

# 4 Way/2 and 3 Position Valves

Four ported valves are generally used to operate double-acting cylinders or actuators. They have four or five pipe connections, commonly called ports:

- One pressure inlet.
- Two cylinder ports providing pressure to the double-acting cylinder or actuator.
- One or two outlets to exhaust pressure from the cylinders.

In a de-energized position, pressure is connected to one cylinder port; the other port is connected to the exhaust. In an energized position, pressure and exhaust are reversed.

Four ports means less piping is required. With five ports, independent speed controls can be mounted in each port.

Two Types of Constructions Apply:

#### Single Solenoid

When the solenoid is energized, the valve shifts, then returns to the original position when de-energized.

#### Dual Solenoid

When one solenoid is energized, the valve shifts, then returns when the other solenoid is energized. They may be energized momentarily or continuously, but never concurrently. Some valves, both single and dual solenoid, may change position on loss of fluid pressure.

*See Engineering Section for further details.*

## 4 Way Valve Contents

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## 8340 Air-Only Solenoid Valves In-Line, Aluminum Body

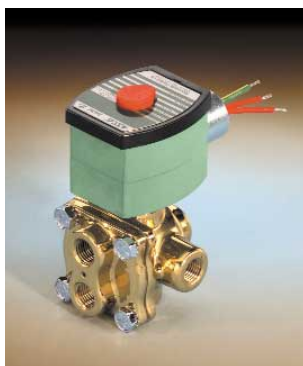


### Features

- Air-only design for cylinder control.
- Direct acting
- Zero minimum
- Light weight

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)			Aluminum Body	Watt Rating/ Class of Coil Insulation	Voltage	MSA #	
			Maximum AC							Max. Fluid Temp. °F
			Air-Inert Gas	Water	Lt. Oil @ 300 SSU					
1/4	5/64	.10	150	130	8340G1	17.1/F	120/60, 110/50	21064		

## 8342 General Service Solenoid Valves Direct Acting • Brass Body



### Features

- Direct acting operation and high flow construction.
- Direct acting, high flow slide-style valve.
- Optional flow control regulates cylinder speed independently, in either direction.
- No Minimum Operating Pressure Differential required to shift valve.
- Mountable in any position.

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)			Max. Fluid Temp. °F	Brass Body	Watt Rating/ Class of Coil Insulation	Voltage	MSA #
			Maximum AC							
			Air-Inert Gas	Water	Lt. Oil @ 300 SSU					
<b>SINGLE SOLENOID CONSTRUCTION</b>										
1/4	3/16	.70	125	100	100	160	8342G1	20.1/F	120/60	21421
1/4	3/16	.70	125	100	100	160	EF8342G1	20.1/F	120/60	21422
1/4	3/16	.70	125	100	100	160	EF8342G1MS	20.1/F	120/60	21424
3/8	3/16	.70	125	100	100	160	8342G3	20.1/F	120/60	21426
3/8	3/16	.70	125	100	100	160	EF8342G3	20.1/F	120/60	21427

EF = Explosionproof, MS = Screw-type manual operator

## 8344 Piston/Poppet Solenoid Valves Pilot Operated • Brass Body

### Features

- Sturdy, solid construction.
- Piston-operated poppet design provides high flow.
- Can use air or water for piloting control valves.
- Wide range of sizes and flow rates.
- Mountable in any position.



Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor		Operating Pressure Differential (psi)					Max. Fluid Temp. °F	Brass Body Catalog Number	Watt Rating/Class of Coil Insulation		Voltage	MSA #
				Max. AC			Max. DC				AC	AC		
		Press.	Exh.	① Min.	Air-Inert Gas	Water	Lt. Oil @ 300 SSU	AC	DC					
<b>SINGLE SOLENOID</b>														
1/4	1/4	.80	1.0	10	150	125	125	180	8344G70	10.1/F		120/60, 110/50	20849	
1/4	1/4	.80	1.0	10	150	125	125	180	8344G70MO	10.1/F		120/60, 110/50	20850	
1/4	1/4	.80	1.0	10	150	125	125	180	EF8344G70	10.1/F		120/60, 110/50	20851	
3/8	3/8	1.4	2.2	10	150	125	125	180	8344G72	10.1/F		120/60, 110/50	20857	
3/8	3/8	1.4	2.2	10	150	125	125	180	EF8344G72	10.1/F		120/60, 110/50	20859	
3/8	1/4	.80	1.0	10	250 ②	250 ②	250 ②	180	8344G1	17.1/F		120/60, 110/50	20819	
1/2	3/8	1.4	2.2	10	150	125	125	180	8344G74	10.1/F		120/60, 110/50	20865	
1/2	3/8	1.4	2.2	10	150	125	125	180	EF8344G74	10.1/F		120/60, 110/50	20867	
<b>Notes:</b> ① 25 psi (1.7 bar) minimum on light oil service. ③ On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts. ② For best results, do not use valve rated 250 psi (17 bar) on mainline pressure of less than 125 psi (9 bar). EF = Explosionproof, MO = Manual operator														

## 8345 Compact General Service Solenoid Valves Pilot Operated • Brass Body

### Features

- Compact valves for general service applications.
- Low-cost, 4 way valve when low flow is sufficient.
- Mountable in any position.



Pipe Size (ins.)	Orifice Size (ins.)		Cv Flow Factor		Operating Pressure Differential (psi)						Max. Fluid Temp. °F		Brass Body Catalog Number	Watt Rating/Class of Coil Insulation		Voltage	MSA #	
					Max. AC			Max. DC						AC	DC			
	Pressure	Exhaust	Inlet	Exhaust	Min.	Air-Inert Gas	Water	Lt. Oil @ 50 SSU	Air-Inert Gas	Water	Lt. Oil @ 50 SSU							
<b>SINGLE SOLENOID</b>																		
1/4	1/16	3/32	.09	.09	10	150	150	150	-	-	-	180	-	8345G1	10.1/F	-	120/60, 110/50	20879
1/4	1/16	3/32	.09	.09	10	150	150	150	-	-	-	180	-	EF8345G1	10.1/F	-	120/60, 110/50	20882
1/4	1/16	3/32	.09	.09	10	-	-	-	100	100	100	-	104	EF8345G1	-	11.6/F	24/DC	20890
<b>SINGLE SOLENOID AIR-ONLY CONSTRUCTION - Exhaust to Atmosphere</b>																		
1/4	1/16	3/32	.09	.09	10	150	-	-	-	-	-	180	-	8345H3	10.1/F	-	120/60, 110/50	21058
1/4	1/16	3/32	.09	.09	10	150	-	-	-	-	-	180	-	EF8345H3	10.1/F	-	120/60, 110/50	21059
EF = Explosionproof																		

## 8401 Direct Mount Pilot Valves Corrosion Resistant • Termoplastic Body



### Features

- Mount directly to actuators with NAMUR, Keystone, or Worcester interfaces.
- Easy conversion from AC to DC by simply changing coil.
- Standard momentary/maintained manual operator.
- 4/2 valves have built-in linear flow device capable of controlling Cv from 0.10 to 0.50.
- Breather block exhausts to spring side of actuator to prevent corrosion of the actuator.
- Unique CA slide and ceramic flow plate for extra-long life.

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Main Line Supply Pressure (psi) AC and DC				Catalog Number	Interface Type	Watt Rating/ Class of Coil Insulation		Voltage	MSA #
			Air-Inert Gas		Max. Fluid Temp. °F				AC	DC		
			Min.	Max.	AC	DC						
<b>3 WAY NORMALLY CLOSED or 4 WAY</b>												
1/4	1/4	.50	20	150	104	-	WT8401B202M	NAMUR	6.3/F	-	120/60,110/50	21236
1/4	1/4	.50	20	150	104	-	EF8401B202M	NAMUR	6.3/F	-	120/60,110/50	21237
1/4	1/4	.50	20	150	-	77	EF8401B202M	NAMUR	-	6.9/F	24/DC	21238

EF = Explosionproof, WT = Watertight, M = Metering

## 8551 Direct Mount High Flow Valves Pilot Operated • Anodized Aluminum Body



### Features

- Compact spool valve convertible from 3-way (3/2) to 4-way (5/2)
- NAMUR Pad Mount construction
- Standard manual operator
- DIN, Watertight and Explosionproof solenoids available
- Single and dual solenoid constructions
- Includes M5, 10 x 32 and 10 x 24 mounting hardware

Pipe Size (ins.)*	Orifice Size (ins.)	Cv Flow Factor	Pilot Pressure		Single Solenoid Catalog Numbers	Watts		Voltage	MSA #
			Minimum	Maximum		AC	DC		
<b>Watertight Enclosure</b>									
1/4"	1/4"	.7	30	150	WT8551A1MS	6.3	-	120/60, 110/50	21597
1/4"	1/4"	.7	30	150	WT8551A1MS	-	6.9	24/DC	21598
<b>Explosionproof Enclosure</b>									
1/4"	1/4"	.7	30	150	EF8551A1MS	6.3	-	120/60, 110/50	21599
1/4"	1/4"	.7	30	150	EF8551A1MS	-	6.9	24/DC	21600

WT = Watertight, EF = Explosionproof, MS = Screw-type manual operator