



# Valve Actuators

**MAXIMATOR** air operated valve actuators are piston type design, and are mounted on a manual valve to provide remote control capability. There are two styles of air actuators available, and selection is based on the valve size, system pressure, and air pressure available.

**Valve Actuator features:**

- ▶ Piston style valve actuator design offers dependable operation and longer actuator cycle life.
- ▶ Yoke style design offers separation from process fluids and actuator air pressure. This design also indicates stem position and allows for easy stem replacement.
- ▶ Actuators are mounted on manual valve bodies to provide remote control capabilities in process applications.
- ▶ Two different size actuators are available to cover varying plant air supplies.
- ▶ Actuators are made of anodized aluminum, which provides good corrosion resistance.
- ▶ Actuators are available in normally open or normally closed configuration.

**MAXPRO** offers a complete line of high pressure valves, fittings and tubing to compliment the valve actuator line.

**Note:** When selecting multiple items, the pressure rating would be that of the lowest rated component.

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# Air Valve Actuators

## Air to Open, Normally Closed

### Order Information

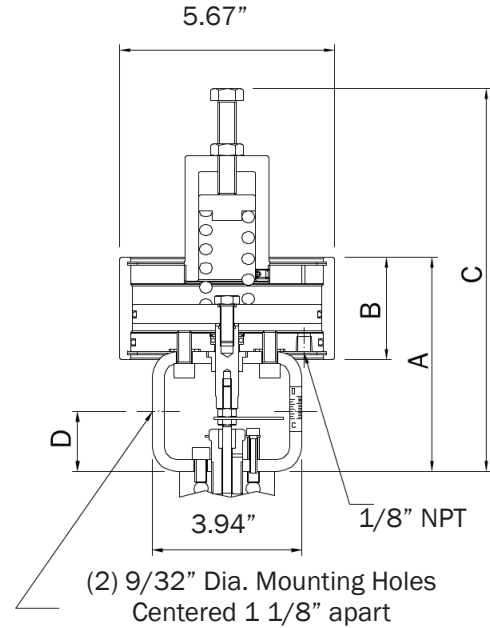
Select the basic manual valve from the appropriate pressure section, then add the actuator suffix number to the end of the manual valve catalog number.

Example: 21V4M071-**YMNC**, medium duty actuator, normally closed. This valve can be operated at 22,500 psi with an air supply of 100 psi to the valve actuator.

### Technical Information

Max working pressure for actuator      See table below for specific valve type  
 Max operating temperature for actuator      -20°F to +200°F  
 Actuator material      Anodized Aluminum  
 Air connection size:      1/8" NPT

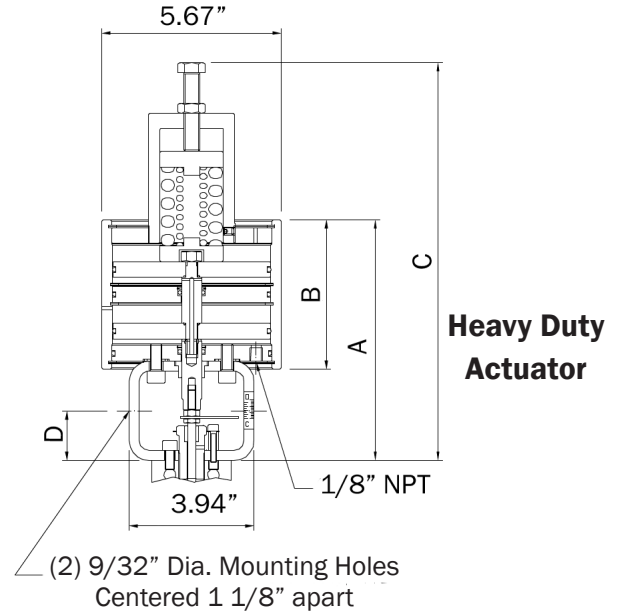
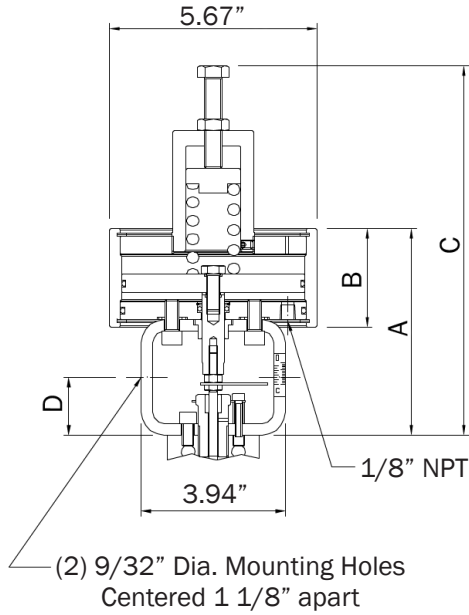
Actuator Type	Valve Size	Ordering Suffix	Piston Area	A	B	C	D
Medium Duty	1/4" - 3/8" - 9/16"	-YMNC	19.6 in. <sup>3</sup>	5.64"	2.69"	10.09"	1.57"
Heavy Duty	1/4" - 3/8" - 9/16"	-YHNC	39.2 in. <sup>3</sup>	7.62"	4.72"	12.59"	1.57"
Heavy Duty	3/4" - 1"	-YHNC	39.2 in. <sup>3</sup>	8.41"	4.72"	13.27"	2.47"



Valve Series	Air Actuator			Air Pressure Required to Open Valve At: System Pressure (ksi)										Max. Pressure (psi)	Flow Value Cv*	
	Type	Ordering Suffix	Data	1-4	6	8	10	12	14	16	18	20	22			
21V4	Medium Duty	-YMNC	Air Pressure (psi)	65	65	65	75	85	95	95	95	95	100	22,500	0.31-0.22	
			Spring Pre-comp. (in.)	0.19	0.19	0.19	0.25	0.31	0.38	0.44	0.50	0.56	0.59			
			Stem Travel (in.)	0.25												
	Heavy Duty	-YHNC	Air Pressure (psi)	35	35	35	40	45	50	50	50	50	55			22,500
			Spring Pre-comp. (in.)	0.19	0.19	0.19	0.25	0.31	0.38	0.44	0.50	0.56	0.59			
			Stem Travel (in.)	0.25												
21V6, 15V4, **	Medium Duty	-YMNC	Air Pressure (psi)	65	65	75	85	95	95	95	95		18,250	0.75-0.57		
			Spring Pre-comp. (in.)	0.19	0.19	0.25	0.31	0.38	0.44	0.50	0.56					
			Stem Travel (in.)	0.25												
	Heavy Duty	-YHNC	Air Pressure (psi)	35	35	40	45	50	50	50	50				18,250	
			Spring Pre-comp. (in.)	0.19	0.19	0.25	0.31	0.38	0.44	0.50	0.56					
			Stem Travel (in.)	0.25												
21V9, 15V6, 15V8, **	Medium Duty	-YMNC	Air Pressure (psi)	85	90	95	95						9,800	1.29-0.53		
			Spring Pre-comp. (in.)	0.31	0.34	0.47	0.56									
			Stem Travel (in.)	0.25												
	Heavy Duty	-YHNC	Air Pressure (psi)	50	55	65	70	75	75	75					15,700	
			Spring Pre-comp. (in.)	0.19	0.22	0.28	0.34	0.44	0.50	0.56						
			Stem Travel (in.)	0.25												
21V12	Heavy Duty	-YHNC	Air Pressure (psi)	65	75	75							9,200	0.80-0.78		
			Spring Pre-comp. (in.)	0.28	0.38	0.56										
			Stem Travel (in.)	0.25												
21V16	Heavy Duty	-YHNC	Air Pressure (psi)	75	75										6,100	2.73-0.15
			Spring Pre-comp. (in.)	0.38	0.56											
			Stem Travel (in.)	0.25												

\* Cv value is for straight pattern vee stem valves. Increase this value by 50% for angle pattern valves. Cv Values vary due to compression of actuator spring, and are adjusted based on system pressure. Values shown are for maximum to minimum stem travel position.

\*\* All pipe valves are rated 15,200 psig maximum working pressure, unless air operator is the limiting factor.



Valve Series	Air Actuator			Air Pressure Required to Open Valve At: System Pressure (ksi)										Max. Pressure (psi)	Flow Value Cv*	
	Type	Order Suffix	Data	1-12	14	16	18	20	22	24	26	28	30			36
36V4	Medium Duty	-YMNC	Air Pressure (psi)	45	55	55	55	55	65	65	65	65	75	85	36,000	0.12
			Spring Pre-comp. (in.)	0.12	0.19	0.19	0.19	0.19	0.25	0.25	0.25	0.25	0.31	0.37		
			Stem Travel (in.)	0.19												
	Heavy Duty	-YHNC	Air Pressure (psi)	25	30	30	30	30	35	35	35	35	40	45	36,000	
			Spring Pre-comp. (in.)	0.12	0.19	0.19	0.19	0.19	0.25	0.25	0.25	0.25	0.31	0.37		
			Stem Travel (in.)	0.19												
36V6, 36V9	Medium Duty	-YMNC	Air Pressure (psi)	55	55	65	65	75	75	75	85	85	95	100	36,000	0.33
			Spring Pre-comp. (in.)	.019	.019	0.25	0.25	.031	0.31	0.31	.038	0.38	0.44	0.5		
			Stem Travel (in.)	0.19												
	Heavy Duty	-YHNC	Air Pressure (psi)	30	30	35	35	40	40	40	45	45	50	55	36,000	
			Spring Pre-comp. (in.)	0.19	0.19	0.25	0.25	0.31	0.31	0.31	0.38	0.38	0.44	0.5		
			Stem Travel (in.)	0.19												
65V4, 65V6	Medium Duty	-YMNC	Air Pressure (psi)	55	65	65	65	75	75	85	85	85	95	100	65,000	0.08
			Spring Pre-comp. (in.)	0.12	0.19	0.19	0.19	0.25	0.25	0.31	0.31	0.31	0.38	0.38		
			Stem Travel (in.)	0.25												
	Heavy Duty	-YHNC	Air Pressure (psi)	30	35	35	35	40	40	45	45	45	50	55	65,000	
			Spring Pre-comp. (in.)	0.12	0.19	0.19	0.19	0.25	0.25	0.31	0.31	0.31	0.38	0.44		
			Stem Travel (in.)	0.25												
65V9	Medium Duty	-YMNC	Air Pressure (psi)	55	65	65	75	75	85	95	95	95	95	100	65,000	0.14
			Spring Pre-comp. (in.)	0.12	0.19	0.19	0.25	0.25	0.31	0.38	0.38	0.44	0.50	0.56		
			Stem Travel (in.)	0.25												
	Heavy Duty	-YHNC	Air Pressure (psi)	30	35	35	40	40	45	50	50	50	50	55	65,000	
			Spring Pre-comp. (in.)	0.12	0.19	0.19	0.25	0.25	0.31	0.38	0.38	0.44	0.50	0.56		
			Stem Travel (in.)	0.25												
101V5	Heavy Duty	-YHNC	Air Pressure (psi)	35	35	40	40	45	50	60	70	80	90	101	90,000	0.09-0.07
			Spring Pre-comp. (in.)	0.12	0.12	0.19	0.19	0.22	0.25	0.28	0.31	0.38				
			Stem Travel (in.)	0.12												

\* Cv value is for straight pattern vee stem valves. Increase this value by 50% for angle pattern valves. Cv Values vary due to compression of actuator spring, and are adjusted based on system pressure. Values shown are for maximum to minimum stem travel position.

# Air Valve Actuators

## Air to Close, Normally Open

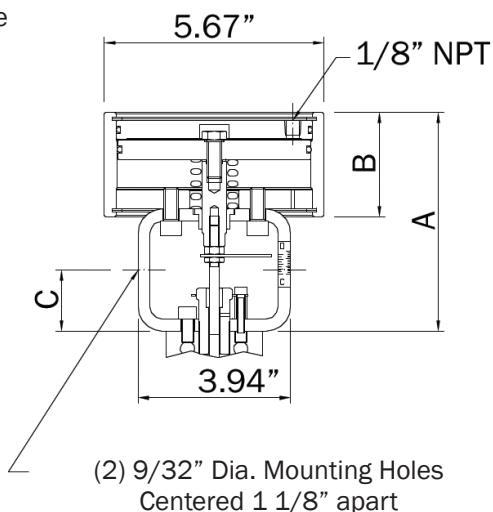
### Order Information

Select the basic manual valve from the appropriate pressure section, then add the actuator suffix number to the end of the manual valve catalog number.

Example: 21V4M071-**YMNO**, medium duty actuator, normally open. This valve can be operated at 22,500 psi with an air supply of 100 psi to the valve actuator.

### Technical Information

Max working pressure for actuator      See table below for specific valve type  
 Max operating temperature for actuator      -20°F to +200°F  
 Actuator material      Anodized Aluminum  
 Air connection size:      1/8" NPT



Actuator Type	Valve Size	Ordering Suffix	Piston Area	A	B	C
Medium Duty	1/4" - 3/8" - 9/16"	-YMNO	19.6 in. <sup>3</sup>	5.64"	2.69"	1.57"
Heavy Duty	1/4" - 3/8" - 9/16"	-YHNO	39.2 in. <sup>3</sup>	7.63"	4.72"	1.57"
Medium Duty	3/4" - 1"	-YMNO	19.6 in. <sup>3</sup>	6.43"	2.69"	2.47"
Heavy Duty	3/4" - 1"	-YHNO	39.2 in. <sup>3</sup>	8.42"	4.72"	2.47"

Valve Series	Air Actuator		Air Pressure Regulated to Close Valve At: System Pressure (ksi)											Max. Pressure (psi)	Stem Travel (in.)	Flow Value Cv*
	Type	Ordering Suffix	1-3	4	6	8	10	12	14	16	18	20	22			
<b>21V4</b>	Medium Duty	-YMNO	40	40	40	40	50	60	70	70	85	95	100	22,500	0.25	0.31
	Heavy Duty	-YHNO	20	20	20	20	25	30	35	40	45	50	55			
<b>21V6, 15V4, **</b>	Medium Duty	-YMNO	45	45	45	45	55	65	75	85	95	100	22,500	0.25	0.75	
	Heavy Duty	-YHNO	25	25	25	25	30	35	40	45	50	55				60
<b>21V9, 15V6, ** 15V8, **</b>	Medium Duty	-YMNO	60	60	65	80	100						10,700	0.38	1.30	
	Heavy Duty	-YHNO	30	30	30	40	50	55	60	70	80	85				90
<b>21V12</b>	Medium Duty	-YMNO	80	80	100								6,100	0.44	2.50	
	Heavy Duty	-YHNO	40	40	50	60	75	90	100							13,600
<b>21V16</b>	Heavy Duty	-YHNO	50	50	70	100							8,800	0.56	3.40	

		Air Pressure Regulated to Close Valve At: System Pressure (ksi)											Max. Pressure (psi)	Stem Travel (in.)	Flow Value Cv*	
		1-12	14	16	18	20	22	24	26	28	30	36				
<b>36V4</b>	Medium Duty	-YMNO	25	25	30	35	35	40	45	50	50	55	65	36,000	0.19	0.12
	Heavy Duty	-YHNO	15	15	15	20	20	20	25	25	25	30	35			
<b>36V6 36V9</b>	Medium Duty	-YMNO	30	35	40	45	50	55	60	65	70	72	85	36,000	0.19	0.23
	Heavy Duty	-YHNO	15	20	20	25	25	30	30	35	35	40	50			36,000

		Air Pressure Regulated to Close Valve At: System Pressure (ksi)											Max. Pressure (psi)	Stem Travel (in.)	Flow Value Cv*	
		1-15	20	25	30	35	40	45	50	55	60	65				
<b>65V4 65V6</b>	Medium Duty	-YMNO	30	30	30	35	45	50	55	60	70	75	80	65,000	0.25	0.08
	Heavy Duty	-YHNO	15	15	15	20	25	25	30	30	35	40	45			65,000
<b>65V9</b>	Medium Duty	-YMNO	35	35	40	50	55	65	70	75	85	90	95	65,000	0.25	0.14
	Heavy Duty	-YHNO	20	20	20	25	30	35	35	40	45	45	50			

		Air Pressure Regulated to Close Valve At: System Pressure (ksi)											Max. Pressure (psi)	Stem Travel (in.)	Flow Value Cv*
		1-10	20	30	40	50	60	70	80	90	101				
<b>101V4 101V5 101V6 101V9</b>	Medium Duty	-YMNO	50	50	50	50	55	65	75	85	95	100	101,000	0.12	0.09
	Heavy Duty	-YHNO	30	30	30	30	30	35	40	40	45	50			

\* Cv value is for straight pattern vee stem valves. Increase this value by 50% for angle pattern valves. Cv values vary due to compression of actuator spring, and are adjusted based on system pressure. Values shown are for maximum to minimum stem travel position.

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