



ITT

# Val-U-Act Ball Valve Operators



*Engineered for life*

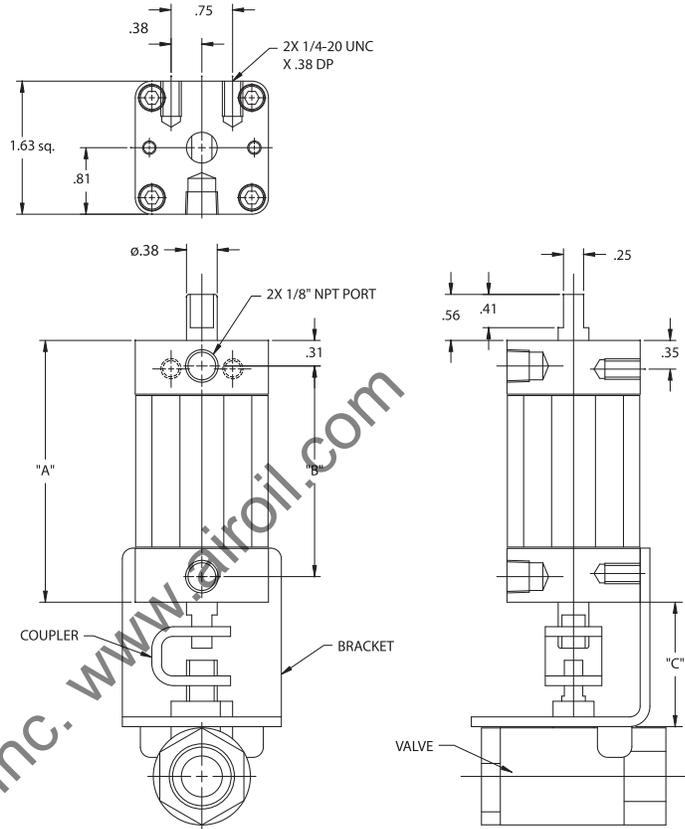
# Specifications: Class-Act (CL) Valve Operator (1/4" – 3/4")

## Double Acting Valve Operator Systems

- Valve Sizes from 1/4" to 3/4"
- 48 in. lbs. to 80 in. lbs.

As compared to other rotary devices,  
ITT Vane Actuators Have:

- One Moving Part Providing:
  - ZERO Backlash
  - No Loss of Motion
  - Smooth Rotation
  - Precise Repeatability
  - Continuous Full Torque Throughout Rotation
- ITT Patented Urethane Seals for:
  - Long Cycle Life and Non-Lube Service



## SPECIFICATIONS

### Unit Materials

Stator/Rotor Seals .....	Urethane
Shaft/Tube Seals .....	Buna
Cylinder .....	Anodized Alum.
End Caps .....	Anodized Alum.
Shaft.....	Stainless Steel
Trim .....	Mild Steel, Opt'l S.S.
Bearings .....	Delrin
Brackets.....	Stainless Steel
Couplings .....	Stainless Steel

### Miscellaneous

Inlets ..... 1/8" NPT

### Filtration

Air 25-30 microns

### Temperature Range

-20°F to 180°F. Consult factory for higher temperature.

Dimensions (in.)		
Actuator Size	A	B
4	3.20	2.57
6	4.75	4.12

Dimensions (in.)	
Valve Size	C
Apollo 1/4" thru 1/2"	1.57
Apollo 3/4"	1.73

Torque Chart (in.lbs.)					
Actuator Model	Actuator Torque at				
	40 PSI	60 PSI	80 PSI	100 PSI	150 PSI
742	21	35	48	60	90
762	35	58	80	100	150

Capacity per Stroke	
Actuator Model	Cubic Inches
742	1.66
762	2.52

Weight	
Actuator Model	Pounds
742	0.88
762	1.13
Brackets	0.30

# How To Order: Class-Act (CL) Valve Operator (1/4" – 3/4")

Part Number Example: 742-501-BC-V1-E00

MODEL	END CAPS	SHAFT	UNIT MATERIAL	VALVE	BRACKET & COUPLING	OPTIONS	OPTIONS
<b>742</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>BC</b>	<b>V1</b>	<b>E00</b>	<b>XXX</b>
1	2	3	4	5	6	7	8

1

Model	
Operator - Torque (100 psi) - Rotation	
742	60 in. lbs. - 90°
762	100 in. lbs. - 90°

2

End Caps	
5	Pneumatic Clear Anodized

3

Shaft	
0	Double Manual Override

4

Unit Materials	
Shaft - Body - Trim	
1	303 Stainless Steel, Aluminum, Steel
3	303 Stainless Steel, Aluminum, Stainless Steel

5

Apollo Bronze Ball Valves <sup>1</sup>			
(Use '00' if not selecting a valve)			
Size - Type - Operator			
00	No Valve		
BA	1/4"	2 way	4
BB	3/8"	2 way	4
BC	1/2"	2 way	4
BD	3/4"	2 way	6
BL	1/2"	Diverter	6

Apollo Stainless Steel Ball Valves <sup>2</sup>			
Valve Size - Type - Operator Size			
SA	1/4"	2 way	4
SB	3/8"	2 way	4
SC	1/2"	2 way	4
SD	3/4"	2 way	6
SL	1/2"	Diverter	6

<sup>1</sup> Bronze 2-way 1/4", 3/8" and 1/2" are Apollo Series 77 Full Port Ball Valve. The 3/4" is Apollo Series 71 Standard Port. Diverter Valves are Series 71. All Bronze valves have Stainless Steel Ball and Stem.

<sup>2</sup> Stainless Steel 2-way and diverter valves are Apollo Series 76.

6

Bracket	
Valve Brand - Valve Size - Material	
00	No Bracket
V1	Apollo - 1/4", 3/8", 1/2" 304 Stainless Steel
V2	Apollo - 3/4", 1" 304 Stainless Steel

7

Options	
000	No Options
E00	Factory Assembled Operator Bracket, Coupling and Valve
400	Adjustable Stroke Control Cap End
704	Teflon Impregnated Hard Anodized

8

Switch Options	
All Axx Switch Options are Single End Only	
A00	Switch Ready - No Switches
A02	Switch Package <sup>1</sup> - 2 Reed Switches
A05	Switch Package <sup>2</sup> - 2 Sourcing Switches
A08	Switch Package <sup>2</sup> - 2 Sinking Switches

<sup>1</sup> Switch has built in protection for use with ABPLC

<sup>2</sup> Switch function can be either sinking or sourcing depending on wiring scheme.

**Consult Factory for Quick Disconnect Switches**

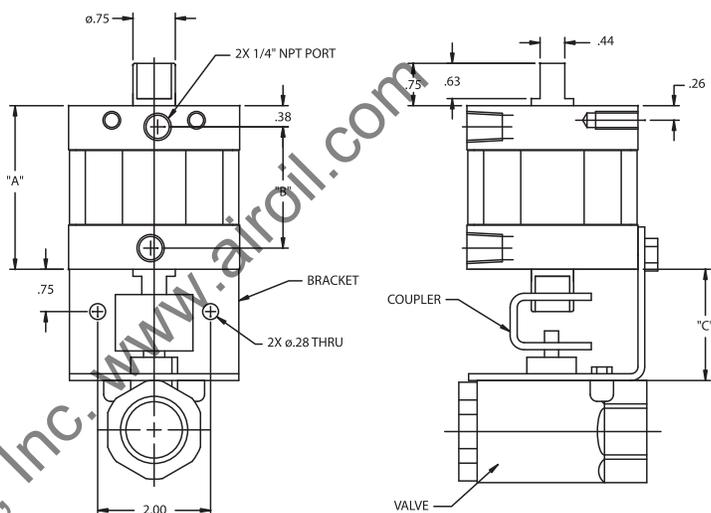
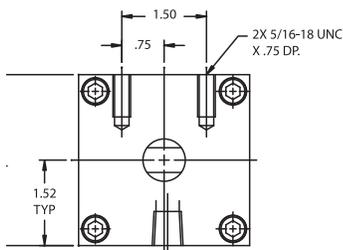
# Specifications: Val-U-Act (VA) Valve Operator (1/4" – 3")

## Double Acting Valve Operator Systems

- Valve Sizes from 1/4" to 3"
- 140 in. lbs. to 560 in. lbs.

As compared to other rotary devices, ITT Vane Actuators Have:

- One Moving Part Providing:
  - ZERO Backlash
  - No Loss of Motion
  - Smooth Rotation
  - Precise Repeatability
  - Continuous Full Torque Throughout Rotation
- ITT Patented Urethane Seals for:
  - Long Cycle Life and Non-Lube Service



## SPECIFICATIONS

### Unit Materials

Stator/Rotor Seals .....	Urethane
Shaft/Tube Seals .....	Buna
Cylinder .....	Anodized Alum.
End Caps .....	Anodized Alum.
Shaft.....	Mild Steel, Opt'l S.S.
Trim.....	Mild Steel, Opt'l S.S.
Bearings .....	Delrin
Brackets.....	Stainless Steel
Couplings .....	Stainless Steel

### Miscellaneous

Inlets .....1/4" NPT

### Filtration

Air 25-30 microns

### Temperature Range

-20°F to 180°F. Consult factory for higher temperature.

Dimensions (in.)		
Actuator Size	A	B
1	2.90	2.15
2	4.40	3.64
3	7.42	6.67

Dimensions (in.)	
Valve Size	C
Apollo 1/4" thru 1/2"	1.69
Apollo 3/4" thru 1"	1.97
Apollo 1 1/4" thru 2"	2.31
Apollo 2 1/2" thru 3"	2.25

Torque Chart (in.lbs.)					
Actuator Model	Actuator Torque at				
	40 PSI	60 PSI	80 PSI	100 PSI	150 PSI
812	70	105	140	175	265
822	140	210	280	350	524
832	280	420	560	700	1050

Capacity per Stroke	
Actuator Model	Cubic Inches
812	2.75
822	5.50
832	11.00

Weight	
Actuator Model	Pounds
812	2.5
822	3.3
832	6.0
Brackets	0.2-0.8

Spring Return	
Actuator Model	Add. Weight
822	3.0
832	9.0

# How To Order: Val-U-Act (VA) Valve Operator (1/4" – 3")

Part Number Example: 812-501-BC-V1-E00

MODEL	END CAPS	SHAFT	UNIT MATERIAL	VALVE	BRACKET & COUPLING	OPTIONS	OPTIONS
<b>812</b>	<b>5</b>	<b>O</b>	<b>1</b>	<b>BC</b>	<b>V1</b>	<b>E00</b>	<b>XXX</b>
1	2	3	4	5	6	7	8

**1 Model**  
Operator - Torque (100 psi) - Rotation

812	175 in. lbs. - 90°
822	350 in. lbs. - 90°
832	700 in. lbs. - 90°

**2 End Caps**

5	Pneumatic Clear Anodized
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**3 Shaft**

O	Double Manual Override
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**4 Unit Materials**  
Shaft - Body - Trim

1	1144 Carbon Steel (G&P) - Anod. Alum. - Carb.Steel
3	303 Stainless Steel - Anod. Alum. - Stainless Steel

**5 Apollo Bronze Ball Valves<sup>1</sup>**  
(Use '00' if not selecting a valve)  
Size - Type - Operator

00	No Valve		
BA	1/4"	- 2 way	- 1
BB	3/8"	- 2 way	- 1
BC	1/2"	- 2 way	- 1
BD	3/4"	- 2 way	- 1
BE	1"	- 2 way	- 1
BF	1 1/4"	- 2 way	- 2
BG	1 1/2"	- 2 way	- 2
BH	2"	- 2 way	- 2
BJ	3"	- 2 way	- 3
BL	1/2"	- Diverter	- 1
BM	3/4"	- Diverter	- 1
BN	1"	- Diverter	- 1
BO	1 1/4"	- Diverter	- 2
BP	1 1/2"	- Diverter	- 2
BQ	2"	- Diverter	- 2

**Apollo Stainless Steel Ball Valves<sup>2</sup>**  
Valve Size - Type - Operator Size

SA	1/4"	- 2 way	- 1
SB	3/8"	- 2 way	- 1
SC	1/2"	- 2 way	- 1
SD	3/4"	- 2 way	- 1
SE	1"	- 2 way	- 1
SF	1 1/4"	- 2 way	- 2
SG	1 1/2"	- 2 way	- 2
SH	2"	- 2 way	- 2
SI	2 1/2"	- 2 way	- 3
SJ	3"	- 2 way	- 3
SL	1/2"	- Diverter	- 1
SM	3/4"	- Diverter	- 1
SN	1"	- Diverter	- 1
SP	1 1/2"	- Diverter	- 2
SQ	2"	- Diverter	- 2

<sup>1</sup> Bronze 2-way 1/4", 3/8" and 1/2" are Apollo Series 77 Full Port Ball Valve. 3/4" thru 3" are Apollo Series 71 Standard Port. Diverter Valves are Series 71. All Bronze valves have Stainless Steel Ball and Stem.

<sup>2</sup> Stainless Steel 2-way and diverter valves are Apollo Series 76.

**6 Bracket**  
Valve Brand - Valve Size - Material

00	No Bracket
V1	Apollo - 1/4", 3/8", 1/2" 304 Stainless Steel
V2	Apollo - 3/4", 1" 304 Stainless Steel
V3	Apollo - 1 1/4", 1 1/2", 2" 304 Stainless Steel
V4	Apollo - 2 1/2", 3" 304 Stainless Steel

**7 Options**

000	No Options
E00	Factory Assembled Operator Bracket, Coupling and Valve
400	Adjustable Stroke Control Cap End
704	Teflon Impregnated Hardened Anodized

**8 Switch Options**  
All Axx Switch Options are Single End Only

A00	Switch Ready - No Switches
A02	Switch Package <sup>1</sup> - 2 Reed Switches
A05	Switch Package <sup>2</sup> - 2 Sourcing Switches
A08	Switch Package <sup>2</sup> - 2 Sinking Switches

<sup>1</sup> Switch has built in protection for use with ABPLC

<sup>2</sup> Switch function can be either sinking or sourcing depending on wiring scheme.

**Consult Factory for  
Quick Disconnect Switches**

# How To Order: Val-U-Act Spring Return (VS) Valve Operator (1/4" - 3")

Part Number Example: 822-5A1-BC-V1-E00

MODEL	END CAPS	SHAFT	UNIT MATERIAL	VALVE	BRACKET & COUPLING	OPTIONS
822	5	A	1	BC	V1	E00
1	2	3	4	5	6	7

1

Model	
Operator - Torque (100 psi) - Rotation	
822	350 in. lbs. - 90°
832	700 in. lbs. - 90°

2

End Caps	
5	Pneumatic Clear Anodized

3

Shaft	
A	Spring Closes Valve
B	Spring Opens Valve

4

Unit Materials	
Shaft - Body - Trim	
1	1144 CarbonSteel (G&P) - Anod. Alum. - Carb.Steel
3	303 Stainless Steel - Anod. Alum. - Stainless Steel

5

Apollo Bronze Ball Valves <sup>1</sup>			
(Use '00' if not selecting a valve)			
Size - Type - Operator			
00	No Valve		
BA	1/4" - 2 way	-	2
BB	3/8" - 2 way	-	2
BC	1/2" - 2 way	-	2
BD	3/4" - 2 way	-	2
BE	1" - 2 way	-	2
BF	1 1/4" - 2 way	-	3
BG	1 1/2" - 2 way	-	3
BH	2" - 2 way	-	3
BL	1/2" - Diverter	-	2
BM	3/4" - Diverter	-	2
BN	1" - Diverter	-	2
BO	1 1/4" - Diverter	-	3
BP	1 1/2" - Diverter	-	3
BQ	2" - Diverter	-	3

Apollo Stainless Steel Ball Valves <sup>2</sup>			
Valve Size - Type - Operator Size			
SA	1/4" - 2 way	-	2
SB	3/8" - 2 way	-	2
SC	1/2" - 2 way	-	2
SD	3/4" - 2 way	-	2
SE	1" - 2 way	-	2
SF	1 1/4" - 2 way	-	3
SG	1 1/2" - 2 way	-	3
SH	2" - 2 way	-	3
SL	1/2" - Diverter	-	2
SM	3/4" - Diverter	-	2
SN	1" - Diverter	-	2
SP	1 1/2" - Diverter	-	3
SQ	2" - Diverter	-	3

1 Bronze 2-way 1/4", 3/8" and 1/2" are Apollo Series 77 Full Port Ball Valve. 3/4" thru 3" are Apollo Series 71 Standard Port. Diverter Valves are Series 71. All Bronze valves have Stainless Steel Ball and Stem.

2 Stainless Steel 2-way and diverter valves are Apollo Series 76.

6

Bracket	
Valve Brand - Valve Size - Material	
00	No Bracket
V1	Apollo - 1/4", 3/8", 1/2" 304 Stainless Steel
V2	Apollo - 3/4", 1" 304 Stainless Steel
V3	Apollo - 1 1/4", 1 1/2", 2" 304 Stainless Steel
V4	Apollo - 2 1/2", 3" 304 Stainless Steel

7

Options	
000	No Options
E00	Factory Assembled Operator Bracket, Coupling and Valve
400	Adjustable Stroke Control Cap End, Pos. 5
704	Teflon Impregnated Hard Anodized Note: Operator Only

## Spring Return

### Description:

Spring Return operators are formed bolting a spring return unit to a double acting Val-U-Act operator. The return movement is effected by a clock-type spring which is pretensioned to about half the operator torque. The amount of pretension is large, compared to the rotation and therefore the torque does not vary more than 20% over the rotation.

Spring returns are factory-installed and adjusted.

### Specifications:

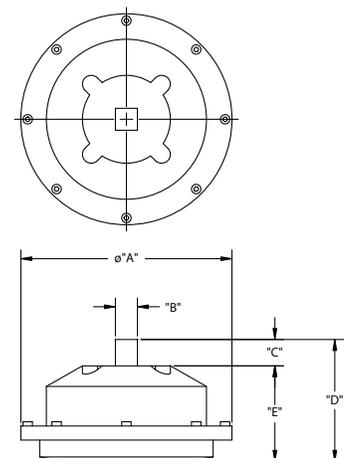
Spring Casing - pressure diecast to BS1004 zinc or aluminum alloy LM25

Finish - Epoxy stove enamel

Spring - Clock type, spring steel

### Ordering:

The spring return is available with the optional Adjustable Stroke Control but not with the Hall Effect or AC/DC Reed Switches.



Dimensions (in.)					
Operator Size	A	B	C	D	E
2	4.22	.375	.500	2.25	1.78
3 & 4	5.97	.625	.750	4.06	3.23

## Special Conditions and Limited Warranty

Determination of the suitability of any information or product for the application contemplated by any user or the manner of that use is the sole responsibility of the user.

Compact Automation Products, LLC reserves the right to improve or change designs without notice.

All orders are subject to acceptance by the factory sales department.

Compact Automation Products, LLC agrees to repair or replace to the original purchaser any standard parts or products for a period of 12 months from date of shipment which Compact Automation Products, LLC determines upon inspection to be defective in workmanship or material. Wear components including but not limited to seals and bearings are excluded from this warranty.

Under no circumstance may merchandise be returned without written authorization from the factory.

This warranty is void in the event the product has been tampered with, altered, or serviced by unauthorized personnel.

Compact Automation Products, LLC's total responsibility for any claims, damages, losses or liabilities related to the product covered thereunder shall not exceed the purchase price of such product. In no event shall Compact Automation Products, LLC be liable for any special, indirect, incidental or consequential damages of any character, including but not limited to loss of use of productive facilities or equipment, lost profit, property damage, transportation, installation or removal or lost production whether suffered by purchaser or third party. Compact Automation Products, LLC disclaims all liability for any and all cost, claims demands, charges, expenses, and other damages, either direct or indirect, incident to all property damage arising out of any cause of action based on strict liability. This warranty gives you specific legal rights and you may have other rights, which vary from state to state.

Air-Oil Systems, Inc. [www.airoil.com](http://www.airoil.com)

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