



# VA-NY Series

Resilient seated butterfly valves



## Overview

The VA-NY Series resilient seated butterfly valves set the design standard for quality, reliability and long life in a wide variety of HVAC applications. All VA-NY series automated butterfly valves are 100% factory tested for bubble tight shut off and low seating/unseating torque.

VA-NY Series valves are available in 2-way and 3-way configurations. Actuators include industrial electric and commercial electric models in both spring return and non spring return variations for on/off and modulating control applications. Differential pressure ratings are available for high close-off (up to 175 PSI) and low close-off (50 PSI) requirements.

## Applications

- Automated applications on chilled water, hot water and condenser water

## Features & Benefits

- High purity peroxide cured EPDM seats ensure low torque and superior rubber stability.
- Superior corrosion and abrasion resistance through nylon coated ductile iron disc extends the life of the valve and reduces torque requirements.
- High-strength internal disc-to-stem connection is easily serviceable.
- Wide variety of direct mount actuators reduces size, costs, and hysteresis.
- Full and 50 PSI close-off pressure ratings available for competitive pricing.
- Non-corrosive, heavy duty acetal bushing on stem absorbs actuator side thrust.
- Double “U” cup stem seal design is self-adjusting and gives positive sealing in both directions.
- Stem retaining assembly prevents unintentional removal of the stem during field service.
- Extended neck length allows for 2” of piping insulation and is easily accessible for mounting actuators.
- Precision double “D” disc to stem connection drives the disc without the need for screws or pins. Disassembly of the stem is just a matter of pulling the stem out of the disc.
- Two seals prevent line media from coming in contact with the stem or body. Primary Seal is achieved by an interference fit of the molded seat at with the disc hub. Secondary Seal is created because the stem diameter is greater than the diameter of the seat stem hole.
- Tongue and groove seat design lowers torque and provides complete isolation of flowing media from the body. Also, a molded O-ring eliminates the use of flange gaskets.
- Disc casting is spherically machined and hand polished to provide a bubble-tight shut-off, minimum torque, and longer seat life.

# Model Selection

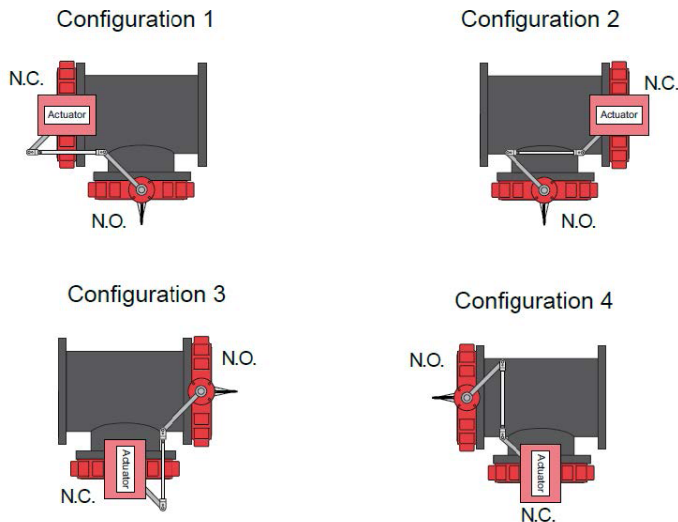
<b>Resilient Seated Butterfly Valves</b>		<b>VA-</b>	<b>NY</b>	<b>L</b>	<b>2</b>	<b>-</b>	<b>C</b>	<b>0</b>	<b>/</b>	<b>70-xx-xxxx</b>	<b>XX</b>	<b>X</b>
NY Series	Cast Iron Body, Nylon-Coated Ductile Iron Disc, 416 SS stem, EPDM Seat.											
Body Type	L = Lug Body											
Valve Type	2 = 2-Way valves 3 = 3-Way valves											
Configuration	C <sup>1</sup> = 2-way Assembly, Normally Closed (Default) N <sup>1</sup> = 2-way Assembly, Normally Open X = 3-way Assembly Configuration Number (1, 2, 3, or 4; refer to 3-Way Valve Configurations, below)											
Valve Size	xx = Size(in.) 02 = 2", 12 = 12", etc.											
Valve Shutoff Rating	0 = Cast Iron Body, 175 PSI 2"-12" 1 = Cast Iron Body, 50 PSI 4"- 12" (reduced dia. disc)											
Actuator <sup>2</sup>	<p>Commercial Actuators</p> DC24-310-T = 24v, Floating, NSR, Commercial Actuator (2" to 6" BVF only) DCM24-310 = 24v, Modulating, NSR, Commercial Actuator (2" to 6" BVF only) DS24-180 = 24v, On/Off, SR, Commercial Actuator (2" to 5" BVF only) DSM24-180 = 24v, Modulating, SR, Commercial Actuator (2" to 5" BVF only) <p>Industrial Actuators</p> 70-0061 = 120V, on/off, NSR, for 2" to 6" BFV, Full Pressure 70-0121 = 120V, on/off, NSR, for 8" BFV 50PSI 70-0201 = 120V, on/off, NSR, for 8" BFV full, or 10" 50 PSI 70-0301 = 120V, on/off, NSR, for 10" BFV full, or 12" 50 PSI 70-0501 = 120V, on/off, NSR, for 12" BFV Full Pressure											
Electric Actuator Accessories	SV = Servo Card for 0-10 VDC or 4-20 mA modulation											
Heater	H = Anti-Condensation Heater											

1. Not applicable to NSR Commercial Actuators (Part number shows X)
2. Dual Commercial Actuator configuration offered on 4", 5" & 6" BFV to reach 175PSI Shutoff. Add -D after actuator code.
3. Please refer to Price List for default offer and simplified parts selection.
4. Other configurations available upon request.

## 3-Way Valve Configurations

Automated butterfly valves flow patterns (view is from the top)

Spring return and non-spring return



# Product Specifications

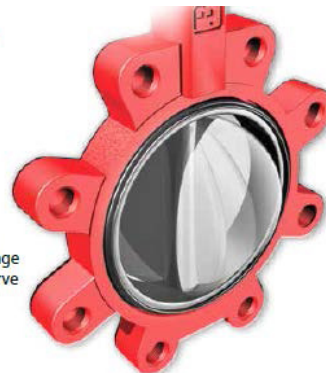
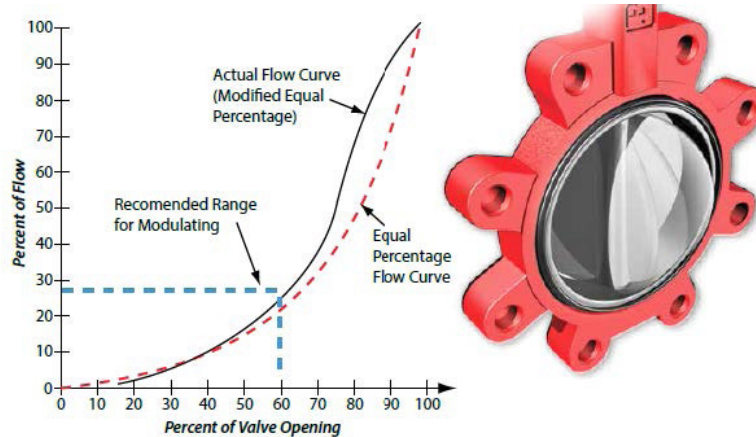
Service \_\_\_\_\_ Hot water, chilled water, condenser water up to 50% glycol  
 Body style \_\_\_\_\_ Lug, 2-way and 3-way, for ANSI 125 and ANSI 150 flanges  
 Flow characteristic \_\_\_\_\_ Modified Equal Percentage; see Equal Percentage Flow Curve chart  
 Flow coefficients \_\_\_\_\_ See Piping Geometry charts  
 Fluid temperature limits \_\_\_\_\_ -20 to 250°F (-28 to 121°C)  
 Leakage \_\_\_\_\_ Bubble tight at rated maximum differential pressure  
 Maximum fluid velocity \_\_\_\_\_ 30 ft/second (9 m/second)  
 Materials  
 Body \_\_\_\_\_ Cast iron  
 Disc \_\_\_\_\_ Ductile iron, nylon 11 coated  
 Seat \_\_\_\_\_ EPDM (Ethylene propylene diene monomer) - Peroxide cured  
 Stem \_\_\_\_\_ 416 stainless steel  
 Tee \_\_\_\_\_ Ductile iron (3-way valves only)  
 Close off \_\_\_\_\_ See Close-Off charts  
 Approvals & certifications \_\_\_\_\_ CE/PED Certification,  
 \_\_\_\_\_ NSF/ANSI 61-2008 Certification (Potable Water) SIL Certification,  
 \_\_\_\_\_ ABS Certification,  
 \_\_\_\_\_ Bureau Veritas Certification,  
 \_\_\_\_\_ DNV

## Cv Values at Various Angles of Opening - 2-Way Valves

Valve Size	Angle of Disc Opening								
	10 degrees	20 degrees	30 degrees	40 degrees	50 degrees	60 degrees <sup>1</sup>	70 degrees	80 degrees	90 degrees
2	1	7	16	27	43	61	84	114	144
2.5	1.5	11	24	43	67	107	163	223	282
3	2	15	35	61	96	154	267	364	461
4	3	27	62	109	171	274	496	701	841
5	5	43	98	170	268	428	775	1146	1376
6	6	56	129	225	354	567	1025	1542	1850
8	12	102	241	421	680	1081	1862	2842	3316
10	19	162	382	667	1076	1710	2948	4525	5430
12	27	235	555	1005	1594	2563	4393	6731	8077

1. When selecting a butterfly valve for a modulating application, use a valve where the calculated Cv falls between 0 - 60 degrees.

## Equal Percentage Flow Curve Chart



# Piping Geometry Charts

## 2-Way & 3-Way piping geometry chart at 60° rotation (adjusted Cv)

Valve Size	Cv	Pipe Size Model No.	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"
			2"	61	VA-NYL2/3-x020	61	59	57	55	54	—	—	—	—
2.5"	107	VA-NYL2/3-x025	—	107	104	98	94	92	—	—	—	—	—	—
3"	154	VA-NYL2/3-x030	—	—	154	147	140	136	131	—	—	—	—	—
4"	274	VA-NYL2/3-x040	—	—	—	274	265	255	242	235	—	—	—	—
5"	428	VA-NYL2/3-x050	—	—	—	—	428	418	393	378	370	—	—	—
6"	567	VA-NYL2/3-x060	—	—	—	—	—	567	545	524	510	501	—	—
8"	1081	VA-NYL2/3-x080	—	—	—	—	—	—	1081	1048	1008	980	—	—
10"	1710	VA-NYL2/3-x100	—	—	—	—	—	—	—	1710	1671	1617	1572	—
12"	2563	VA-NYL2/3-x120	—	—	—	—	—	—	—	—	2563	2516	2441	2374

## 2-Way & 3-Way piping geometry chart at 90° rotation (adjusted Cv)

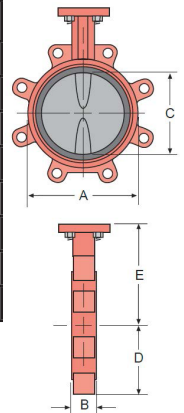
Valve Size	Cv	Pipe Size Model No.	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"
			2"	144	VA-NYL2/3-x020	144	127	111	96	90	—	—	—	—
2.5"	282	VA-NYL2/3-x025	—	282	245	187	165	154	—	—	—	—	—	—
3"	461	VA-NYL2/3-x030	—	—	461	340	274	246	223	—	—	—	—	—
4"	841	VA-NYL2/3-x040	—	—	—	841	664	538	442	406	—	—	—	—
5"	1376	VA-NYL2/3-x050	—	—	—	—	1376	1132	808	700	649	—	—	—
6"	1850	VA-NYL2/3-x060	—	—	—	—	—	1850	1360	1101	988	929	—	—
8"	3316	VA-NYL2/3-x080	—	—	—	—	—	—	3316	2633	2142	1898	—	—
10"	5430	VA-NYL2/3-x100	—	—	—	—	—	—	—	5430	4487	3667	3219	—
12"	8077	VA-NYL2/3-x120	—	—	—	—	—	—	—	—	8077	6892	5590	4974

## Dimensions - 2-Way w/ Commercial Electric Actuators

### Valve body

2-Way BFV Dimensions, 2" - 12" Series 31 Butterfly Valves														
Valve Model <sup>1</sup>	Size		Cv		A	B	C	D	E	Lug Bolting Data			Weight <sup>2</sup>	
	in.	mm.	90°	60°						BC	Holes	Threads	lbs.	kg.
VA-NYL2-_020	2	50	144	61	3.69	1.62	2.00	2.30	5.50	4.75	4	5/8-11	7.0	3.12
VA-NYL2-_025	2.5	65	282	107	4.19	1.75	2.50	2.57	6.00	5.50	4	5/8-11	8.0	3.63
VA-NYL2-_030	3	80	461	154	4.88	1.75	3.00	2.81	6.25	6.00	4	5/8-11	9.0	4.08
VA-NYL2-_040	4	100	841	274	6.06	2.00	4.00	4.09	7.00	7.50	8	5/8-11	15.0	6.80
VA-NYL2-_050	5	125	1376	428	7.06	2.12	5.00	4.61	7.50	8.50	8	3/4-10	20.0	9.07
VA-NYL2-_060	6	150	1850	567	8.12	2.12	5.75	5.06	8.00	9.50	8	3/4-10	23.0	10.43

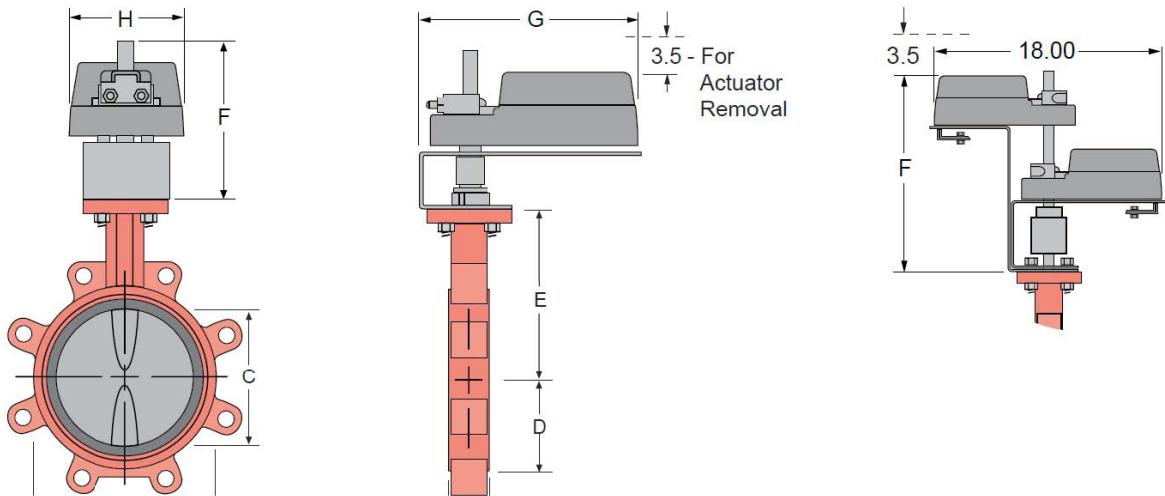
1. \_ = N (normally open) or C (normally closed)
2. Weights are for valve bodies only



## Commercial actuators

Model Number	F	G	H	Weight (lbs)
DS/DMS24-180	6.00	10.31	4.00	6.4
DC/DCM24-310	7.43	10.96	3.95	4.4
Dual Act.	11.75	18.00	5.00	12.8

Largest actuator dimension shown

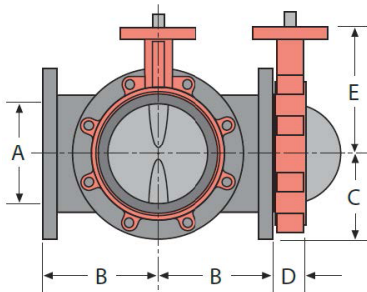


## Dimensions - 3-Way w/ Commercial Electric Actuators

### Valve body

3-Way BFV Dimensions, 2" - 12" Series 31 Butterfly Valves													
Valve Model <sup>1</sup>	Size		Cv		A	B	C	D	E	Lug Bolting Data			Weight lbs.
	in.	mm.	90°	60°						BC	Holes	Threads	
VA-NYL3-X020	2	50	144	61	2.00	4.50	3.00	1.62	5.50	4.75	4	5/8-11	19
VA-NYL3-X025	2.5	65	282	107	2.50	5.00	3.50	1.80	6.00	5.50	4	5/8-11	27
VA-NYL3-X030	3	80	461	154	3.00	5.50	3.80	1.80	6.25	6.00	4	5/8-11	39
VA-NYL3-X040	4	100	841	274	4.00	6.50	4.50	2.00	7.00	7.50	8	5/8-11	62
VA-NYL3-X050	5	125	1376	428	5.00	7.50	5.00	2.12	7.50	8.50	8	3/4-10	79
VA-NYL3-X060	6	150	1850	567	5.80	8.00	5.50	2.12	8.00	9.50	8	3/4-10	96

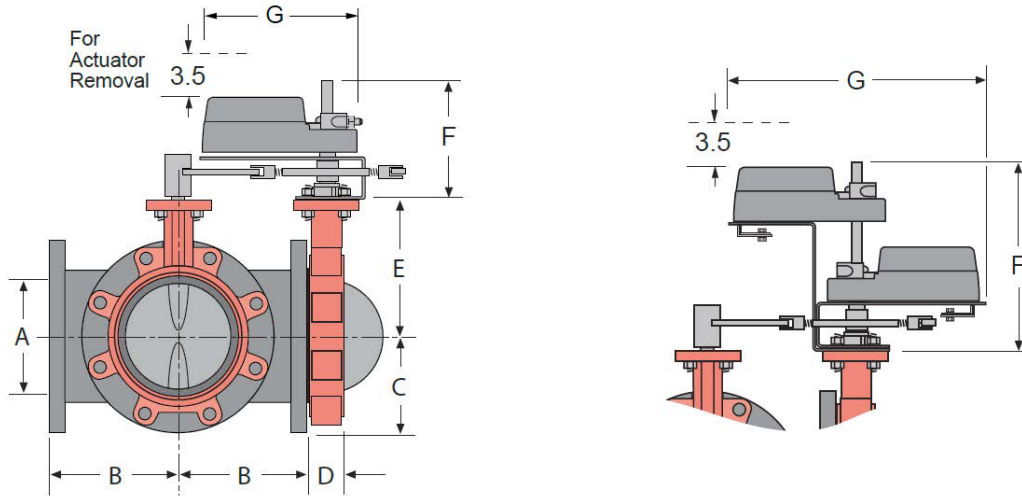
1. X = Configuration number for 3-way valve



## Commercial actuators

Model Number	F	G	Weight (lbs)
DS/DMS24-180	6.00	10.31	6.4
DC/DCM24-310	7.43	10.96	4.4
Dual Act.	11.75	18.00	12.8

Largest actuator dimension shown



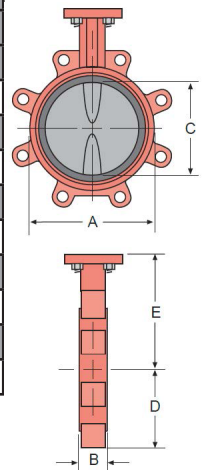
## Dimensions - 2-Way w/ Industrial Actuators

### Valve body

2-Way BFV Dimensions, 2" - 12" Series 31 Butterfly Valves														
Valve Model <sup>1</sup>	Size		Cv		A	B	C	D	E	Lug Bolting Data			Weight <sup>2</sup>	
	in.	mm.	90°	60°						BC	Holes	Threads	lbs.	kg.
VA-NYL2-_020	2	50	144	61	3.69	1.62	2.00	2.30	5.50	4.75	4	5/8-11	7.0	3.12
VA-NYL2-_025	2.5	65	282	107	4.19	1.75	2.50	2.57	6.00	5.50	4	5/8-11	8.0	3.63
VA-NYL2-_030	3	80	461	154	4.88	1.75	3.00	2.81	6.25	6.00	4	5/8-11	9.0	4.08
VA-NYL2-_040	4	100	841	274	6.06	2.00	4.00	4.09	7.00	7.50	8	5/8-11	15.0	6.80
VA-NYL2-_050	5	125	1376	428	7.06	2.12	5.00	4.61	7.50	8.50	8	3/4-10	20.0	9.07
VA-NYL2-_060	6	150	1850	567	8.12	2.12	5.75	5.06	8.00	9.50	8	3/4-10	23.0	10.43
VA-NYL2-_080	8	200	3316	1081	10.50	2.50	7.75	6.05	9.50	11.75	8	3/4-10	42.0	19.05
VA-NYL2-_100	10	250	5430	1710	12.75	2.50	9.75	7.69	10.75	14.25	12	7/8-9	66.0	29.94
VA-NYL2-_120	12	300	8077	2563	14.88	3.00	11.75	9.02	12.25	17.00	12	7/8-9	88.0	39.92

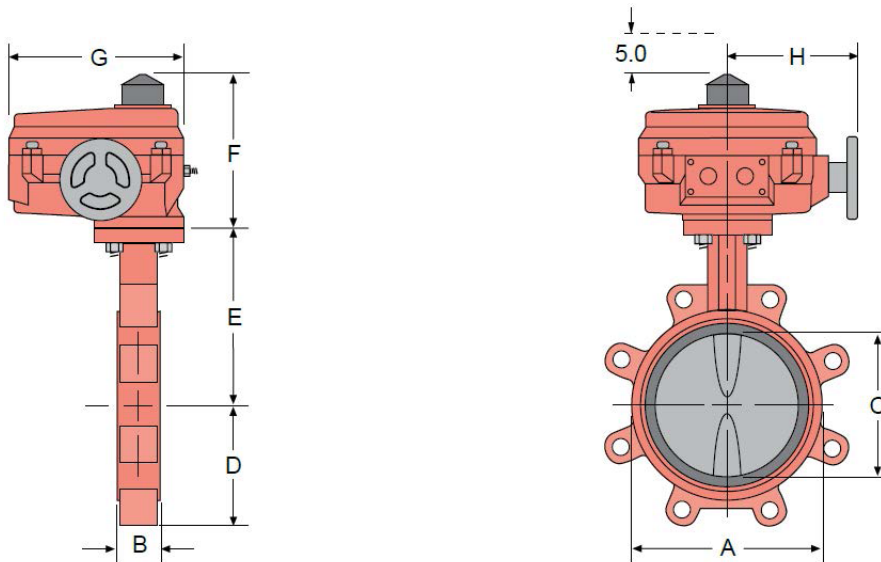
1. \_ = N (normally open) or C (normally closed)

2. Weights are for valve bodies only



## Industrial actuators (Series 70)

Model Number	F	G	H	Weight (lbs)
70-0061	7.20	7.50	5.86	12
70-0121/0201	8.10	10.10	7.86	28
70-0301/0501/0651	8.80	12.10	9.56	48

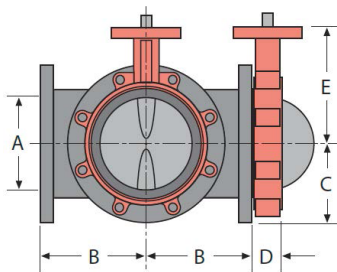


## Dimensions - 3-Way w/ Industrial Actuators

### Valve body

3-Way BFV Dimensions, 2" - 12" Series 31 Butterfly Valves													
Valve Model <sup>1</sup>	Size		Cv		A	B	C	D	E	Lug Bolting Data			Weight lbs.
	in.	mm.	90°	60°						BC	Holes	Threads	
VA-NYL3-X020	2	50	144	61	2.00	4.50	3.00	1.62	5.50	4.75	4	5/8-11	19
VA-NYL3-X025	2.5	65	282	107	2.50	5.00	3.50	1.80	6.00	5.50	4	5/8-11	27
VA-NYL3-X030	3	80	461	154	3.00	5.50	3.80	1.80	6.25	6.00	4	5/8-11	39
VA-NYL3-X040	4	100	841	274	4.00	6.50	4.50	2.00	7.00	7.50	8	5/8-11	62
VA-NYL3-X050	5	125	1376	428	5.00	7.50	5.00	2.12	7.50	8.50	8	3/4-10	79
VA-NYL3-X060	6	150	1850	567	5.80	8.00	5.50	2.12	8.00	9.50	8	3/4-10	96
VA-NYL3-X080	8	200	3316	1081	7.80	9.00	6.80	2.50	9.50	11.75	8	3/4-10	155
VA-NYL3-X100	10	250	5430	1710	9.80	11.00	8.00	2.50	10.75	14.25	12	7/8-9	270
VA-NYL3-X120	12	300	8077	2563	11.80	12.00	9.50	3.00	12.25	17.00	12	7/8-9	380

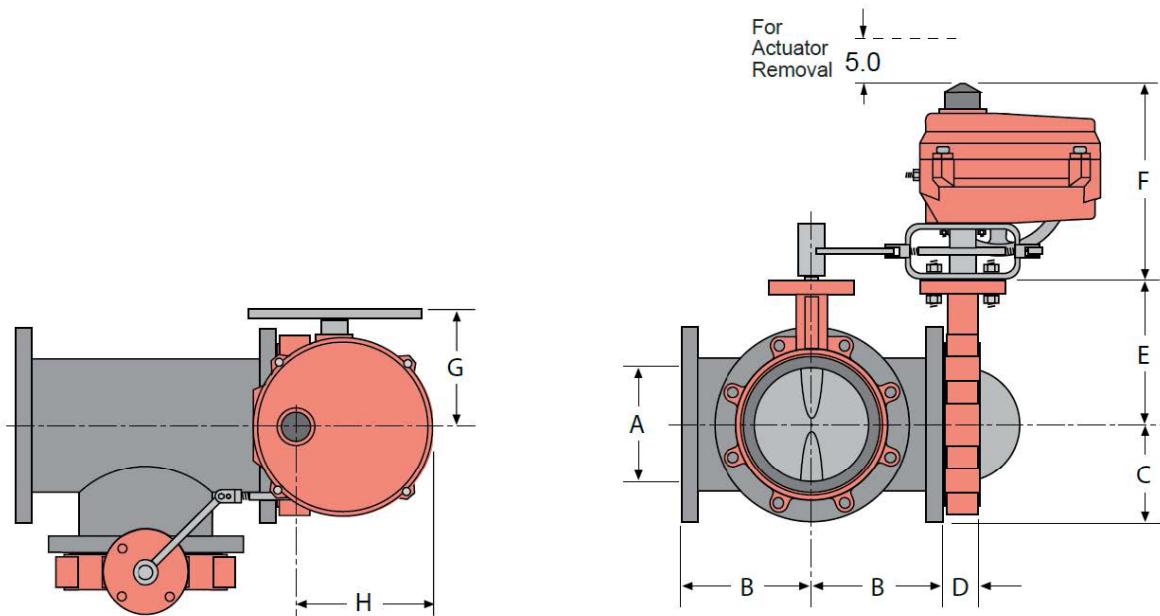
1. X = Configuration number for 3-way valve



VA-NY Series

## Industrial actuators (Series 70)

Model Number	F	G	H	Weight (lbs)
70-0061	10.20	5.80	5.69	12
70-0121	11.10	7.80	7.74	28
70-0201	11.10	7.80	7.74	28
70-0301	12.80	9.50	9.24	48
70-0501	12.80	9.50	9.24	48
70-0651	12.80	9.50	9.24	48



## Close-Off Charts

### 2-way D-series commercial electric actuators

2-Way, 24V Actuators					Spring Return			
Actuator Model No.					On/Off Only		Modulating	
Valve Size (in.)	Cv 90°	Cv 60°	Valve Model No. <sup>1</sup>	Close-Off PSI	DS24-180	DS24-180-D	DS24-180	DS24-180-D
2	144	61	VA-NYL2-_020	175	x		x	
2.5	282	107	VA-NYL2-_025	175	x		x	
3	461	154	VA-NYL2-_030	175	x		x	
4	841	274	VA-NYL2-_040	175		x		x
4	841	274	VA-NYL2-_041	50	x		x	
5	1376	428	VA-NYL2-_050	50				
5	1376	428	VA-NYL2-_051	50		x		x

1. \_ = N (normally open) or C (normally closed)



## 2-way & 3-way DC-series commercial electric actuators

2-Way, 24V Actuators					Non-Spring Return			
Actuator Model No.					Floating		Modulating	
Valve Size (in.)	Cv 90°	Cv 60°	Valve Model No. <sup>1</sup>	Close-Off PSI	DC24-310-T	DC24-310-T-D	DCM24-310	DCM24-310-D
2	144	61	VA-NYL2-_020	175	x		x	
2.5	282	107	VA-NYL2-_025	175	x		x	
3	461	154	VA-NYL2-_030	175	x		x	
4	841	274	VA-NYL2-_040	175		x		x
4	841	274	VA-NYL2-_041	50	x		x	
5	1376	428	VA-NYL2-_051	50	x		x	
6	1850	567	VA-NYL2-_061	50		x		x

1. \_ = N (normally open) or C (normally closed)

3-Way, 24V, On/Off Actuators					Non-Spring Return	
Actuator Model No.						
Valve Size (in.)	Cv 90°	Cv 60°	Valve Model No. <sup>1</sup>	Close-Off PSI	DC24-310-T	DC24-310-T-D
2	144	61	VA-NYL3-X020	175	x	
2.5	282	107	VA-NYL3-X025	175	x	
3	461	154	VA-NYL3-X030	175	x	
4	841	274	VA-NYL3-X040	175		x
4	841	274	VA-NYL3-X041	50	x	
5	1376	428	VA-NYL3-X051	50		x
6	1850	567	VA-NYL3-X061	50		x

1. X = Configuration number for 3-way valve

## 2-way series 70 industrial electric actuators

Valve Size (in.)	Cv 90°	Cv 60°	Valve Model No. <sup>1</sup>	Close-Off Rating (PSI)	Series 70 120VAC On/Off	Series 70 120VAC Modulating
2	144	61	VA-NYL2-_020	175	70-0061	70-0061SV
2.5	282	107	VA-NYL2-_025	175	70-0061	70-0061SV
3	461	154	VA-NYL2-_030	175	70-0061	70-0061SV
4	841	274	VA-NYL2-_041	50	70-0061	70-0061SV
4	841	274	VA-NYL2-_040	175	70-0061	70-0061SV
5	1376	428	VA-NYL2-_051	50	70-0061	70-0061SV
5	1376	428	VA-NYL2-_050	175	70-0061	70-0061SV
6	1850	567	VA-NYL2-_061	50	70-0061	70-0061SV
6	1850	567	VA-NYL2-_060	175	70-0061	70-0061SV
8	3316	1081	VA-NYL2-_081	50	70-0121	70-0121SV
8	3316	1081	VA-NYL2-_080	175	70-0201	70-0201SV
10	5430	1710	VA-NYL2-_101	50	70-0201	70-0201SV
10	5430	1710	VA-NYL2-_100	175	70-0301	70-0301SV
12	8077	2563	VA-NYL2-_121	50	70-0301	70-0301SV
12	8077	2563	VA-NYL2-_120	175	70-0501	70-0501SV

1. \_ = N (normally open) or C (normally closed)

## 3-way series 70 industrial electric actuators

Valve Size (in.)	Cv 90°	Cv 60°	Valve Model No. <sup>1</sup>	Close-Off Rating (PSI)	Series 70 120VAC On/Off	Series 70 120VAC Modulating
2	144	61	VA-NYL3-X020	175	70-0061	70-0061SV
2.5	282	107	VA-NYL3-X025	175	70-0061	70-0061SV
3	461	154	VA-NYL3-X030	175	70-0061	70-0061SV
4	841	274	VA-NYL3-X041	50	70-0061	70-0061SV
4	841	274	VA-NYL3-X040	175	70-0061	70-0061SV
5	1376	428	VA-NYL3-X051	50	70-0061	70-0061SV
5	1376	428	VA-NYL3-X050	175	70-0061	70-0061SV
6	1850	567	VA-NYL3-X061	50	70-0121	70-0121SV
6	1850	567	VA-NYL3-X060	175	70-0121	70-0121SV
8	3316	1081	VA-NYL3-X081	50	70-0121	70-0121SV
8	3316	1081	VA-NYL3-X080	175	70-0201	70-0201SV
10	5430	1710	VA-NYL3-X101	50	70-0201	70-0201SV
10	5430	1710	VA-NYL3-X100	175	70-0501	70-0501SV
12	8077	2563	VA-NYL3-X121	50	70-0501	70-0501SV
12	8077	2563	VA-NYL3-X120	175	70-0651	70-0651SV

1. X = Configuration number for 3-way valve

Specifications subject to change without notice. Performance specifications are nominal and conform to generally acceptable industry standards. For application at conditions beyond these specifications, please consult with us.

Manufacturer and/or Supplier shall not be liable for damages resulting from misapplication or misuse of these products.

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