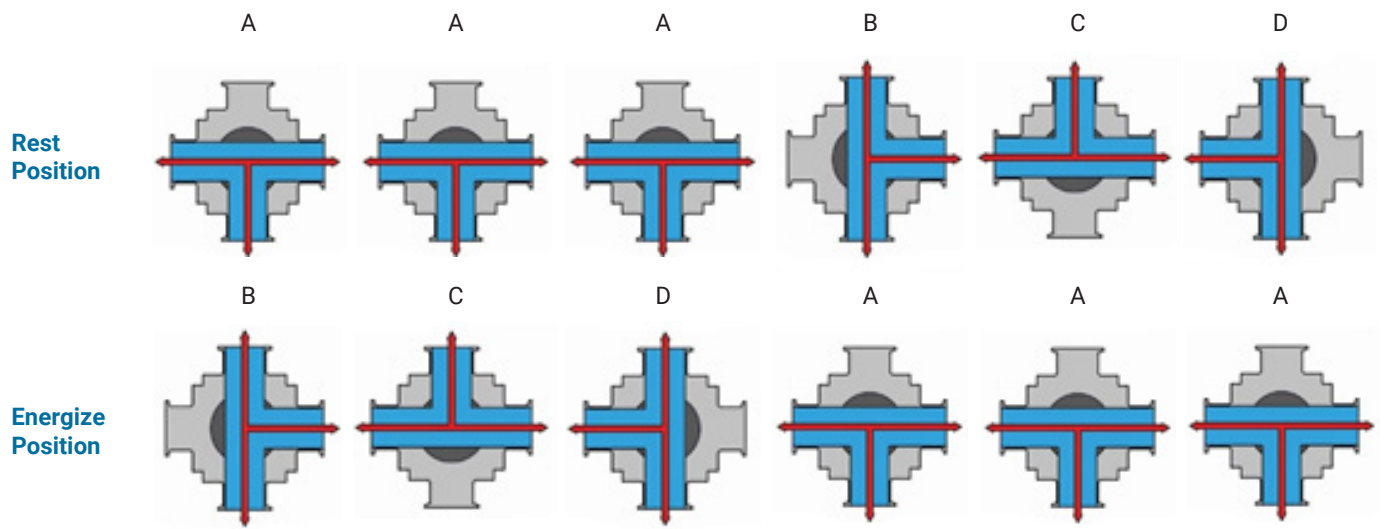
4-Way | L-Port | Double Acting or Electric

Code	12
Rotation	180°
Energize Position	
	B
Energize Position	

### Flow Path Position Codes

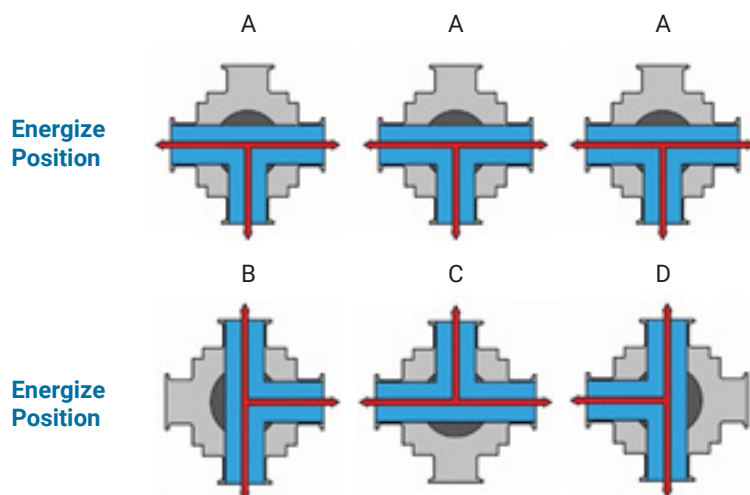
#### 4-Way | T-Port | Spring Return

Code	10	16	11	15	18	23
Rotation	90°	180°	90°	90°	90°	180°
Air Rotation Detection	CCW	Either	CW	CW	Either	CCW



#### 4-Way | T-Port | Double Acting or Electric

Code	12	20	13
Rotation	90°	180°	90°



Flow Path Position Codes

3 Position

3-Way | L-Port | Spring Return

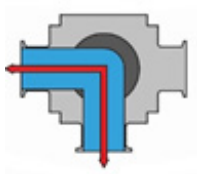
Code	26	28	29
Rotation	180°	180°	180°
Air Rotation Detection	Either	Either	Either
Return	Either	Either	End

A

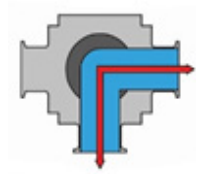
B

C

Rest Position



B



A

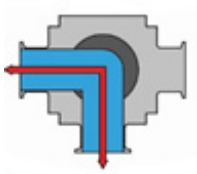


A

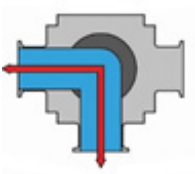
Energize Position



C



C



B

Energize Position

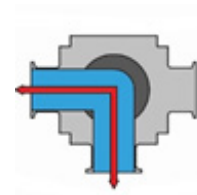


3-Way | L-Port | Double Acting or Electric

Code	30
Rotation	180°

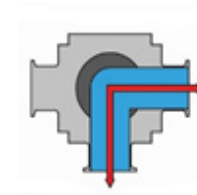
A

Energize Position



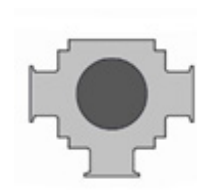
B

Energize Position



C

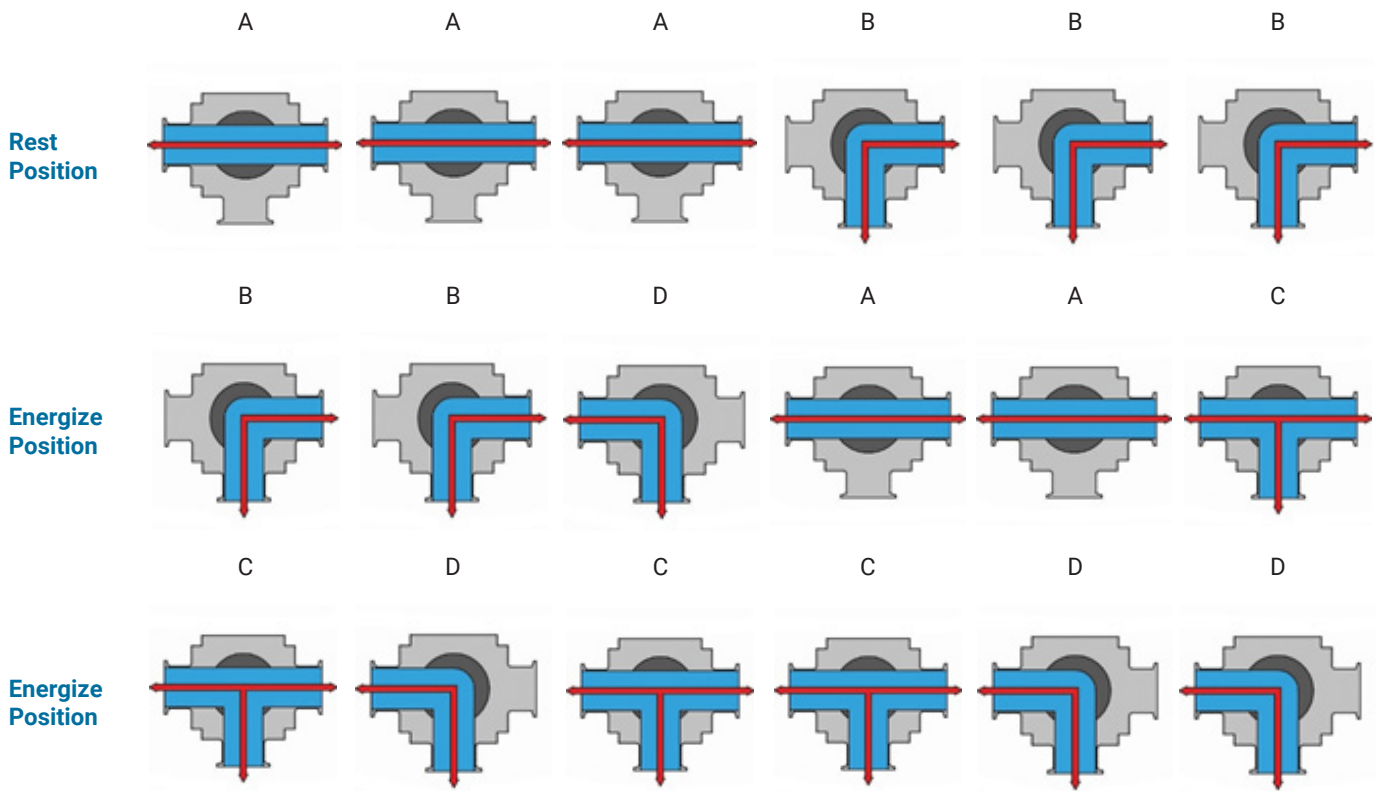
Energize Position



### Flow Path Position Codes

#### 3-Way | T-Port | Spring Return

Code	26	27	31	28	14	32
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CW	Both	CCW	Both	CCW	CW
Return	End	Center	End	Center	End	End

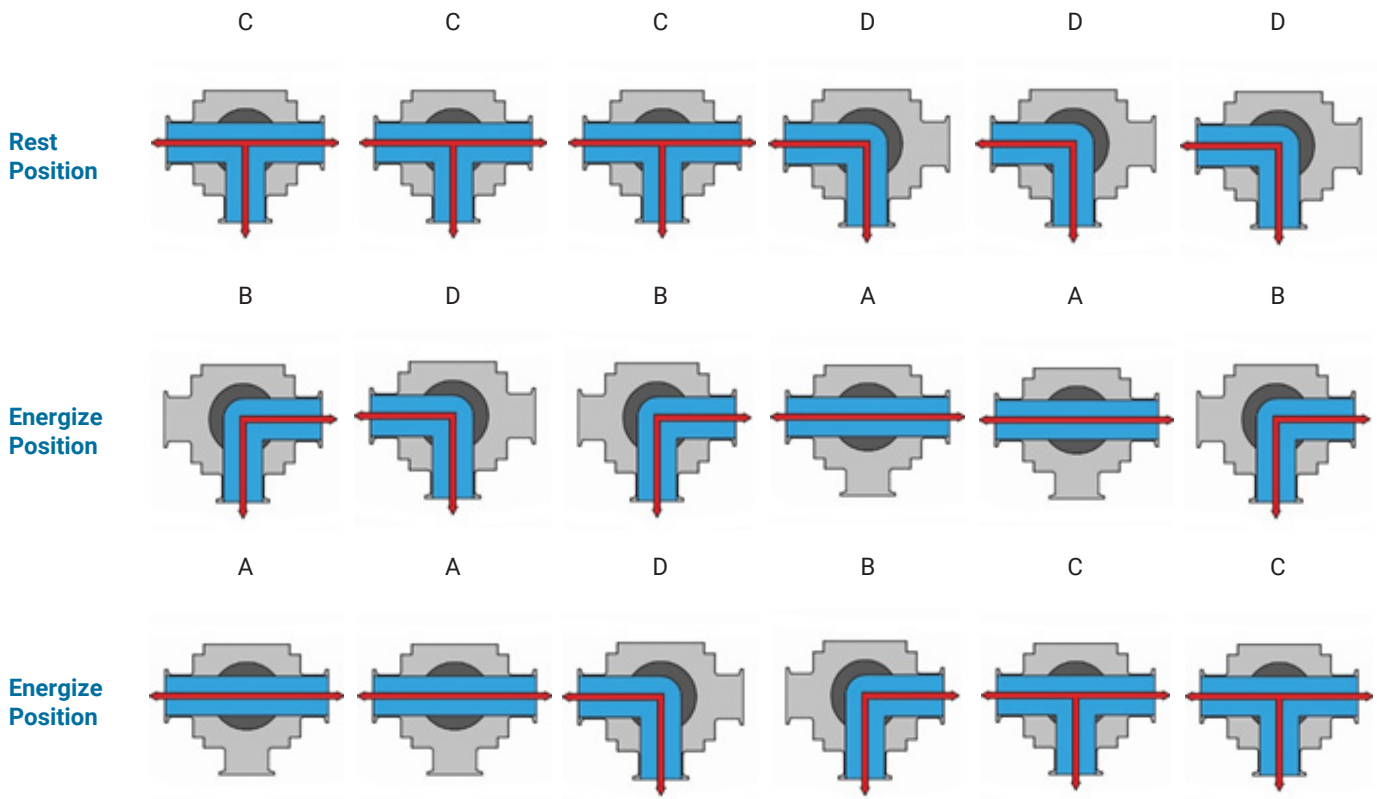


NOTE: 3-way, T-Port, Spring Return continued on the next page

Flow Path Position Codes

3-Way | T-Port | Spring Return

Code	33	34	35	36	37	38
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CCW	CW	Both	CW	Both	CCW
Return	End	End	Center	End	Center	End



### Flow Path Position Codes

#### 3-Way | T-Port | Double Acting or Electric

Code	30	39	40	41
Rotation	180°	180°	180°	180°

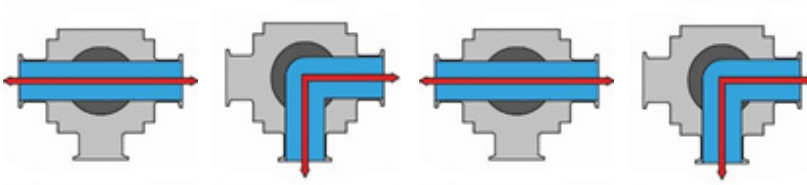
A

B

A

B

Energize Position



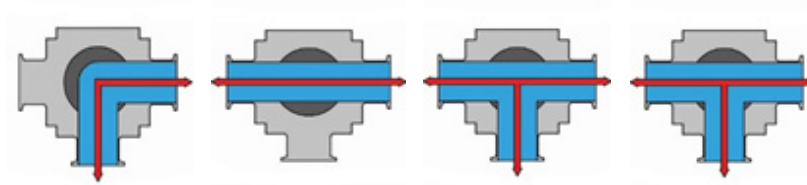
B

A

C

C

Energize Position



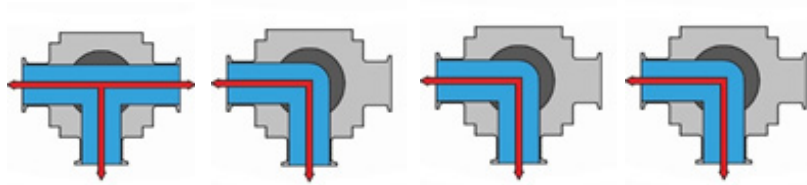
C

D

D

D

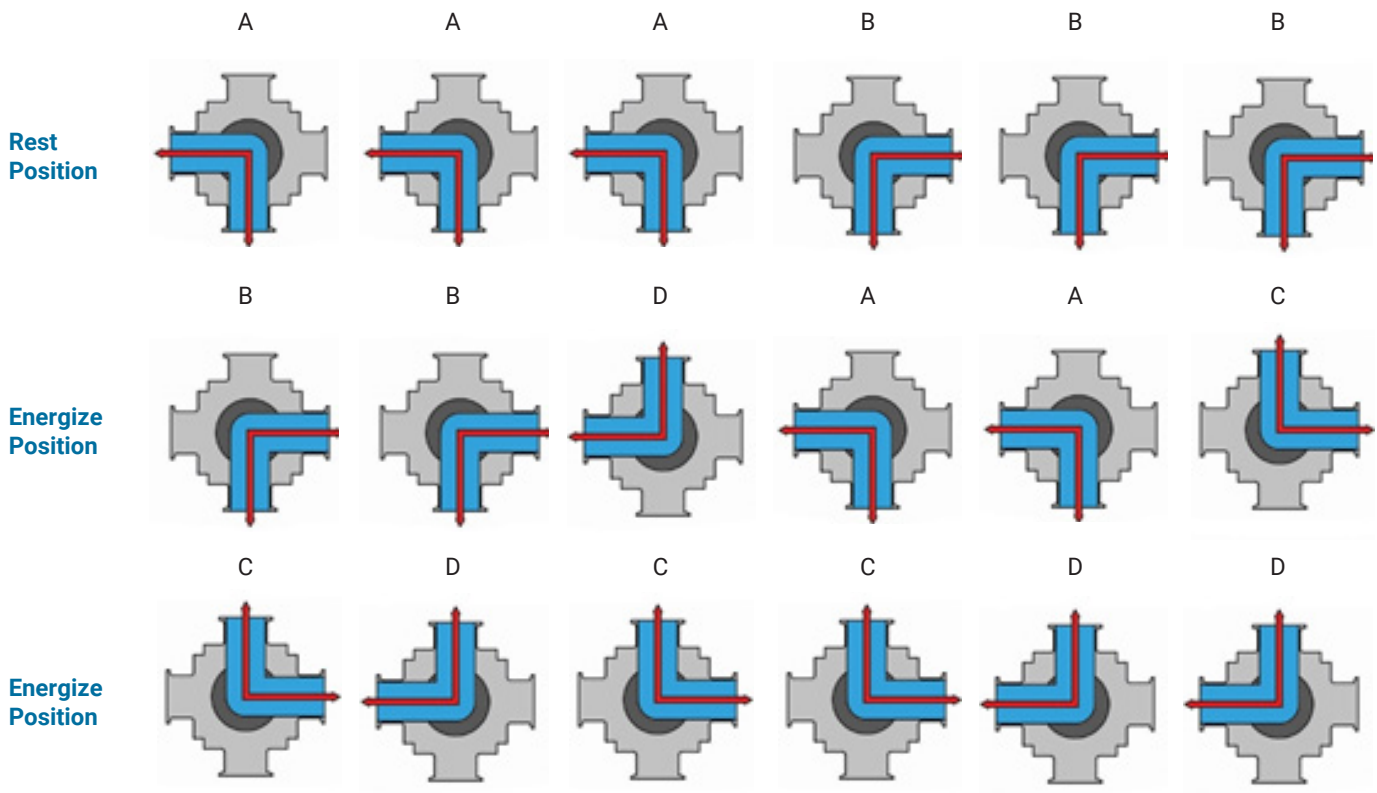
Energize Position



Flow Path Position Codes

4-Way | L-Port | Spring Return

<b>Code</b>	<b>26</b>	<b>27</b>	<b>31</b>	<b>28</b>	<b>14</b>	<b>32</b>
<b>Rotation</b>	180°	180°	180°	180°	180°	180°
<b>Air Rotation Detection</b>	CCW	Both	CW	Both	CW	CCW
<b>Return</b>	End	Center	End	Center	End	End



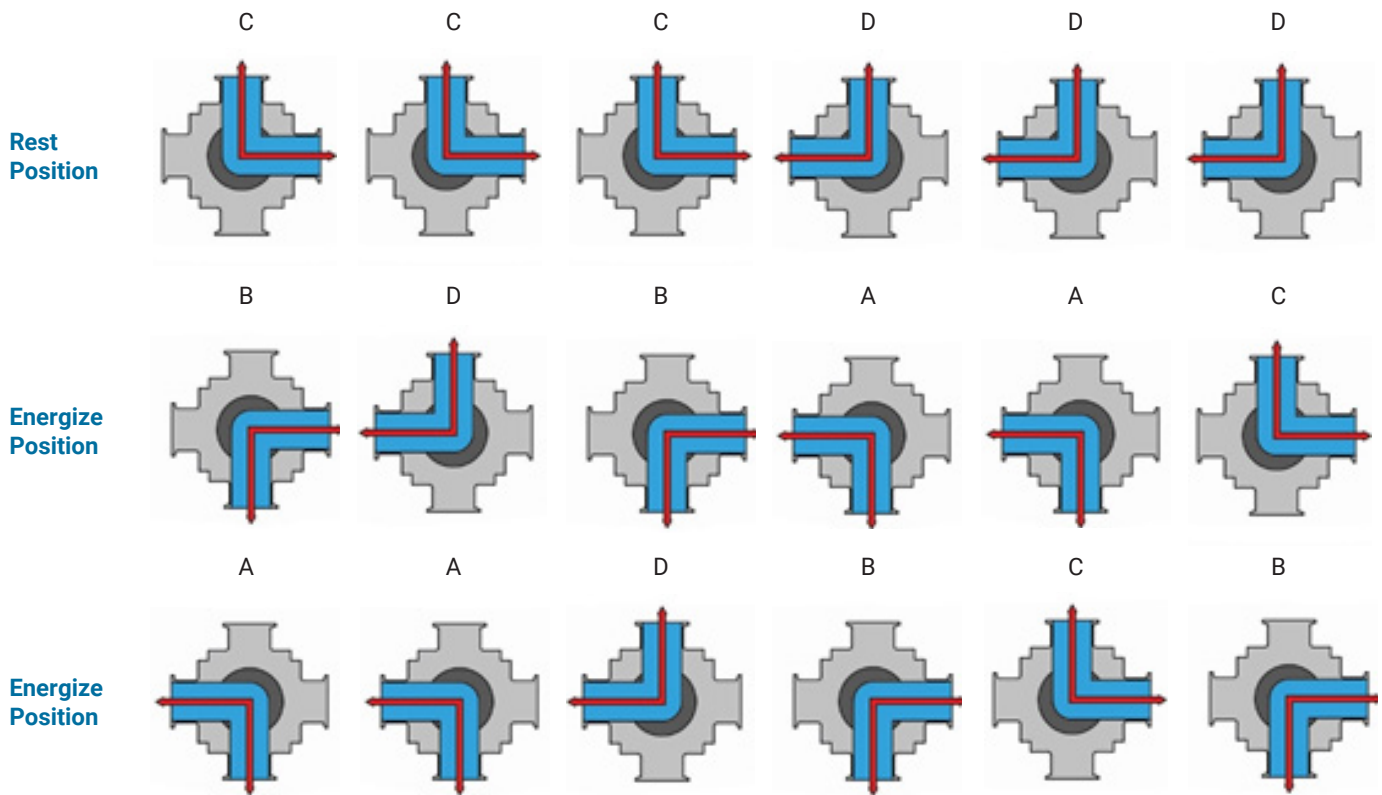
NOTE: 4-way, L-Port, Spring Return continued on the next page



### Flow Path Position Codes

#### 4-Way | L-Port | Spring Return

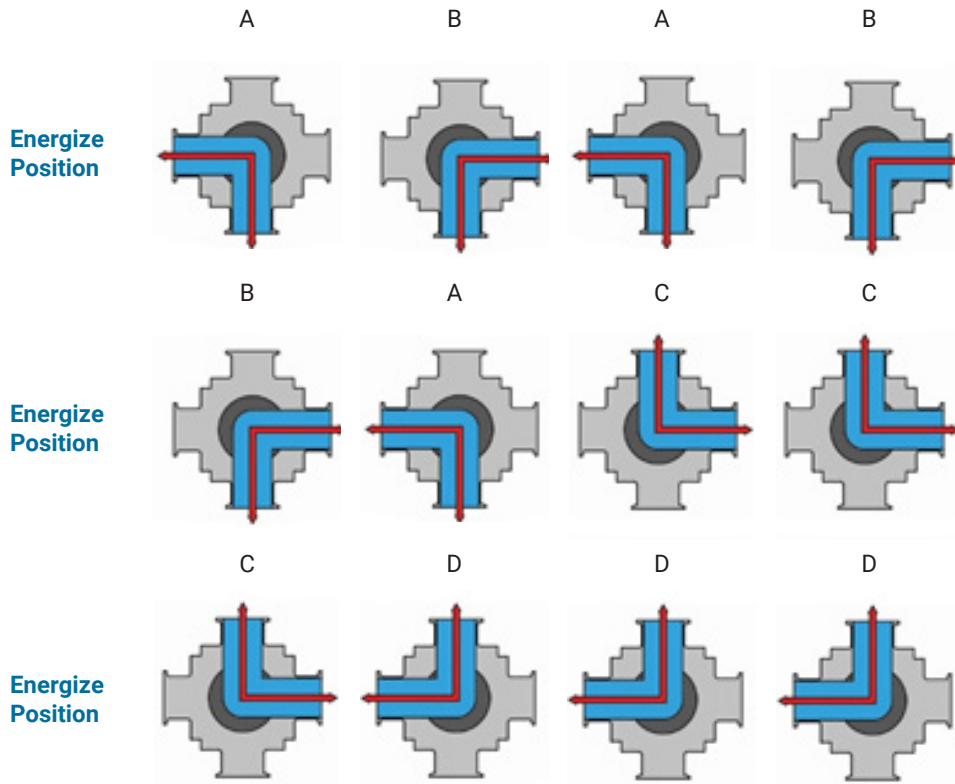
Code	33	34	35	36	37	42
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CW	CCW	Both	CCW	Both	CW
Return	End	End	Center	End	Center	End



**Flow Path Position Codes**

**4-Way | L-Port | Double Acting or Electric**

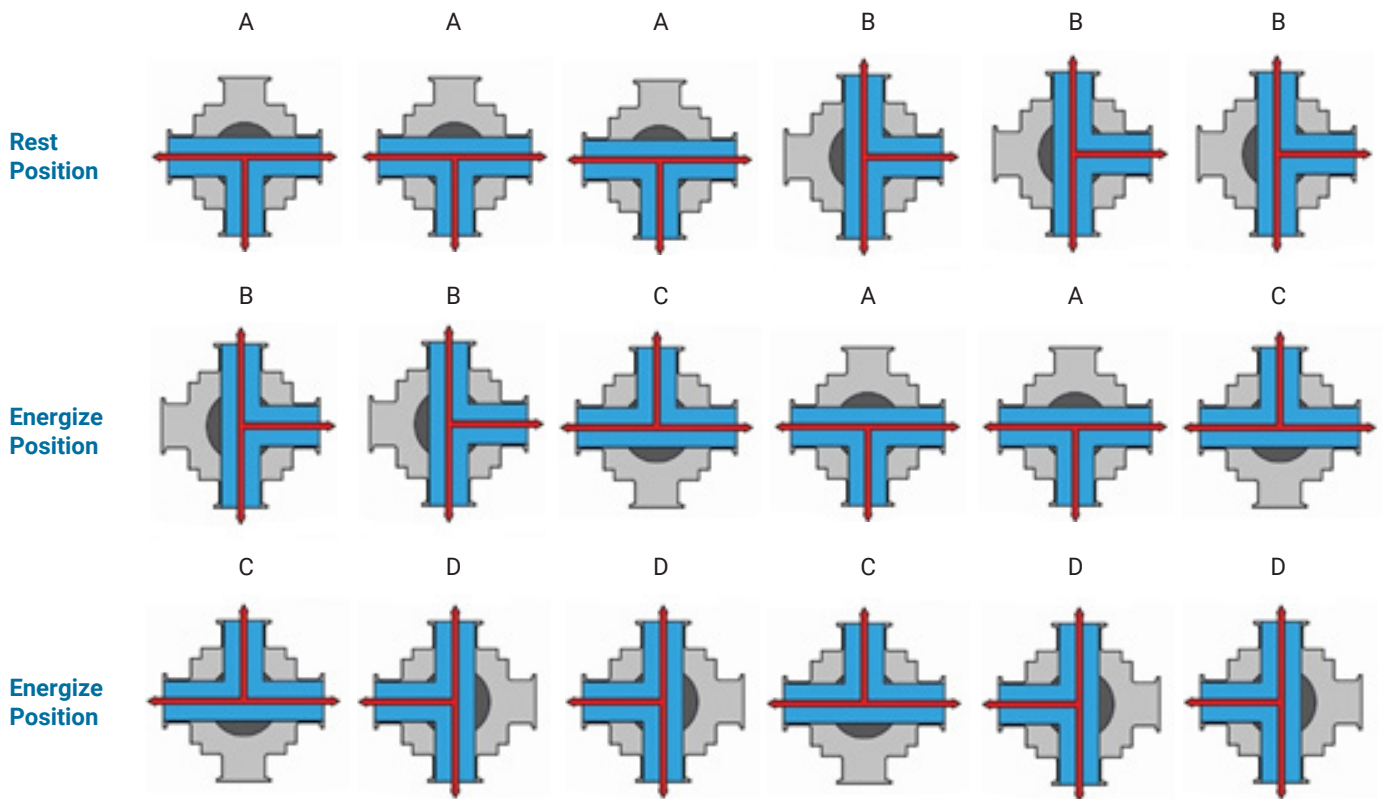
Code	30	39	40	41
Rotation	180°	180°	180°	180°



### Flow Path Position Codes

#### 4-Way | T-Port | Spring Return

<b>Code</b>	<b>26</b>	<b>43</b>	<b>27</b>	<b>28</b>	<b>14</b>	<b>32</b>
<b>Rotation</b>	180°	180°	180°	180°	180°	180°
<b>Air Rotation Detection</b>	CCW	Both	CW	Both	CW	CCW
<b>Return</b>	End	Center	End	Center	End	End

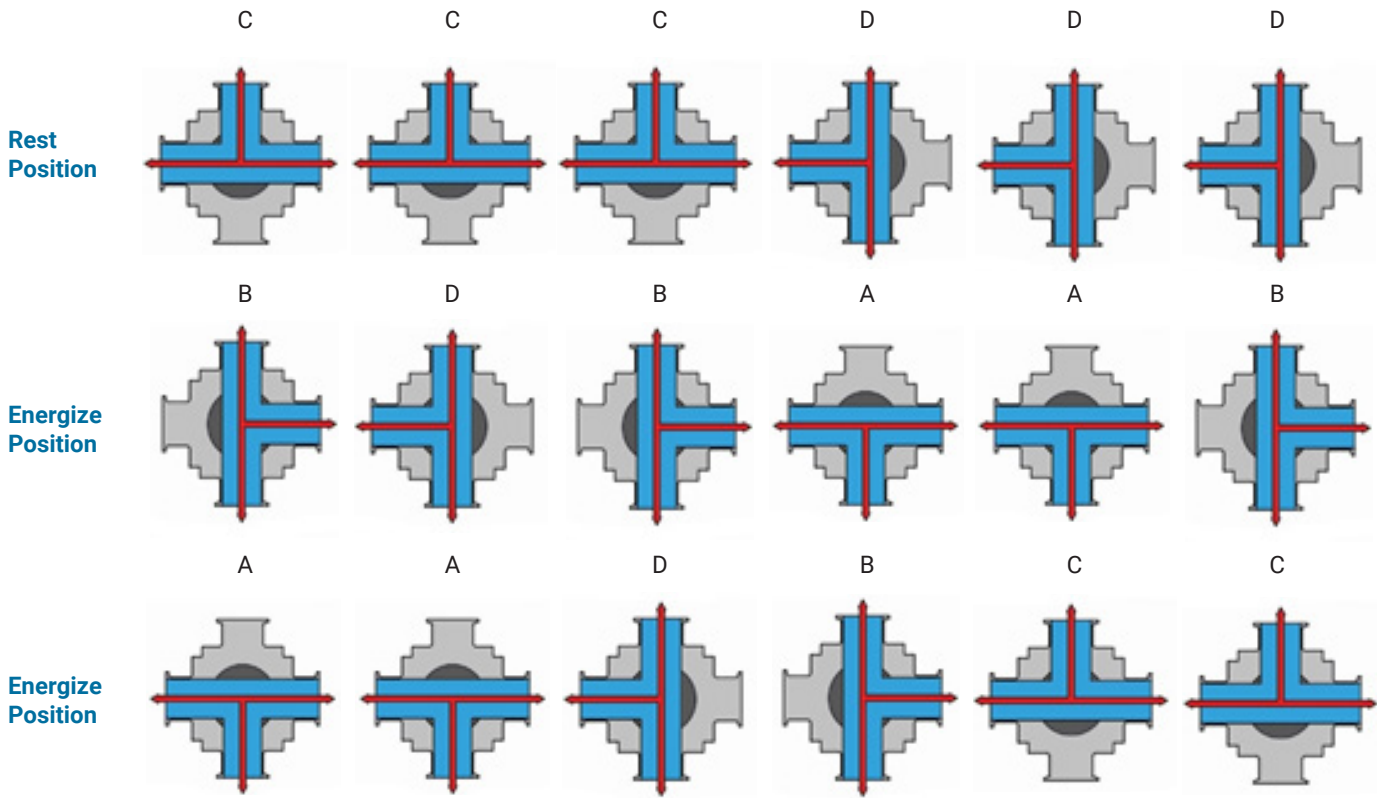


NOTE: 4-way, T-Port, Spring Return continued on the next page

Flow Path Position Codes

4-Way | T-Port | Spring Return

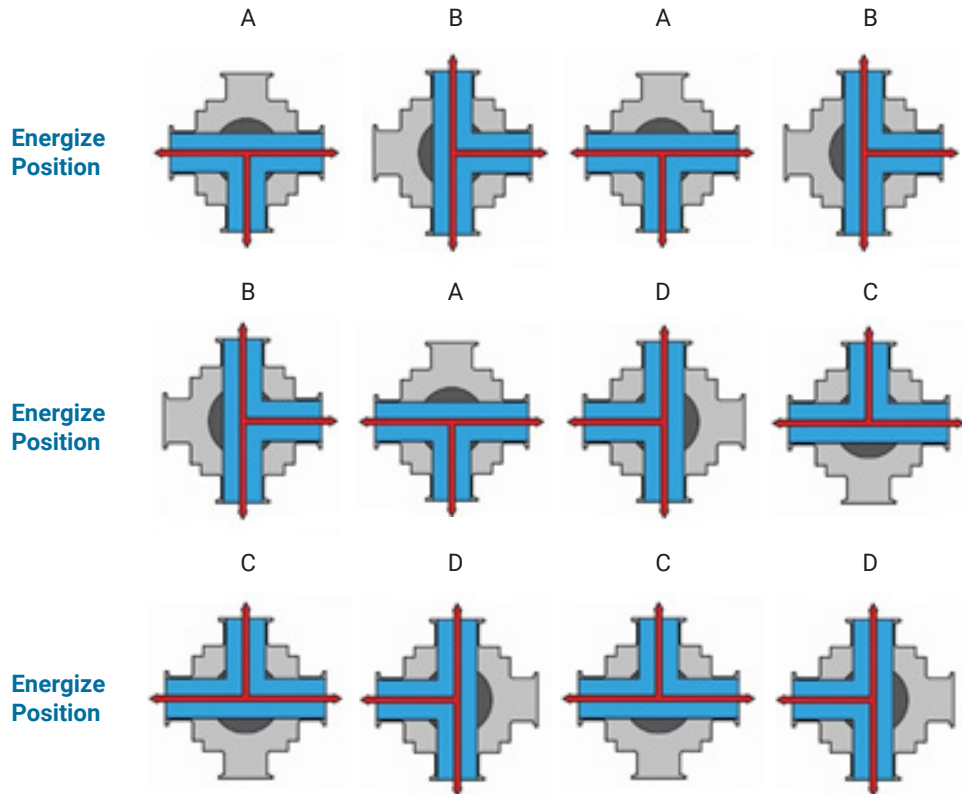
Code	33	34	35	36	37	38
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CW	CCW	Both	CCW	Both	CW
Return	End	End	Center	End	Center	End



### Flow Path Position Codes

#### 4-Way | T-Port | Double Acting or Electric

Code	30	39	40	41
Rotation	180°	180°	180°	180°



**BV3S/4S-Series Actuated Ball Valve - Break Torque**

Part Number	Size	Base Break Torque (in-lbs)		Flow Coefficient (C <sub>v</sub> )			Vacuum Testing (Virgin PTFE Seals)		Weight (lbs)
		L	T	L	T (Thru)	T (Branched)	Body Leakage (atm-cc/sec)	Helium Leak Rate Test	
BV_S_050_	1/2"	48	45	3.5	5.3	3	1 x 10 <sup>-9</sup>	10 <sup>-5</sup> Torr	3.6
BV_S_075_	3/4"	62	62	10	14	8			4.3
BV_S_100_	1"	84	79	20	30	14			6.8
BV_S_150_	1-1/2"	315	286	52	80	44			12.6
BV_S_200_	2"	789	595	100	150	83	1 x 10 <sup>-7</sup>	10 <sup>-4</sup> Torr	21.6
BV_S_250_	2-1/2"	833	1090	148	176	108			33.7
BV_S_300_	3"	1303	1940	250	380	200			56.4
BV_S_R400_	4"	1453	2050	450	680	350			85.4

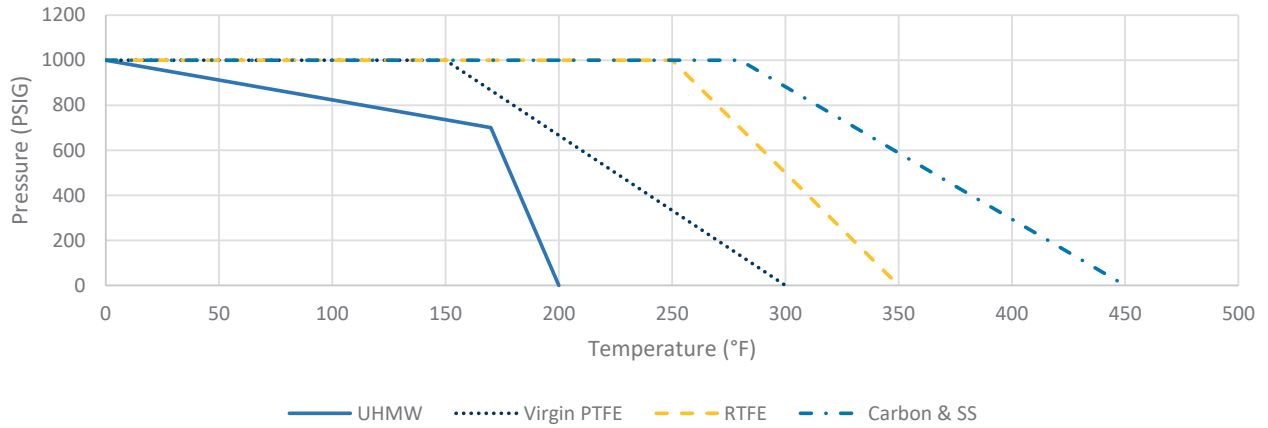
**BV3S/4S-Series Seat Multiplier**

Code (Seat Material)	Material Torque Multiplier
U (UHMW)	0.9
V (Virgin PTFE)	1
G (15% Glass Reinforced RTFE)	1 (4" = 2.0)
C (25% Carbon Reinforced PTFE)	1.75
S (50% Stainless Steel Reinforced PTFE)	1.75

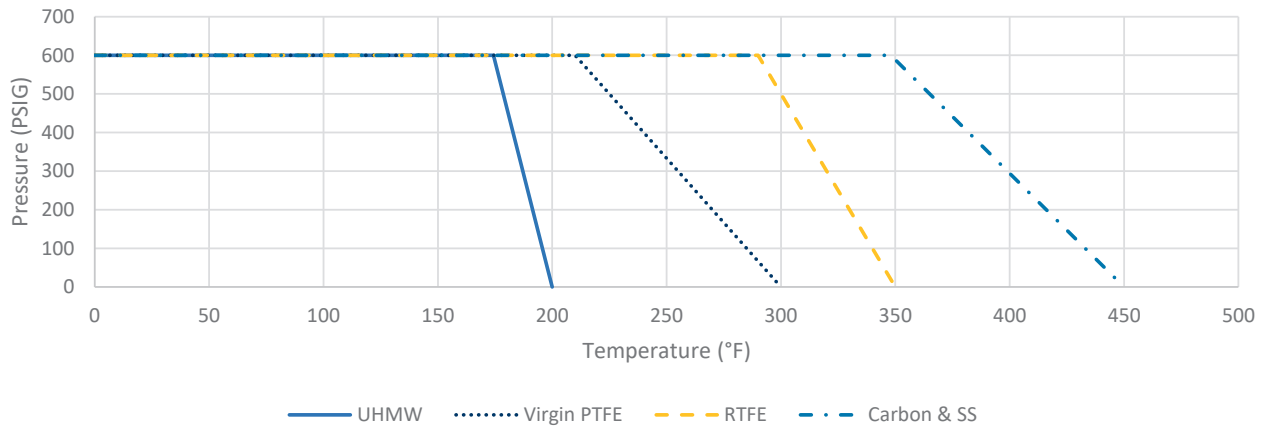
NOTE: 1) Base Break Torque \* Material Torque Multiplier = Material Break Torque

### BV3S/4S-Series Pressure Temperature Charts

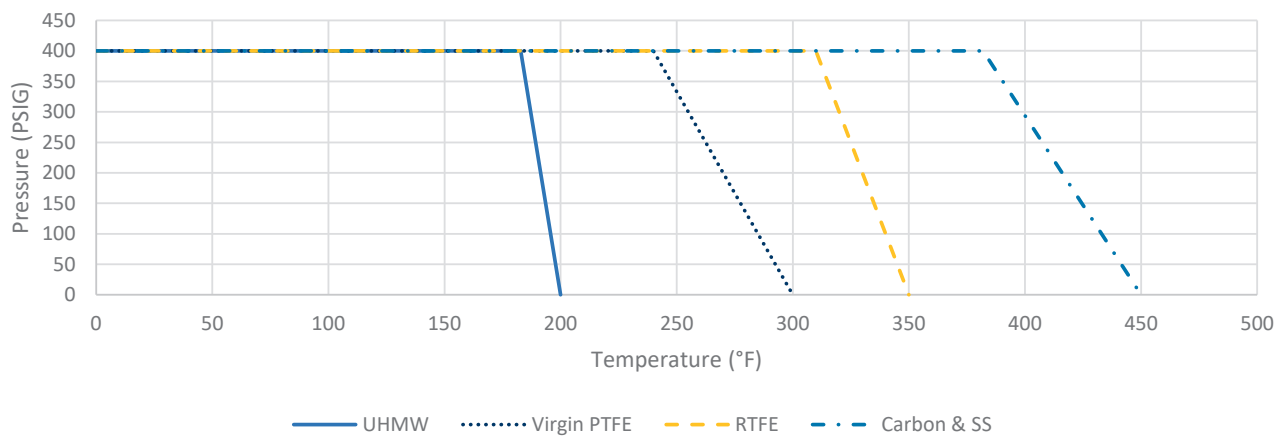
0.50 in & 0.75 in



1.00 in

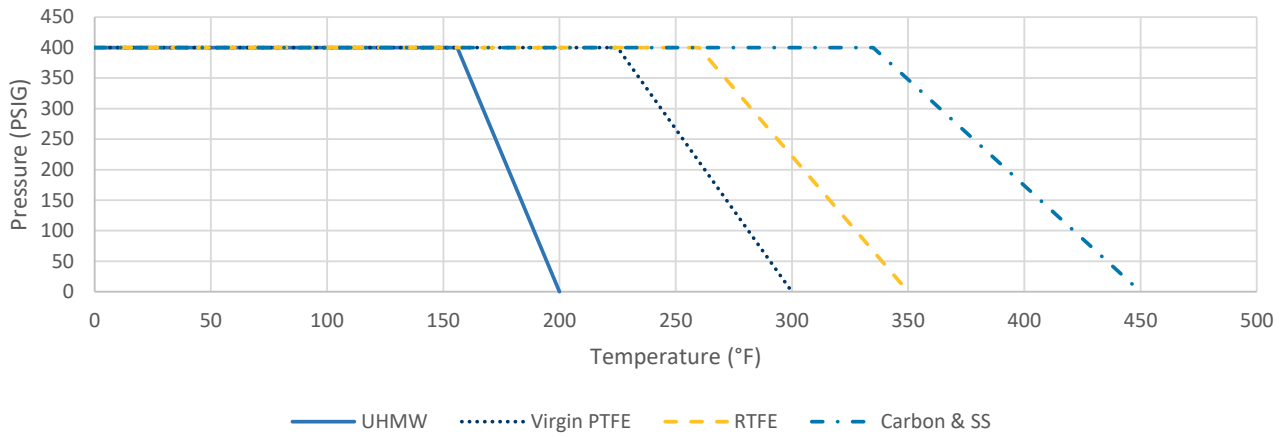


1.50 in & 2.00 in

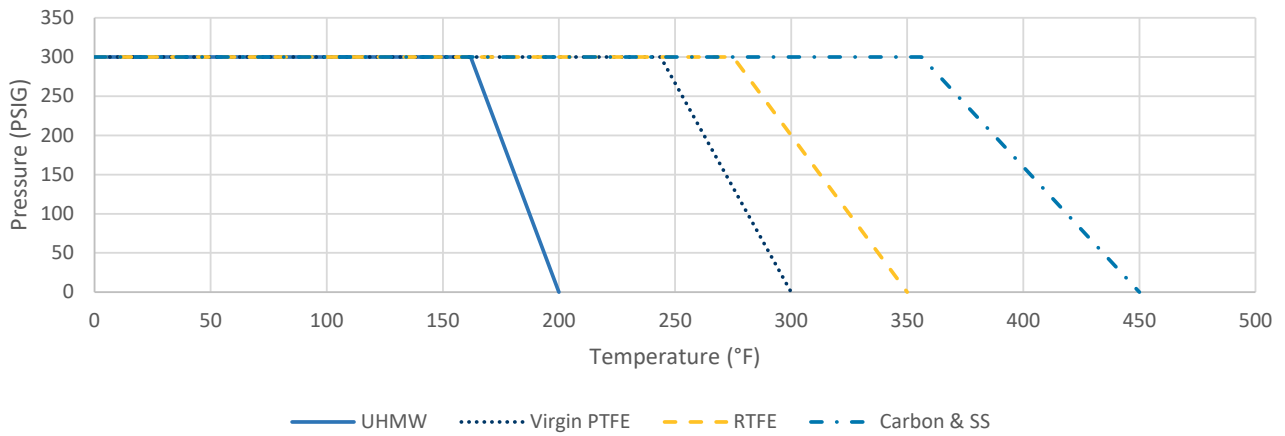


BV3S/4S-Series Pressure Temperature Charts

2.50 in & 3.00 in

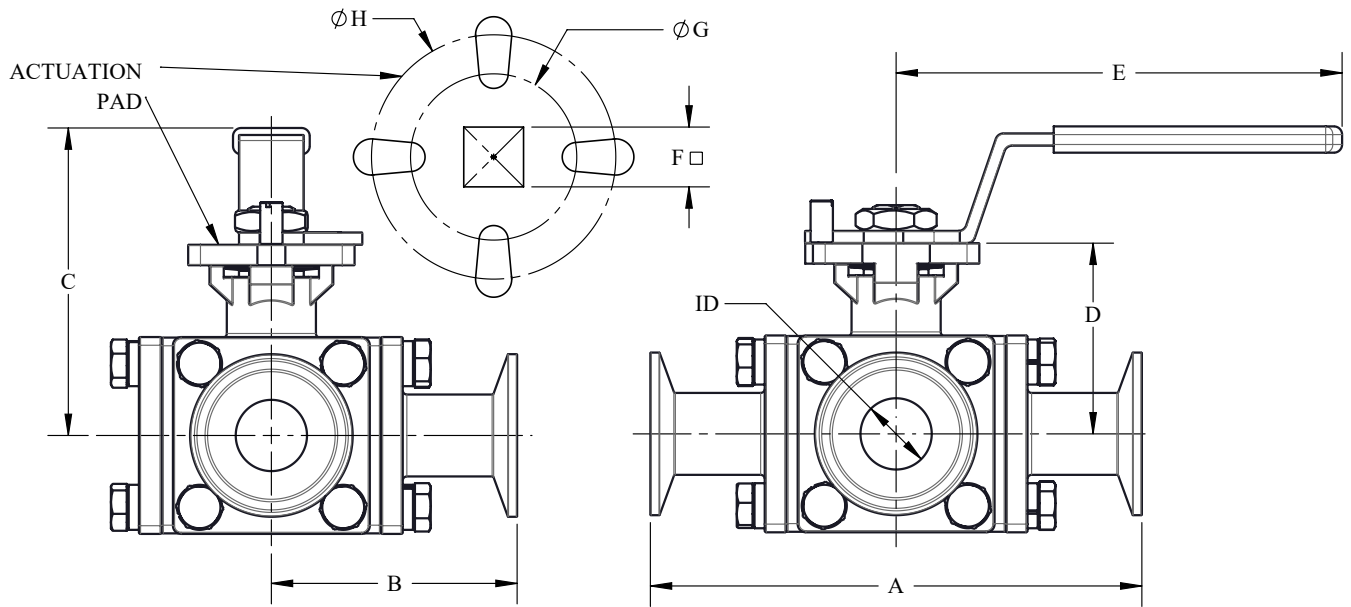


4.00 in



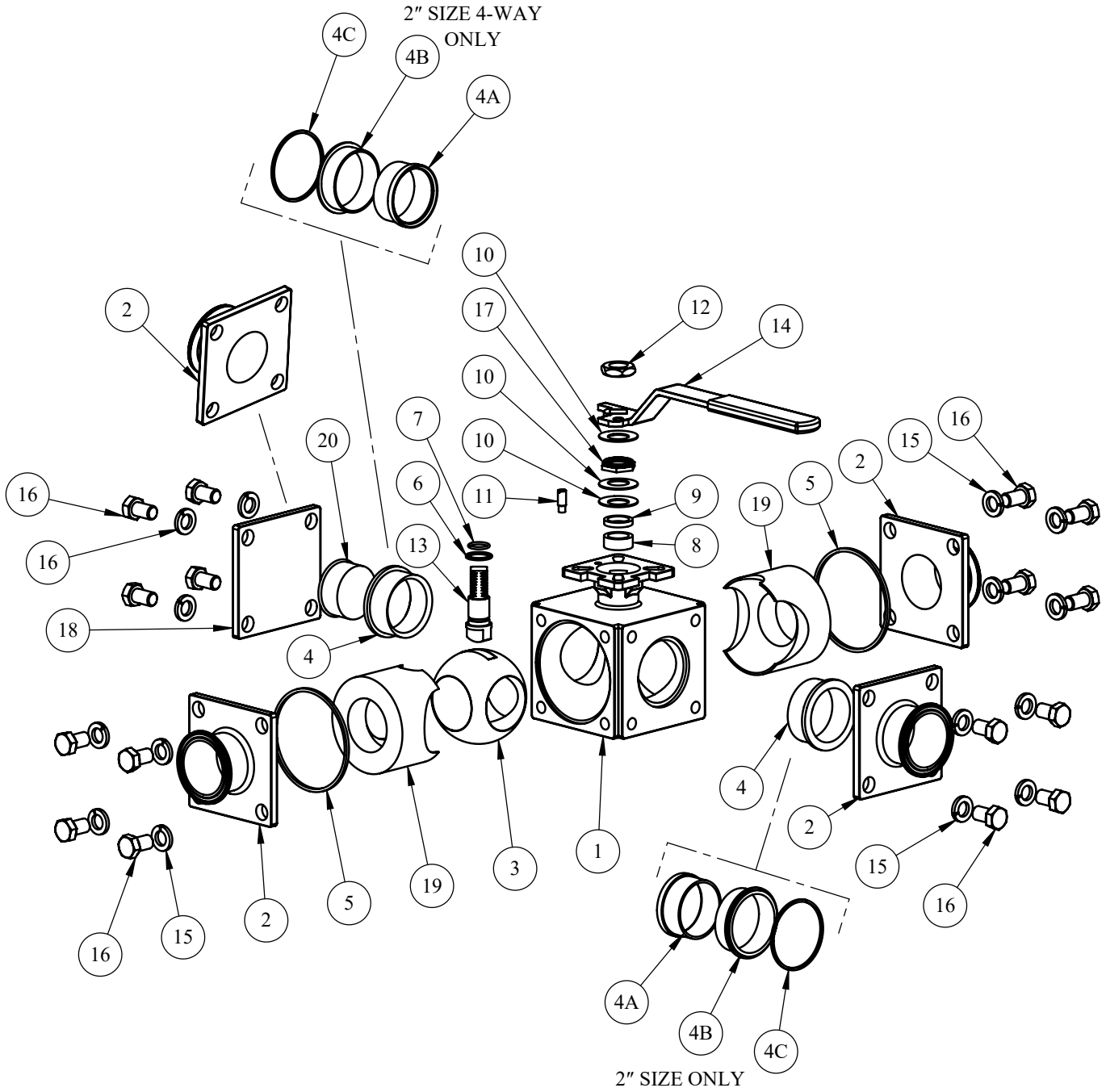


**BV3S/4S-Series - Dimensions**



Size	A (in)	B (in)	C (in)	D (in)	E (in)	ID (in)	F (mm)	G (ISO 5211)	H (ISO 5211)
1/2"	4.6	2.3	3.3	1.7	4.9	0.37	9	F03	F04
3/4"	5.0	2.5	3.5	1.9	4.9	0.62	9	F03	F04
1"	6.0	3.0	3.8	2.3	5.4	0.87	11	F04	F05
1-1/2"	6.9	3.4	4.5	2.9	9.3	1.37	14	F05	F07
2"	7.5	3.7	4.9	3.2	9.3	1.87	14	F05	F07
2-1/2"	8.4	4.5	5.3	3.9	18.0	2.37	17	F07	F10
3"	9.6	5.1	6.5	4.9	18.3	2.87	22	F10	F12
4"	11.4	6.3	7.0	5.4	18.3	3.83	22	F10	F12

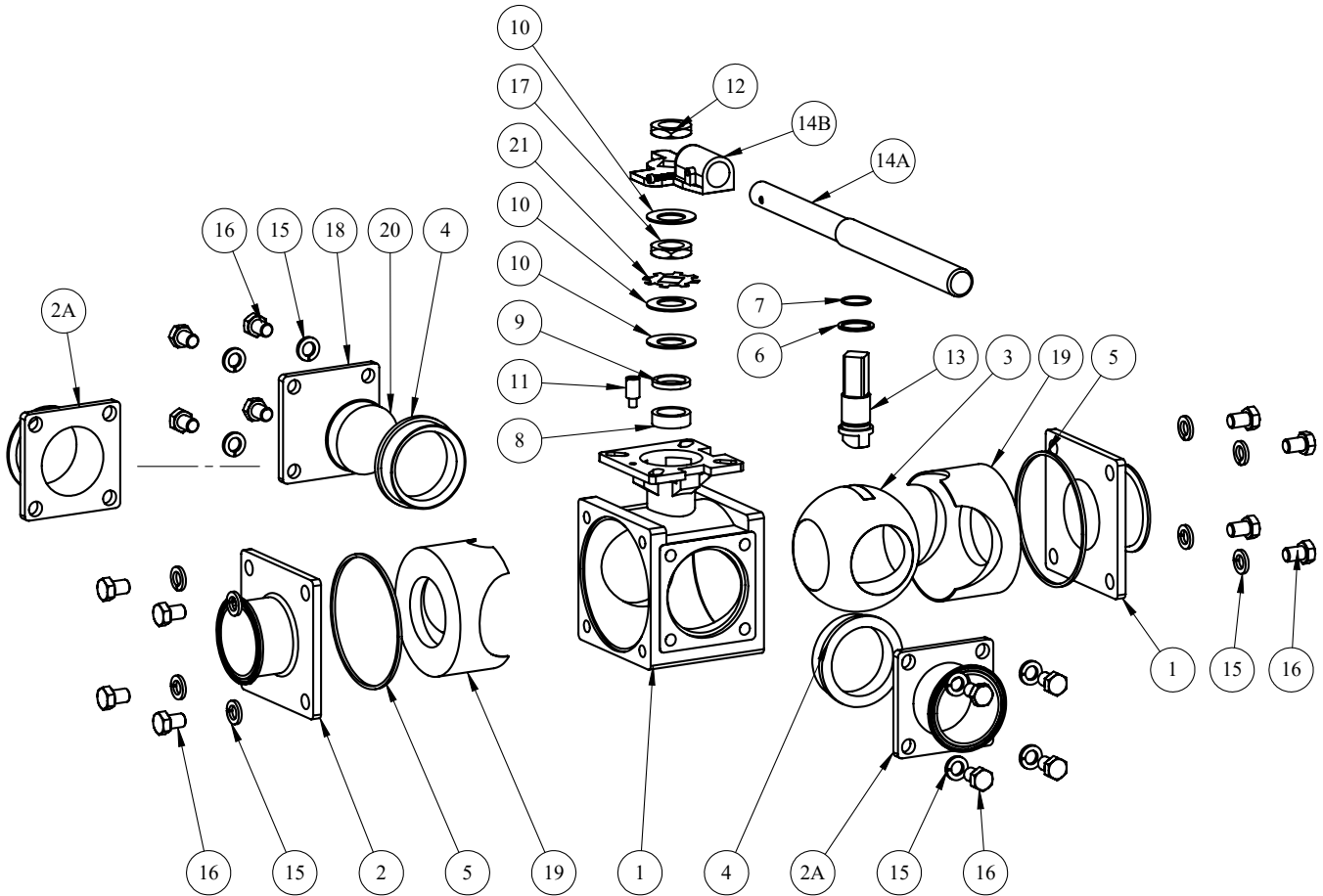
BV3S/4S-Series - Bill of Materials (1/2" to 2")



**BV3S/4S-Series - Bill of Materials (1/2" to 2")**

Item	Size	Part Number	Description	Material	Quantity	
					L-Port	T-Port
1	1/2"	BV3S-1050	body	CF8M	1	1
	3/4"	BV3S-1075	body	CF8M	1	1
	1"	BV3S-1100	body	CF8M	1	1
	1-1/2"	BV3S-1150	body	CF8M	1	1
	2"	BV23S-1200	body	CF8M	1	1
2	1/2"	BV-3SVFCE050	tri-clamp end	CF8M	3	3
	3/4"	BV-3SVFCE075	tri-clamp end	CF8M	3	3
	1"	BV-3SVFCE100	tri-clamp end	CF8M	3	3
	1-1/2"	BV-3SVFCE150	tri-clamp end	CF8M	3	3
	2"	BV-3SVFCE200	tri-clamp end	CF8M	3	3
3	1/2"	BV-3SVFLB050	L-port ball	CF8M	1	-
		BV-3SVFTB050	T-port ball	CF8M	-	1
	3/4"	BV-3SVFLB075	L-port ball	CF8M	1	-
		BV-3SVFTB075	T-port ball	CF8M	-	1
	1"	BV-3SVFLB100	L-port ball	CF8M	1	-
		BV-3SVFTB100	T-port ball	CF8M	-	1
	1-1/2"	BV-3SVFLB150	L-port ball	CF8M	1	-
		BV-3SVFTB150	T-port ball	CF8M	-	1
2"	BV-3SVFLB200	L-port ball	CF8M	1	-	
	BV-3SVFTB200	T-port ball	CF8M	-	1	
4	all	see repair kit	small encapsulated seat	see repair kit	2	2
5	all	see repair kit	body seal	see repair kit	2	2
6	all	see repair kit	thrust washer	see repair kit	1	1
7	all	see repair kit	stem O-ring	FKM	1	1
8	all	see repair kit	stem packing	see repair kit	3	3
9	all	see repair kit	gland ring	316 SS	1	1
10	all	see repair kit	bevel washer	301 SS	3	3
11	all	see repair kit	stop pin	304 SS	1	1
12	all	see repair kit	nut	304 SS	1	1
13	all	see repair kit	stem	304 SS	1	1
14	all	see repair kit	handle	304 SS/vinyl	1	1
15	all	see repair kit	lockwasher	304 SS	16	16
16	all	see repair kit	bolt	304 SS	16	16
17	1/2"	BV-3SVF17050	stem packing nut	304 SS	1	1
	3/4"	BV-3SVF17075	stem packing nut	304 SS	1	1
	1"	BV-3SVF17100	stem packing nut	304 SS	1	1
	1-1/2"	BV-3SVF17150	stem packing nut	304 SS	1	1
	2"	BV-3SVF17200	stem packing nut	304 SS	1	1
18	1/2"	BV-3SVRCP050	cover plate	CF8M	1	1
	3/4"	BV-3SVRCP075	cover plate	CF8M	1	1
	1"	BV-3SVRCP100	cover plate	CF8M	1	1
	1-1/2"	BV-3SVRCP150	cover plate	CF8M	1	1
	2"	BV-3SVRCP200	cover plate	CF8M	1	1
19	all	see repair kit	large encapsulated seat	see repair kit	2	2
20	all	see repair kit	plug	see repair kit	1	1

BV3S/4S-Series - Bill of Materials (2-1/2" to 4")



**BV3S/4S-Series - Bill of Materials (2-1/2" to 4")**

Item	Size	Part Number	Description	Material	Quantity			
					3-Way		4-Way	
					L-Port	T-Port	L-Port	T-Port
1	2-1/2"	BV3S-1250	body	CF8M	1	1	1	1
	3"	BV3S-1300	body	CF8M	1	1	1	1
	4"	BV3S-1400	body	CF8M	1	1	1	1
2	2-1/2"	BV-3SVFCL250	large tri-clamp end	CF8M	2	2	2	2
	3"	BV-3SVFCL300	large tri-clamp end	CF8M	2	2	2	2
	4"	BV-3SVFCL400	large tri-clamp end	CF8M	2	2	2	2
2A	2-1/2"	BV-3SVFCS250	small tri-clamp end	CF8M	1	1	2	2
	3"	BV-3SVFCS300	small tri-clamp end	CF8M	1	1	2	2
	4"	BV-3SVFCS400	small tri-clamp end	CF8M	1	1	2	2
3	2-1/2"	BV-3SVFLB250	L-port ball	CF8M	1	-	1	-
		BV-3SVFTB250	T-port ball	CF8M	-	1	-	1
	3"	BV-3SVFLB300	L-port ball	CF8M	1	-	1	-
		BV-3SVFTB300	T-port ball	CF8M	-	1	-	1
	4"	BV-3SVFLB400	L-port ball	CF8M	1	-	1	-
		BV-3SVFTB400	T-port ball	CF8M	-	1	-	1
4	all	see repair kit	small encapsulated seat	see repair kit	2	2	2	2
5	all	see repair kit	body seal	see repair kit	2	2	2	2
6	all	see repair kit	thrust washer	see repair kit	1	1	1	1
7	all	see repair kit	stem O-ring	FKM	1	1	1	1
8	all	see repair kit	stem packing	see repair kit	3	3	3	3
9	all	see repair kit	gland ring	316 SS	1	1	1	1
10	all	see repair kit	bevel washer	301 SS	3	3	3	3
11	all	see repair kit	stop pin	304 SS	1	1	1	1
12	all	see repair kit	nut	304 SS	1	1	1	1
13	all	see repair kit	stem	304 SS	1	1	1	1
14A	all	see repair kit	handle rod	304 SS	1	1	1	1
14B	all	see repair kit	handle hub	304 SS	1	1	1	1
15	all	see repair kit	lockwasher	304 SS	16	16	16	16
16	all	see repair kit	bolt	304 SS	16	16	16	16
17	2-1/2"	BV-3SVF17250	stem packing nut	304 SS	1	1	1	1
	3"	BV-3SVF17300	stem packing nut	304 SS	1	1	1	1
	4"	BV-3SVF17400	stem packing nut	304 SS	1	1	1	1
18	2-1/2"	BV-3SVRCP250	cover plate	CF8M	1	1	0	0
	3"	BV-3SVRCP300	cover plate	CF8M	1	1	0	0
	4"	BV-3SVRCP400	cover plate	CF8M	1	1	0	0
19	all	see repair kit	large encapsulated seat	see repair kit	2	2	2	2
20	all	see repair kit	plug	see repair kit	1	1	1	1
21	2-1/2"	BV-3SVF21250	lockwasher	304 SS	1	1	1	1
	3" and 4"	BV-3SVF213040	lockwasher	304 SS	1	1	1	1

**BV3S-Series Repair Kit Part Numbers**

**Seat Kits**

Size	Material				
	Virgin PTFE	RTFE	25% Carbon PTFE	50% Stainless Steel PTFE	UHMW
1/2"	BV-3SVFRK050	BV-3SGRK050	BV-3SCRK050	BV-3SSRK050	BV-3SURK050
3/4"	BV-3SVFRK075	BV-3SGRK075	BV-3SCRK075	BV-3SSRK075	BV-3SURK075
1"	BV-3SVFRK100	BV-3SGRK100	BV-3SCRK100	BV-3SSRK100	BV-3SURK100
1-1/2"	BV-3SVFRK150	BV-3SGRK150	BV-3SCRK150	BV-3SSRK150	BV-3SURK150
2"	BV-3SVFRK200	BV-3SGRK200	BV-3SCRK200	BV-3SSRK200	BV-3SURK200
2-1/2"	BV-3SVFRK250	BV-3SGRK250	BV-3SCRK250	BV-3SSRK250	BV-3SURK250
3"	BV-3SVFRK300	BV-3SGRK300	BV-3SCRK300	BV-3SSRK300	BV-3SURK300
4"	BV-3SVRRK400	BV-3SGRK400	BV-3SCRK400	BV-3SSRK400	BV-3SURK400

**Seat Kit Contains**

Item Number	Description	Quantity
19	encapsulated seats	2
4	encapsulated seats	2
20	plug	1
6	thrust washer	1
7	O-ring	1
8	stem packing	*
5	body seals	2

\*Quantity of 1 for 1/2", quantity of 2 for 3/4", and quantity of 3 for 1" to 4"

**Handle Kits**

Size	Part Number	Contains	
		Item Number	Description
1/2"	BV-23-HA050-075	10	Bevel washer
3/4"		11	Stop pin
1"	BV-23-HA100	12	Nut
1-1/2"	BV-23-HA150-200	14	Handle
2"			
2-1/2"	BV-23-HA-17		
3"	BV-23-HA-22		
4"			

**Stem Kits**

Size	Part Number		Contains	
	L Port	T Port	Item Number	Description
1/2"	BV3SV-SML-050	BV3SV-SMT-050	6	Thrust washer
3/4"	BV3SV-SML-075	BV3SV-SMT-075	7	O-ring
1"	BV3SV-SML-100	BV3SV-SMT-100	8	Stem packing
1-1/2"	BV3SV-SML-150	BV3SV-SMT-150	9	Gland ring
2"	BV3SV-SML-200	BV3SV-SMT-200	10	Spring washer
2-1/2"	BV3SV-SML-250	BV3SV-SMT-250	13	Stem
3"	BV3SV-SML-300	BV3SV-SMT-300	17	Stem packing nut
4"	BV3SV-SML-400	BV3SV-SMT-400	21*	Lock washer

\*Only included in stem kit sizes 2-1/2" - 4"

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