

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.

Three 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.

Single Air Operator

When the operator is pressurized, the valve shifts, then returns when the pressure is removed.

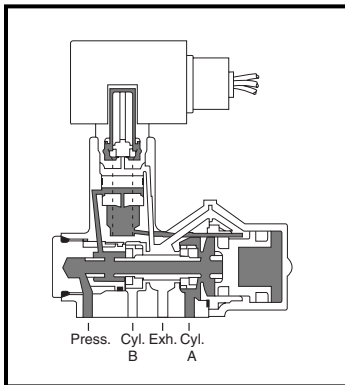
See *Engineering Section* for further details.

Standard and Optional Features

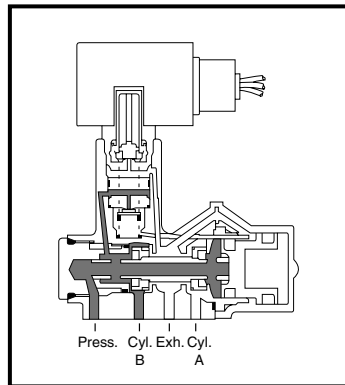
Solenoid valves are supplied, as listed, with either RedHat II molded epoxy solenoids or RedHat solenoids with metal enclosures (except for Series 8401). RedHat II valves are identified by the letter "G" or "H" in their catalog numbers; e.g., 8344-G027. Many optional features may be added to your valves; e.g., high-temperature Class H molded coils and manual operators.

See the *Optional Features Section* for details..

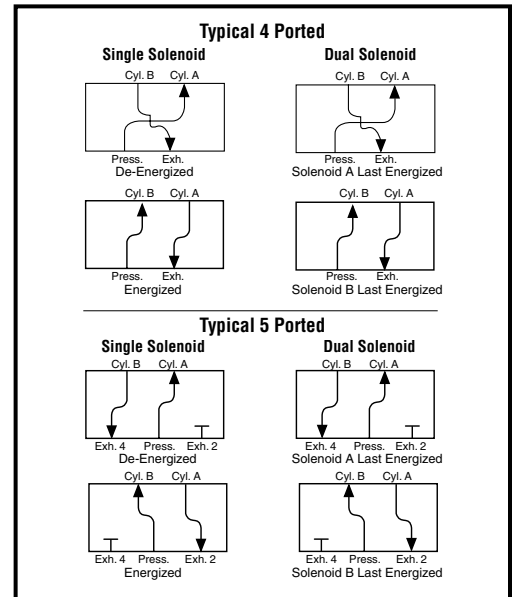
4 and 5-Ported Valves Flow Diagrams



De-Energized



Energized



Index

Series	General Description	Pipe Size (NPT)	Page
8340	Air Only	1/4"	77
8342	General Service	1/4" and 3/8"	81
8344	Piston/Poppet	1/4" - 1"	83
8345	General Service	1/4"	87
8401/8402	Slide Valve	1/4"	89
8551/8553	Inline Spool Valve	1/4" and 1/2"	93
8551/8553	RedHat II Spool Valve	1/4" and 1/2"	95

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Features

- Air-only design for cylinder control
- Up to eight single and dual solenoid valves, in any combination, can be manifolded
- Sub-base constructions have separate cylinder connections and common pressure and exhaust connections at each end. Can be assembled in the field by simply inserting tie rods through holes in base
- Group-mounted constructions have common pressure connections at each end and separate cylinder and exhaust connections
- Can be factory assembled or grouped in the field with strong snap-on clamps, supplied

Construction

Valve Parts in Contact with Fluids	
Body	Hard Anodized Aluminum
Disc	PE
Core Tube	305 Stainless Steel
Core and Plugnut	430F Stainless Steel
Core Spring	302 Stainless Steel
Shading Coil	Copper
Seals	NBR
Miscellaneous	PA, CA

Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	-	10.5	24	65	64982	-	64982	-
F	19.7	16.7	36	85	64982	66611	64982	66611
F	-	10.1	25	70	238610	-	238614	-
F	22.6	17.1	40	93	238610	238710	238614	238714

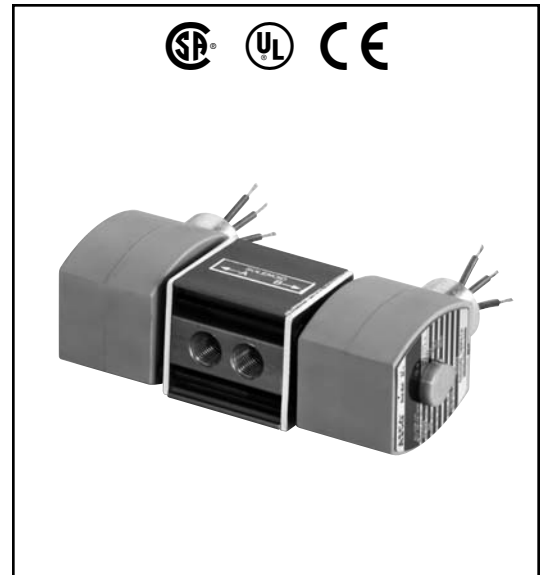
Standard Voltages: 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz).
 6, 12, 24, 120, 240 volts DC. Must be specified when ordering.
 Other voltages available when required.

Solenoid Enclosures

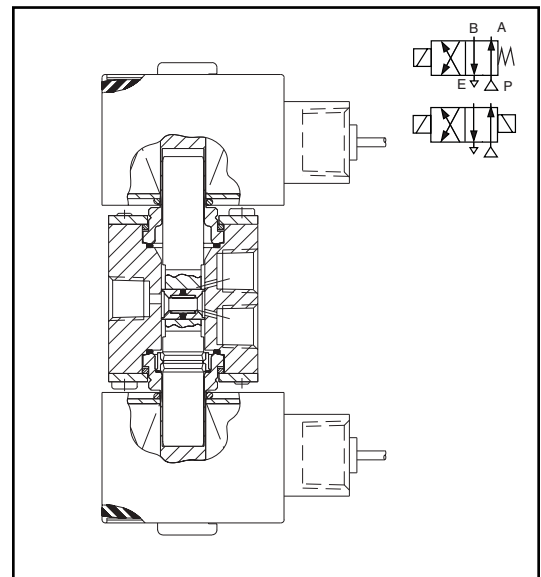
Standard: RedHat II - Watertight, Types 1, 2, 3, 3S, 4, and 4X; RedHat - Type 1.

Optional: RedHat II - Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9 (For 8340G001 and 8340G002 only); RedHat - Types 3, 4, 4X, 7, and 9. (To order, add prefix "EF" to catalog number.)

See *Optional Features Section* for other available options.



4-WAY



Nominal Ambient Temp. Ranges

AC: 32°F to 125°F (0°C to 52°C)
 DC: 32°F to 77°F (0°C to 25°C)(104°F/40°C occasionally)

Refer to *Engineering Section* for details.

Leakage

Break-in leakage rate of 2 SCFH is reduced to a very slight amount as the valve wears in.

Approvals

CSA certified. AC is UL listed as General Purpose Valve. RedHat II meets applicable CE directives.

Refer to *Engineering Section* for details.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)		Max. Fluid Temp. °F		Aluminum Body Catalog Number	Watt Rating/ Class of Coil Insulation	
			Max. AC	Max. DC	AC	DC		AC	DC
			Air-Inert Gas	Air-Inert Gas					
SINGLE VALVE CONSTRUCTION - Single Solenoid									
1/4	5/64	.10	150	100	130	95	8340G001	17.1/F	22.6/F
SINGLE VALVE CONSTRUCTION - Dual Solenoid									
1/4	5/64	.10	150	100	104	95	8340G002	10.1/F	22.6/F
GROUP MOUNTED CONSTRUCTION - Single Solenoid									
1/4	5/64	.10	150	100	104	95	8340A003	16.7/F	19.7/F
GROUP MOUNTED CONSTRUCTION - Dual Solenoid									
1/4	5/64	.10	150	100	104 ①	95 ①	8340A008	10.5/F	19.7/F
SUB-BASE MOUNTED CONSTRUCTION - Single Solenoid									
1/4	5/64	.08	150	100	104	95	8340A004	16.7/F	19.7/F
SUB-BASE MOUNTED CONSTRUCTION - Dual Solenoid									
1/4	5/64	.08	150	100	104 ①	95 ①	8340A005	10.5/F	19.7/F

① Rating shown for individual mounted valves; when group mounted, maximum UL allowable fluid and ambient temperature is 86°F.

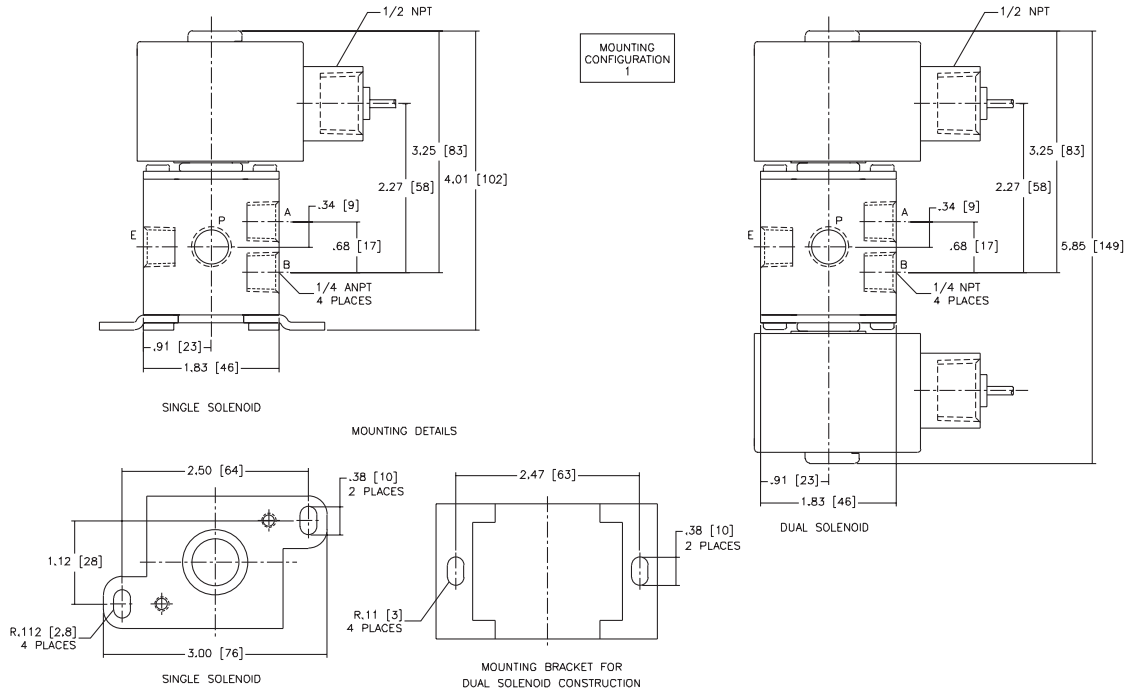
Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)		Max. Fluid Temp. °C		Aluminum Body Catalog Number	Watt Rating/ Class of Coil Insulation	
			Max. AC	Max. DC	AC	DC		AC	DC
			Air-Inert Gas	Air-Inert Gas					
SINGLE VALVE CONSTRUCTION - Single Solenoid									
1/4	2.0	.09	10	7	54	35	8340G001	17.1/F	22.6/F
SINGLE VALVE CONSTRUCTION - Dual Solenoid									
1/4	2.0	.09	10	7	40	35	8340G002	10.1/F	22.6/F
GROUP MOUNTED CONSTRUCTION - Single Solenoid									
1/4	2.0	.09	10	7	40	35	8340A003	16.7/F	19.7/F
GROUP MOUNTED CONSTRUCTION - Dual Solenoid									
1/4	2.0	.09	10	7	40 ①	35 ①	8340A008	10.5/F	19.7/F
SUB-BASE MOUNTED CONSTRUCTION - Single Solenoid									
1/4	2.0	.07	10	7	40	35	8340A004	16.7/F	19.7/F
SUB-BASE MOUNTED CONSTRUCTION - Dual Solenoid									
1/4	2.0	.07	10	7	40 ①	35 ①	8340A005	10.5/F	19.7/F

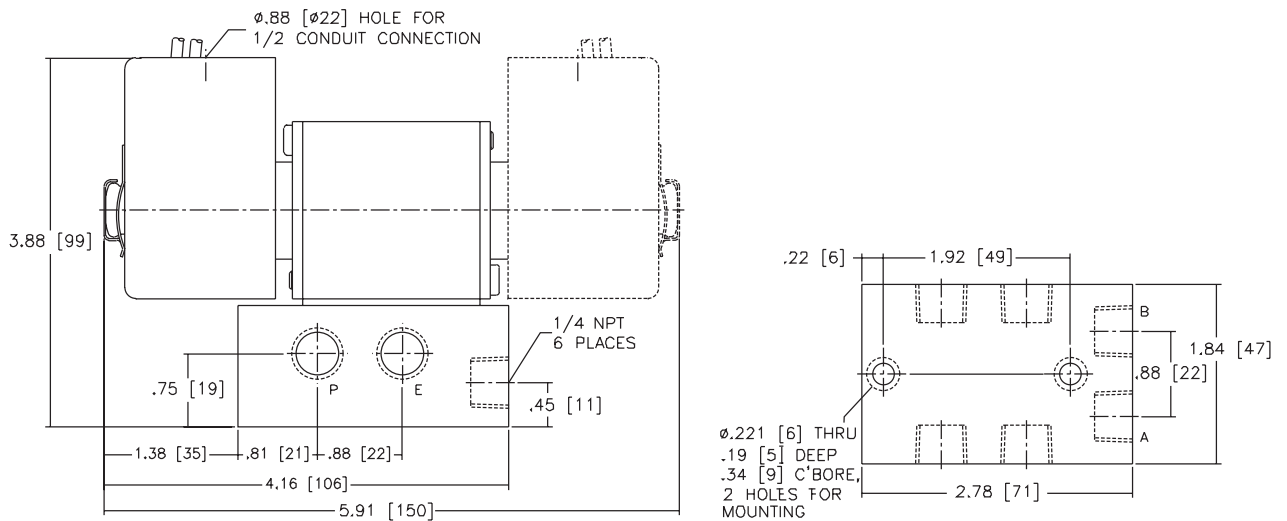
① Rating shown for individual mounted valves; when group mounted, maximum UL allowable fluid and ambient temperature is 30°C.

Dimensions: inches (mm)

Single Valve Construction - Single And Dual Solenoids



Sub-Base Mounted Single and Dual Solenoid Construction



Note: Dual solenoid shown dotted in.

4-WAY

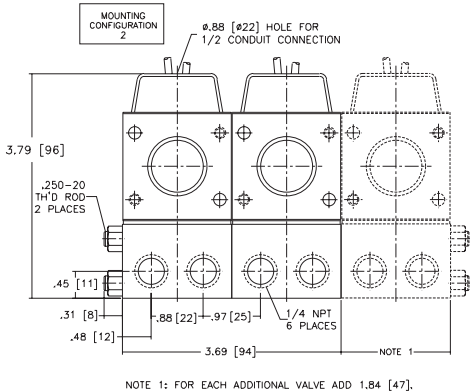
Dimensions: inches (mm)

4-WAY

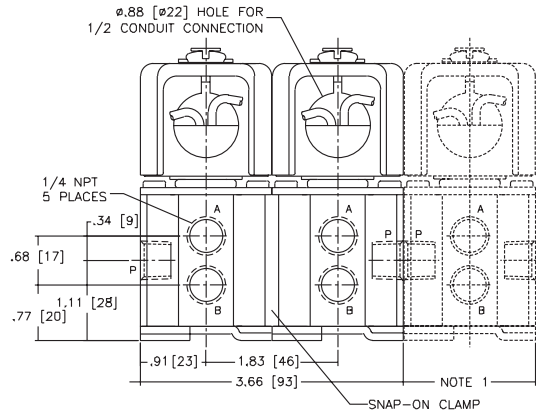
Mounting Brackets		
Catalog Number	With General Purpose Solenoid Enclosure	When Manual Operator is Used
8340G001	Mounting Holes on Body	Order Kit No. 206-737
8340G002	Standard	NA
8340A003	Mounting Holes on Body	Order Kit No. 206-554
8340A004	Mounting Holes on Body	NA
8340A005	Mounting Holes on Body	NA
8340A008	Standard when factory assembled, but must order Kit No. 206-554 for Individual valves.	NA

NA - Not Available

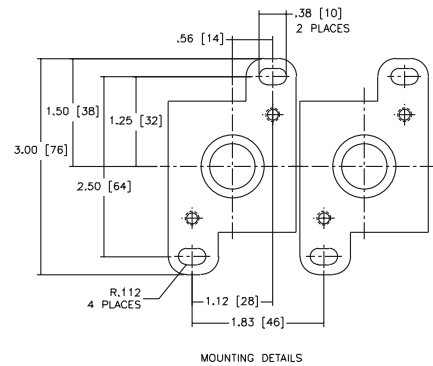
**Sub-Base Mounted Construction
(Shown As Group-Mounted)**



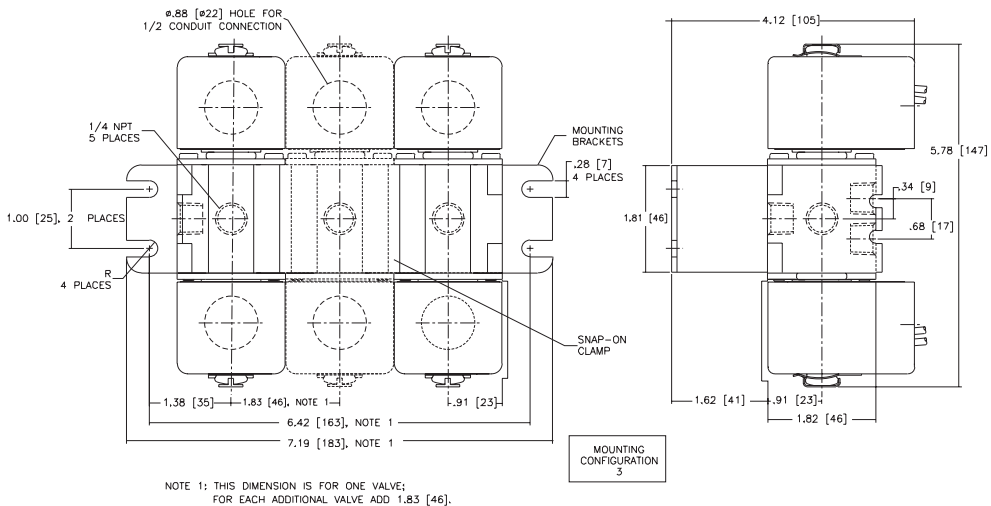
**Group-Mounted Construction
Single Solenoid**



NOTE 1: FOR EACH ADDITIONAL VALVE ADD 1.83 [46].



Group-Mounted Construction - Dual Solenoid



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
- Mechanical detent on dual solenoids holds last position, even after loss of electric power, pneumatics or pressure
- No Minimum Operating Pressure Differential required to shift valve
- Dual solenoid operation: solenoid may be energized momentarily (1/10 second) or continuously
- Mountable in any position

Construction

Valve Parts in Contact with Fluids		
Body	Brass	304 Stainless Steel
Seals and Discs	NBR and FKM	
Core Tube	305 Stainless Steel	
Core and Plugnut	430F Stainless Steel	
Springs	302 Stainless Steel / 17-7 PH Stainless Steel	
Shading Coil	Copper	
Sleeve	PA	
Seats	Graphite-filled PTFE	

Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption			Spare Coil Part Number	
	AC			General Purpose	Explosionproof
	Watts	VA Holding	VA Inrush	AC	AC
F	16.1	35	115	272610	272614
F	20.1	45	140	272610	272614

Standard Voltages: 24, 120, 240, 480 volts AC, 60 Hz. 24, 110, 115, 220, 230 volts AC, 50 Hz. Other voltages are available when required.

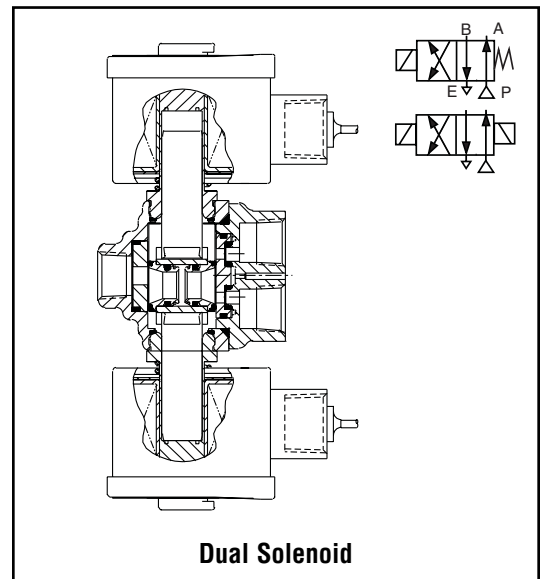
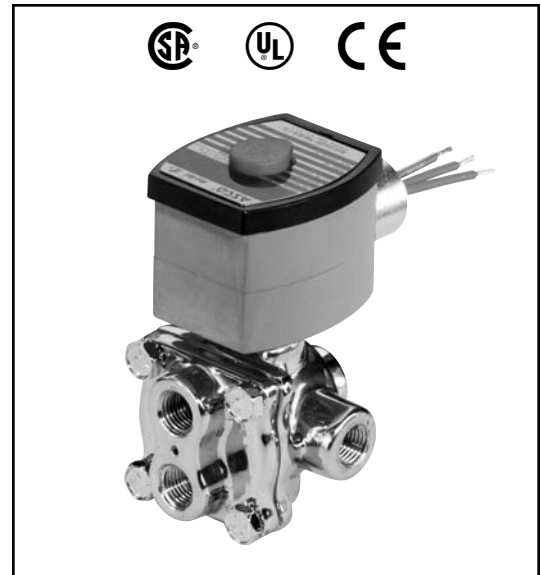
Note: No combination 120/60, 110/50 coil available. Must order either 120/60 or 110/50, etc.

Solenoid Enclosures

Standard: Watertight, Types 1, 2, 3, 3S, 4, and 4X.

Optional: Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9. (To order, add prefix "EF" to catalog number.)

See *Optional Features Section* for other available options.



Nominal Ambient Temp. Ranges

Standard Class F insulation: 32°F to 125°F (0°C to 52°C)
 Optional Class H insulation: 32°F to 140°F (0°C to 60°C)

Refer to *Engineering Section* for details.

Approvals

CSA certified. UL listed as General Purpose Valves. Meets applicable CE directives.

Refer to *Engineering Section* for details.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor ①	Operating Pressure Differential (psi)			Max. Fluid Temp. °F	Brass Body		Stainless Steel Body		Watt Rating/ Class of Coil Insulation
			Max. AC				Const. Ref.	Catalog Number	Const. Ref.	Catalog Number	
			Air-Inert Gas	Water	Lt. Oil @ 300 SSU	AC					AC
SINGLE SOLENOID CONSTRUCTION											
1/4	3/16	.70	125	100	100	160	8342G001	1	8342G701	2	20.1/F
3/8	3/16	.70	125	100	100	160	8342G003	1	8342G703	2	20.1/F
DUAL SOLENOID CONSTRUCTION											
1/4	3/16	.70	125	125	125	160	8342G020	3	8342G720	4	16.1/F
3/8	3/16	.70	125	125	125	160	8342G022	3	8342G722	4	16.1/F

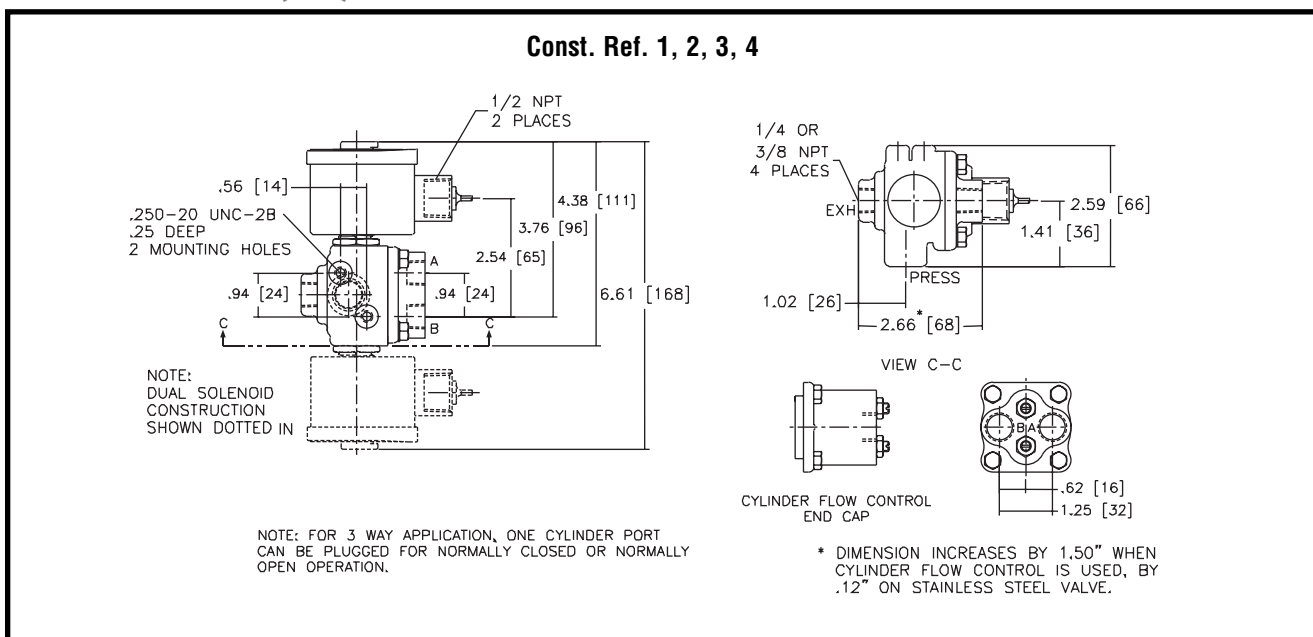
① With built-in flow control (Suffix "M"), the Cv is 0.44 and an 0.5 psi minimum operating pressure is required.

Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h) ①	Operating Pressure Differential (bar)			Max. Fluid Temp. °C	Brass Body		Stainless Steel Body		Watt Rating/ Class of Coil Insulation
			Max. AC				Const. Ref.	Catalog Number	Const. Ref.	Catalog Number	
			Air-Inert Gas	Water	Lt. Oil @ 300 SSU	AC					AC
SINGLE SOLENOID CONSTRUCTION											
1/4	4.8	.60	9	7	7	71	8342G001	1	8342G701	2	20.1/F
3/8	4.8	.60	9	7	7	71	8342G003	1	8342G703	2	20.1/F
DUAL SOLENOID CONSTRUCTION											
1/4	4.8	.60	9	9	9	71	8342G020	3	8342G720	4	16.1/F
3/8	4.8	.60	9	9	9	71	8342G022	3	8342G722	4	16.1/F

① With built-in flow control (Suffix "M"), the Kv is 0.38 and an 0.03 bar minimum operating pressure is required.

Dimensions inches (mm)



Features

- Sturdy, robust construction
- Piston-operated poppet design provides high flow
- For use with air or water
- Wide range of sizes and flow rates
- Single or dual solenoid constructions
- Dual solenoid can be shifted with a momentary signal and remain in position even if electrical power is lost
- Mountable in any position

Construction

Valve Parts in Contact with Fluids	
Body	Brass
Seals and Disc	NBR
Core Tube	305 Stainless Steel
Core and Plugnut	430F Stainless Steel
Springs	302 Stainless Steel / 17-7PH Stainless Steel
Shading Coil	Copper
Pilot Seat Cartridge and Disc-Holder	CA
Shaft Gasket	PA

Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	10.6	6.1	16	30	238210	238310	238214	238314
F	11.6	10.1	25	50	238610	238710	238614	238714
F	22.6	17.1	40	70	238610	238710	238614	238714

Dual Solenoid Operation: Minimum coil on-time for dual solenoid valves is 0.3 seconds on air service and 1.0 seconds on liquids.

Caution: Do not energize both solenoids simultaneously. Refer to Engineering Section for details.

Standard Voltages: 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz). 6, 12, 24, 120, 240 volts DC. Must be specified when ordering. Other voltages are available when required.

Solenoid Enclosures

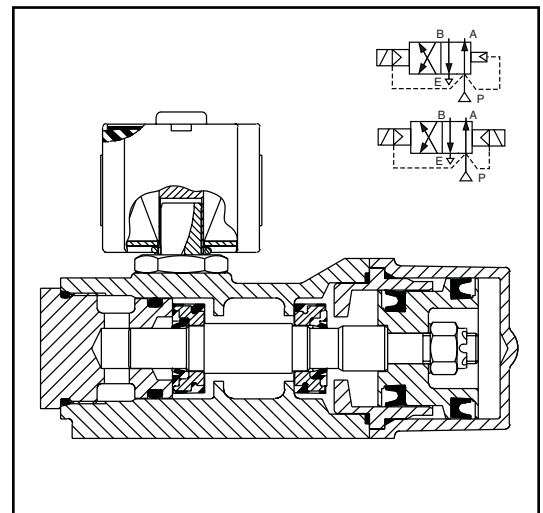
Standard: Watertight, Types 1, 2, 3, 3S, 4, and 4X.

Optional: Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9. (To order, add prefix "EF" to the catalog number.)

See *Optional Features Section* for other available options.



4-WAY



Nominal Ambient Temp. Ranges

AC: 32°F to 125°F (0°C to 52°C)

DC: 32°F to 104°F (0°C to 40°C)

Refer to Engineering Section for details.

Approvals

CSA certified. Meets applicable CE directives.

Important

A Minimum Operating Pressure Differential must be maintained between the pressure and exhaust ports. Supply and exhaust piping must be full area, unrestricted. ASCO flow controls and other similar components must be installed in the cylinder lines only.

- Loss of air pressure may allow valve to shift on dual solenoid constructions.

Specifications (English units)

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	
				① Min.	Max. AC			Max. DC								
		Press.	Exh.		Air-Inert Gas	Water	Lt. Oil @ 300 SSU	Air-Inert Gas	Water	Lt. Oil @ 300 SSU	AC	DC	Catalog Number	Const. Ref.	AC	DC
SINGLE SOLENOID																
1/4	1/4	.80	1.0	10	150	125	125	125	125	125	180	150	8344G070	1	10.1/F	11.6/F
1/4	1/4	.80	1.0	10	250 ②	250 ②	250 ②	250 ②	250 ②	250 ②	180	180	8344G000	1	17.1/F	22.6/F
3/8	3/8	1.4	2.2	10	150	125	125	125	125	125	180	150	8344G072	2	10.1/F	11.6/F
3/8	1/4	.80	1.0	10	250 ②	250 ②	250 ②	250 ②	250 ②	250 ②	180	180	8344G001	1	17.1/F	22.6/F
1/2	3/8	1.4	2.2	10	150	125	125	125	125	125	180	150	8344G074	2	10.1/F	11.6/F
1/2	3/8	1.4	2.2	10	250 ②	250 ②	250 ②	250 ②	250 ②	250 ②	180	180	8344G027	2	17.1/F	22.6/F
3/4	3/4	5.2	5.6	10	150	125	125	125	125	125	180	150	8344G076	3	10.1/F	11.6/F
3/4	3/4	5.2	5.6	10	250 ②	250 ②	250 ②	250 ②	250 ②	250 ②	180	180	8344G029	3	17.1/F	22.6/F
1	3/4	5.2	5.6	10	150	125	125	125	125	125	180	150	8344G078	3	10.1/F	11.6/F
1	3/4	5.2	5.6	10	250 ②	250 ②	250 ②	250 ②	250 ②	250 ②	180	180	8344G031	3	17.1/F	22.6/F
DUAL SOLENOID ③																
1/4	1/4	.80	1.0	10	250	200	125	125	125	100	180	120	8344G044	4	6.1/F	10.6/F
3/8	3/8	1.4	2.2	10	250	200	125	125	125	100	180	120	8344G080	6	6.1/F	10.6/F
3/8	3/8	1.4	2.2	10	300	300	200	-	-	-	180	-	8344G050	7	10.1/F	-
1/2	3/8	1.4	2.2	10	250	200	125	125	125	100	180	120	8344G082	6	6.1/F	10.6/F
3/4	3/4	5.2	5.6	10	300	300	200	125	125	100	180	120	8344G054	8	10.1/F	10.6/F
1	3/4	5.2	5.6	10	300	300	200	125	125	100	180	120	8344G056	8	10.1/F	10.6/F

① 25 psi (1.7 bar) minimum on light oil service. ② For best results, do not use valve rated 250 psi (17 bar) on mainline pressure of less than 125 psi (9 bar).
③ On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.

Specifications (Metric units)

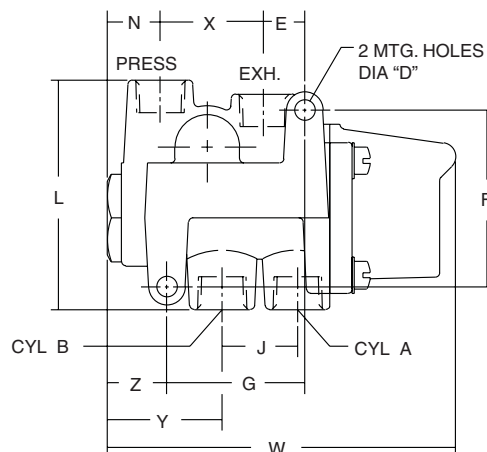
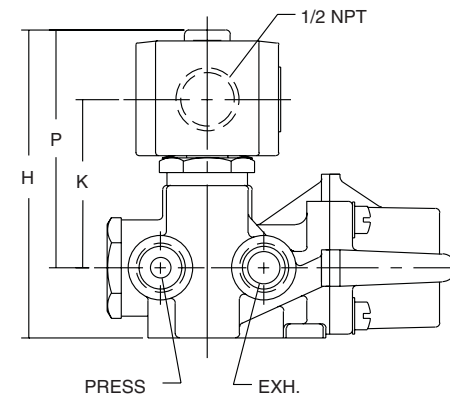
Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)		Operating Pressure Differential (bar)							Max. Fluid Temp. °C		Brass Body		Watt Rating/ Class of Coil Insulation	
				① Min.	Max. AC			Max. DC								
		Press.	Exh.		Air-Inert Gas	Water	Lt. Oil @ 300 SSU	Air-Inert Gas	Water	Lt. Oil @ 300 SSU	AC	DC	Catalog Number	Const. Ref.	AC	DC
SINGLE SOLENOID																
1/4	6	.69	.86	0.7	10	9	9	9	9	9	82	65	8344G070	1	10.1/F	11.6/F
1/4	6	.69	.86	0.7	17 ②	17 ②	17 ②	17 ②	17 ②	17 ②	82	82	8344G000	1	17.1/F	22.6/F
3/8	10	1.2	1.89	0.7	10	9	9	9	9	9	82	65	8344G072	2	10.1/F	11.6/F
3/8	6	.69	.86	0.7	17 ②	17 ②	17 ②	17 ②	17 ②	17 ②	82	82	8344G001	1	17.1/F	22.6/F
1/2	10	1.2	1.89	0.7	10	9	9	9	9	9	82	65	8344G074	2	10.1/F	11.6/F
1/2	10	1.2	1.89	0.7	17 ②	17 ②	17 ②	17 ②	17 ②	17 ②	82	82	8344G027	2	17.1/F	22.6/F
3/4	19	4.5	4.80	0.7	10	9	9	9	9	9	82	65	8344G076	3	10.1/F	11.6/F
3/4	19	4.5	4.80	0.7	17 ②	17 ②	17 ②	17 ②	17 ②	17 ②	82	82	8344G029	3	17.1/F	22.6/F
1	19	4.5	4.80	0.7	10	9	9	9	9	9	82	65	8344G078	3	10.1/F	11.6/F
1	19	4.5	4.80	0.7	17 ②	17 ②	17 ②	17 ②	17 ②	17 ②	82	82	8344G031	3	17.1/F	22.6/F
DUAL SOLENOID ③																
1/4	6	.80	.86	0.7	17	14	9	9	9	7	82	49	8344G044	4	6.1/F	10.6/F
3/8	10	1.4	1.89	0.7	17	14	9	9	9	7	82	49	8344G080	6	6.1/F	10.6/F
3/8	10	1.4	1.89	0.7	21	21	14	-	-	-	82	-	8344G050	7	10.1/F	-
1/2	10	1.4	1.89	0.7	17	14	9	9	9	7	82	49	8344G082	6	6.1/F	10.6/F
3/4	19	5.2	4.80	0.7	21	21	14	9	9	7	82	49	8344G054	8	10.1/F	10.6/F
1	19	5.2	4.80	0.7	21	21	14	9	9	7	82	49	8344G056	8	10.1/F	10.6/F

① 25 psi (1.7 bar) minimum on light oil service. ② For best results, do not use valve rated 250 psi (17 bar) on mainline pressure of less than 125 psi (9 bar).
③ On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.

Dimensions inches (mm)

Const. Ref.		ØD	E	F	G	H	J	K	L	N	P	W	X	Y	Z	Exhaust Pipe Size
1	ins.	Ø .28	.56	2.41	1.88	4.08	1.03	2.15	3.13	.72	3.12	4.75	1.41	1.56	.81	3/8
	mm	Ø 7.1	14	61	48	104	26	55	80	18	79	121	36	40	21	3/8
2	ins.	Ø .34	.75	3.12	2.63	4.06	1.50	1.97	3.18	.83	2.94	6.06	1.88	1.90	.84	1/2
	mm	Ø 8.6	19	79	67	103	38	50	81	21	75	154	47	48	21	1/2
3	ins.	Ø .34	1.34	3.81	3.88	4.86	2.09	2.34	4.56	1.56	3.31	8.25	2.12	2.63	1.16	1
	mm	Ø 8.6	34	97	99	123	53	59	116	39	84	210	54	67	30	1
4	ins.	Ø .28	.56	2.41	1.88	4.34	1.03	2.52	3.13	.72	3.38	4.81	1.41	1.56	.81	3/8
	mm	Ø 7.1	14	61	48	110	26	64	80	18	86	122	36	40	21	3/8
6	ins.	Ø .34	.75	3.12	2.63	4.50	1.50	2.52	3.18	.83	3.38	6.06	1.88	1.90	.84	1/2
	mm	Ø 8.6	19	79	67	114	38	64	81	21	86	154	47	48	21	1/2
7	ins.	Ø .34	.75	3.12	2.63	4.68	1.50	2.59	3.18	.83	3.56	6.06	1.88	1.90	.84	1/2
	mm	Ø 8.6	19	79	67	119	38	66	81	21	90	154	47	48	21	1/2
8	ins.	Ø .34	1.34	3.81	3.88	5.56	2.09	3.03	4.56	1.55	4.00	8.25	2.12	2.63	1.16	1
	mm	Ø 8.6	34	97	99	141	53	77	116	39	102	210	54	67	30	1

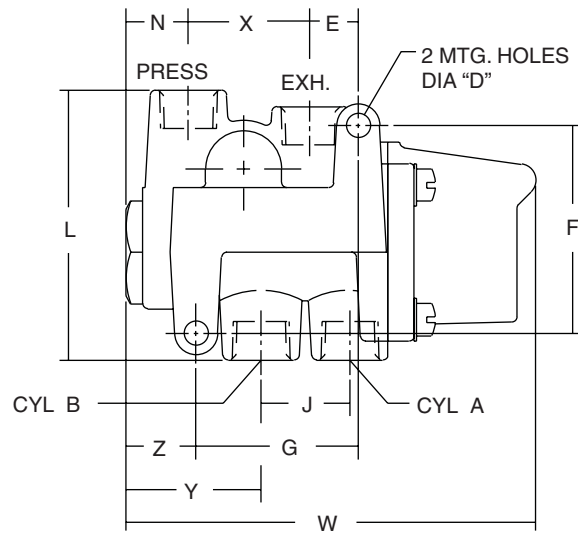
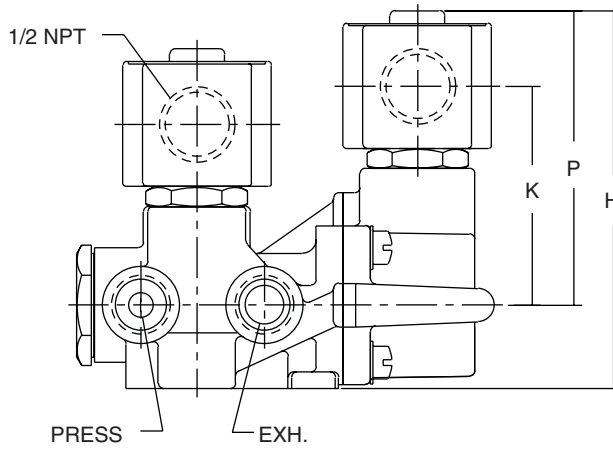
Const. Ref 1 - 3



4-WAY

Dimensions inches (mm)

Const. Ref. 4 - 8



Features

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

Construction

Valve Parts in Contact with Fluids		
Body	Brass	316 Stainless Steel
Seals and Disc	NBR and PA	FKM, PA and UR
Core Tube	305 Stainless Steel	
Core and Plugnut	430F Stainless Steel	
Springs	302 Stainless Steel	
Shading Coil	Copper	Silver
Piston	PA	

Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number					
	DC Watts	AC			General Purpose		Explosionproof (EF)		Explosionproof (EV)	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC	AC	DC
F	11.6	10.1	25	50	238610	238710	238614	238714	274614	274714

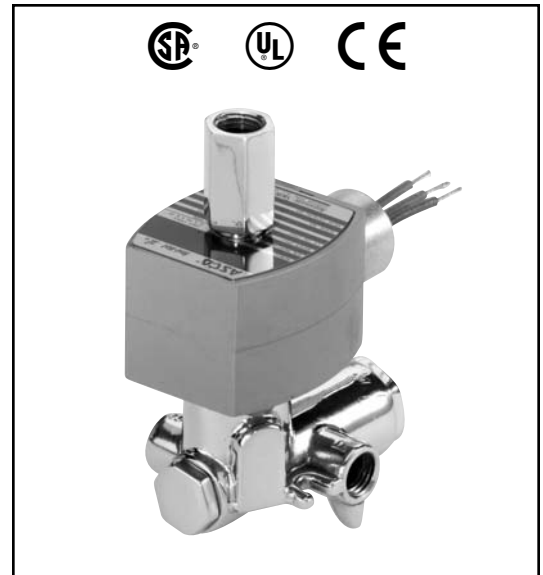
Standard Voltages: 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz).
 6, 12, 24, 120, 240 volts DC. Must be specified when ordering.
 Other voltages are available when required.

Solenoid Enclosures

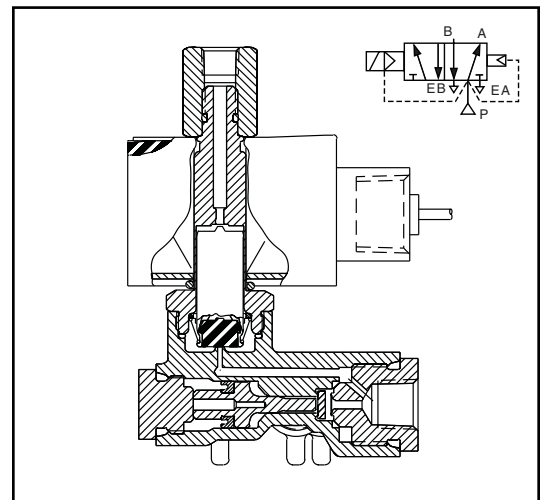
Standard: Watertight, Types 1, 2, 3, 3S, 4, and 4X.

Optional: Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9. (To order, add prefix "EF" or, for Explosionproof Stainless Steel trim and hub on Brass-Bodied valves, add "EV" to catalog number.)

See *Optional Features Section* for other available options.



4-WAY



Nominal Ambient Temp. Ranges

AC: 32°F to 125°F (0°C to 52°C)

DC: 32°F to 104°F (0°C to 40°C)

Refer to *Engineering Section* for details.

Approvals

CSA certified. UL listed as General Purpose Valve. EV8345G081 solenoid only UL approved. Meets applicable CE directives.

Refer to *Engineering Section* for details.

Important

A Minimum Operating Pressure Differential must be maintained between the pressure and exhaust ports. Supply and exhaust piping must be full area, unrestricted. ASCO flow controls and other similar components must be installed in the cylinder lines only.

Refer to *Engineering Section* for details.

Specifications (English units)

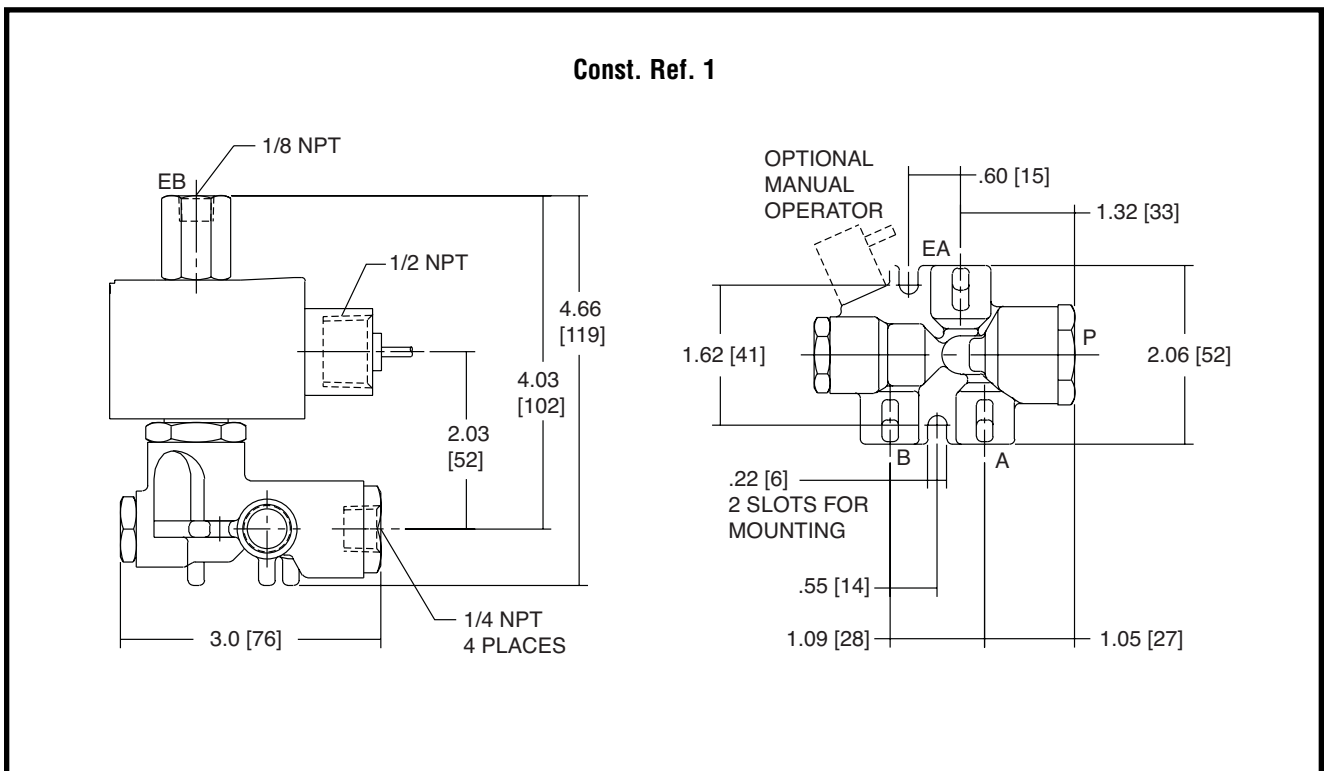
Pipe Size (ins.)	Orifice Size (ins.)		Cv Flow Factor		Operating Pressure Differential (psi)						Max. Fluid Temp. °F		Brass Body		Stainless Steel Body		Watt Rating/Class of Coil Insulation	
					Max. AC			Max. DC										
	Press.	Exh.	Inlet	Exh.	Min.	Air-Inert Gas	Water	Lt. Oil @ 50 SSU	Air-Inert Gas	Water	Lt. Oil @ 50 SSU	AC	DC	Catalog Number	Catalog Number	Const. Ref.	AC	DC
SINGLE SOLENOID																		
1/4	1/16	3/32	.09	.09	10	150	150	150	100	100	100	180	104	8345G001	EV8345G081	1	10.1/F	11.6/F
SINGLE SOLENOID AIR-ONLY CONSTRUCTION - Exhaust to Atmosphere																		
1/4	1/16	3/32	.09	.09	10	150	-	-	100	-	-	180	104	8345H003	-	1	10.1/F	11.6/F

4-WAY

Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)		Kv Flow Factor (m3/h)		Operating Pressure Differential (bar)						Max. Fluid Temp. °C		Brass Body		Stainless Steel Body		Watt Rating/Class of Coil Insulation	
					Max. AC			Max. DC										
	Press.	Exh.	Inlet	Exh.	Min.	Air-Inert Gas	Water	Lt. Oil @ 50 SSU	Air-Inert Gas	Water	Lt. Oil @ 50 SSU	AC	DC	Catalog Number	Catalog Number	Const. Ref.	AC	DC
SINGLE SOLENOID																		
1/4	2	2	.08	.08	0.7	10	10	10	7	7	7	82	40	8345G001	EV8345G081	1	10.1/F	11.6/F
SINGLE SOLENOID AIR-ONLY CONSTRUCTION - Exhaust to Atmosphere																		
1/4	2	2	.08	.08	0.7	10	-	-	7	-	-	82	40	8345H003	-	1	10.1/F	11.6/F

Dimensions inches (mm)



Features

- Unique sliding, sealing member
- Optional flow control regulates cylinder speed in either direction
- Dual solenoid versions hold last position, even after loss of electric power
- Dual solenoid operation: solenoid may be energized momentarily (1/10 second) or continuously
- Air/inert gas service only
- Durable and “non-sticking” sealing method
- Standard manual operator both momentary and maintained
- Optional flow control provides adjustable Cv from 0.2 to 0.8

Construction

Valve Parts in Contact with Fluids	
Main Valve Body, Sub- and Manifold Base, End Caps	Aluminum
Pilot Valve Body	Molded CA
End Caps	Stainless Steel (non-metering) Molded CA (metering)
Seals	NBR (Carboxylated Nitrile)
Spool	Molded Delrin
Slide	Molded Delrin
Flow Plate	Ceramic (alumina)
Core Tube	305 Stainless Steel
Core and Plugnut	430F Stainless Steel
Core and Plugnut	302 Stainless Steel

Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption					
	DC Watts	AC			Spare Coil Part No.	
		Watts	VA Holding	VA Inrush	AC	DC
F	6.9	6.3	8.8	12.1	400125	400125

Standard Voltages: 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz).
 6, 12, 24, 120, 240 volts DC. Must be specified when ordering.
 Other voltages are available when required.

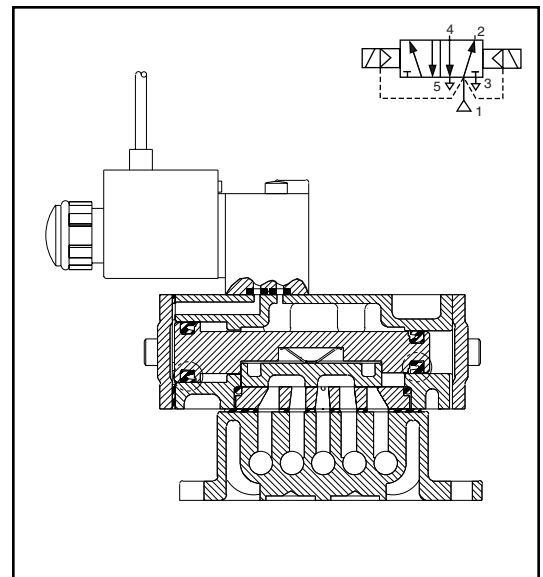
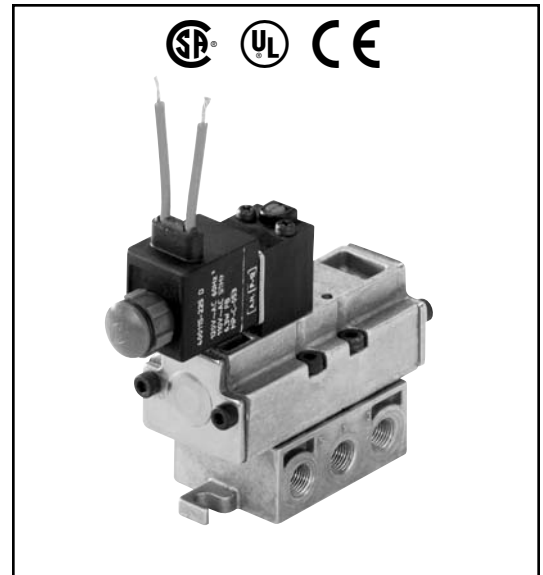
Solenoid Enclosures

Standard: Open Frame Solenoid.

Optional: Watertight, Types 1, 2, 3, 3S, 4, and 4X.

(To order, substitute with prefix “WT”.) Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9. (To order, substitute with prefix “EF”.)

See *Optional Features Section* for other available options.



Nominal Ambient Temp. Ranges

Standard Class F insulation:

AC: 0°F to 135°F (-18°C to 57°C) (“U” and “SC” prefix)

AC: 0°F to 104°F (-18°C to 40°C)

(optional “WT” or “EF” prefix)

DC: 0°F to 77°F (-18°C to 25°C)

Refer to *Engineering Section* for details.

Approvals

CSA certified. UL recognized components for “U” and “SC” prefix. With prefix “WT”, UL listed as a General Purpose Valve. Meets applicable CE directives.

Refer to *Engineering Section* for details.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Main Line Supply Pressure (psi)			Max. Fluid Temp. °F		Molded Epoxy Open Frame Solenoid				Watt Rating/ Class of Coil Insulation		
			Min.	Air-Inert Gas		AC	DC	Sub-Base Mounted		Manifold Mounted		AC	DC	
				Max. AC	Max. DC			Catalog Number	Const. Ref.	Catalog Number	Const. Ref.			
SINGLE SOLENOID														
1/4	1/4	.80	20	150	150	135	77	U8401B101	1	U8401B103	2	6.3/F	6.9/F	
DUAL SOLENOID														
1/4	1/4	.80	20	150	150	135	77	U8401B105	3	U8401B107	4	6.3/F	6.9/F	

Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Main Line Supply Pressure (bar)			Max. Fluid Temp. °C		Molded Epoxy Open Frame Solenoid				Watt Rating/ Class of Coil Insulation		
			Min.	Air-Inert Gas		AC	DC	Sub-Base Mounted		Manifold Mounted		AC	DC	
				Max. AC	Max. DC			Catalog Number	Const. Ref.	Catalog Number	Const. Ref.			
SINGLE SOLENOID														
1/4	6.4	.69	1.4	10	10	57	25	U8401B101	1	U8401B103	2	6.3/F	6.9/F	
DUAL SOLENOID														
1/4	6.4	.69	1.4	10	10	57	25	U8401B105	3	U8401B107	4	6.3/F	6.9/F	

Dimensions: inches (mm)

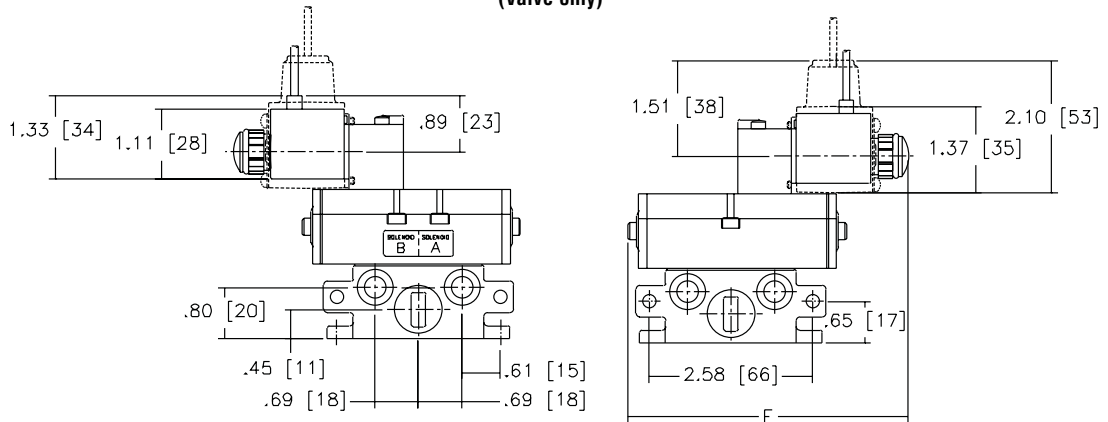
Const. Ref.		A	B	C	E	F
1	ins.	.73	.60	.80	1.02	4.43 ①
	mm	19	15	20	26	112 ①
2	ins.	-	-	.79	.91	4.43 ①
	mm	-	-	20	23	112 ①
3	ins.	.73	.60	.80	1.02	-
	mm	19	15	20	26	-

① Add .54 (13.7mm) for metering.
See drawings for dimensions not shown.
Note: "EF" and "WT" dimensions shown by dotted lines.
IMPORTANT: Valve can be mounted in any position.

Const. Ref. 1

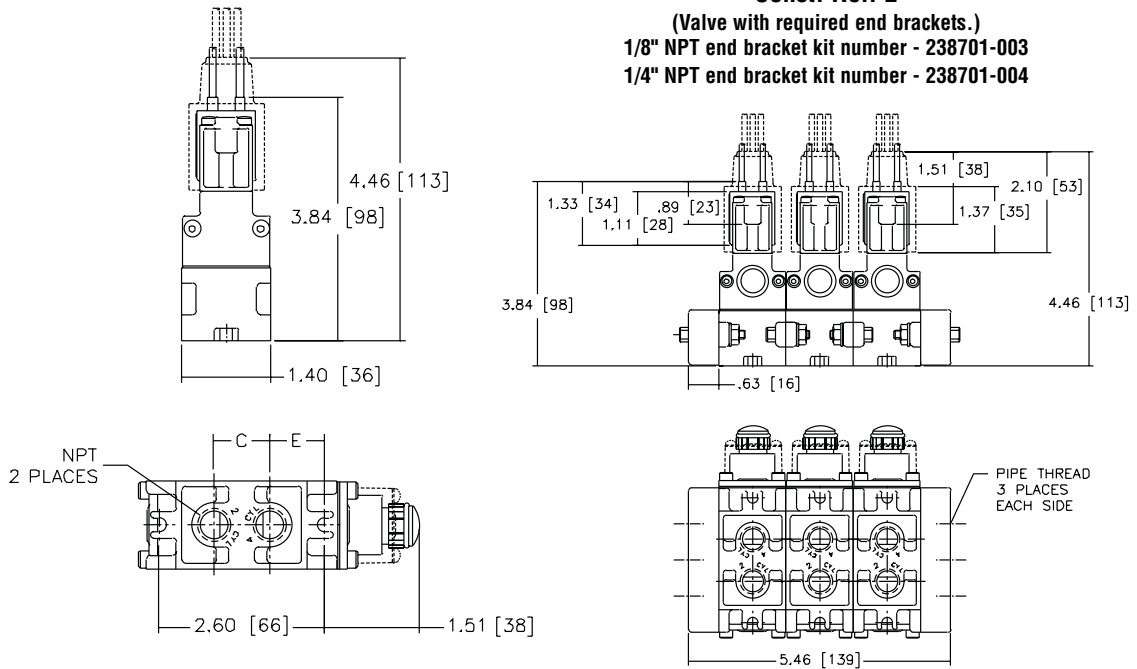
Dimensions: inches (mm)

Const. Ref. 2
(Valve only)

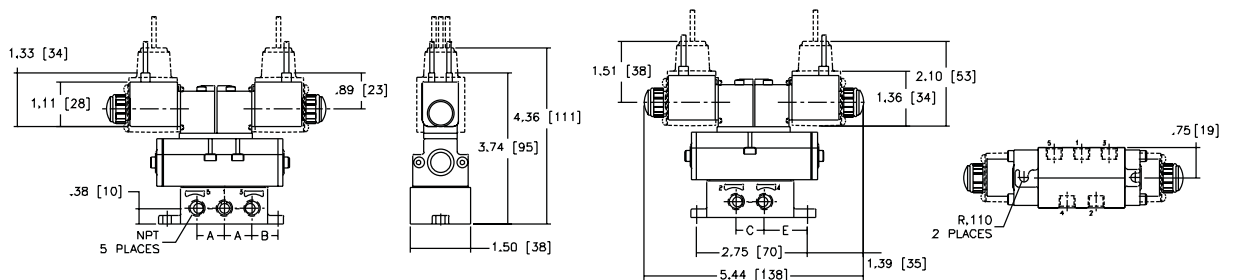


Const. Ref. 2

(Valve with required end brackets.)
1/8" NPT end bracket kit number - 238701-003
1/4" NPT end bracket kit number - 238701-004



Const. Ref. 3



4-WAY

Features

- Compact spool valve with threaded port connections
- All exhaust ports are pipable, providing better protection against harsh environments
- Standard manual operator
- DIN, Watertight and Explosionproof solenoids available
- Single and dual solenoid constructions
- Mountable in any position

Construction

Valve Parts in Contact with Fluids	
Body	Black Anodized Aluminum
Spring	Phosphate Treated Black Steel
Shading Coil	Copper
Seals	NBR + PUR
Core and Core Tube	Stainless Steel/Brass
End Covers	6/6 Glass Filled PA/FG
Spool	Aluminum
Internal Parts	Zamak, Steel, CA, Aluminum

Electrical

Standard Coil and Class of Insulation	Enclosure Type	Watt Rating and Power Consumption				Spare Coil Part Number	
		DC Watts	AC Watts	VA Holding	VA Inrush	AC	DC
F	SC	3	2.5	3.5	6	400125	400125
F	SC	6.9	5	7	15	43004649	43004647
F	EF	6.9	6.3	7	10.1	266762	270007
F	WT	6.9	6.3	7	10.1	266763	270008

Standard Voltages: SC: 24, 120, 240 Volts AC, 50-60 Hz; 12, 24, 120 Volts DC.
 WT and EF: 24/50-60HZ, (120/60, 110-120/50)①, (240/60, 220-240/50)② Volts AC;
 6, 12, 24, 120 Volts DC.
 ① Order as 120/60, 110/50
 ② Order as 240/60, 220/50

Solenoid Enclosures

Standard: - Prefix

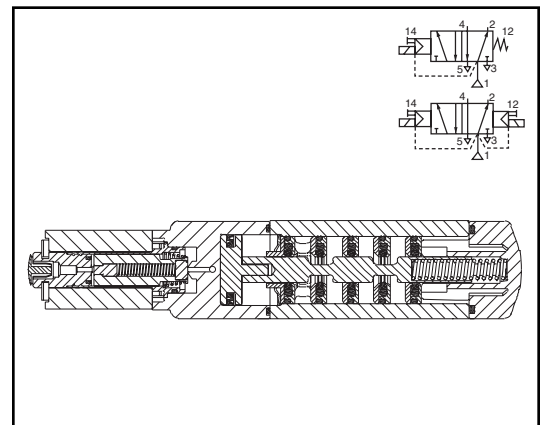
SC = IP65 type DIN (open frame) per 46244

WT = Combination General Purpose and Watertight Types 1, 2, 3, 3S, 4, and 4X

EF = Combination Explosionproof and Watertight Types 3, 3S, 4, 4X, 6, 6P, 7, 9 Class I, Div. 1 (Groups A - D) and Class II, Div. 1 Type 9 (Groups E-G)



4-WAY



Nominal Ambient Temp. Ranges

SC: AC/DC: 5°F to +140°F (-15°C to 60°C)

EF: AC: 5°F to +104°F (-15°C to 40°C)

DC: 5°F to +77°F (-15°C to 25°C)

WT: AC: 5°F to +140°F (-15°C to 60°C)

DC: 5°F to +77°F (-15°C to 25°C)

Note: For temperatures below 32°F (0°C) moisture-free air must be used.

Refer to Engineering Section for details.

Approvals

SC (2.5W and 3W only) UL recognized component, CSA certified.

WT: UL recognized component, CSA certified.

EF: UL and CSA listed solenoid.

Meets applicable CE directives.

Refer to Engineering Section for details.

Note

When mounting inline 8551 valves with WT & EF solenoids (6.3 & 6.9 watts), ASCO recommends using two (2) 1/8" thick washers under the valve body to provide clearance for the solenoid coil.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)		Fluid Temp. °F (for single and dual solenoid)			Single Solenoid	Dual Solenoid	Watt Rating/ Class of Coil Insulation	
			Min.	Max.	Min.	Max. AC	Max. DC	Catalog Number	Catalog Number	AC	DC
OPEN FRAME DIN COIL											
1/4	1/4	.86	30	150	5	140	140	SC8551A017MS	SC8551A018MS	2.5	3
1/2	1/2	3.7	30	150	-15	140	140	SC8553A017MS	SC8553A018MS	5	6.9
WATERTIGHT ENCLOSURE											
1/4	1/4	.86	30	150	5	140	77	WT8551A017MS	WT8551A018MS	6.3	6.9
1/2	1/2	3.7	30	150	-15	140	77	WT8553A017MS	WT8553A018MS	6.3	6.9
EXPLOSIONPROOF ENCLOSURE											
1/4	1/4	.86	30	150	5	104	77	EF8551A017MS	EF8551A018MS	6.3	6.9
1/2	1/2	3.7	30	150	-15	104	77	EF8553A017MS	EF8553A018MS	6.3	6.9

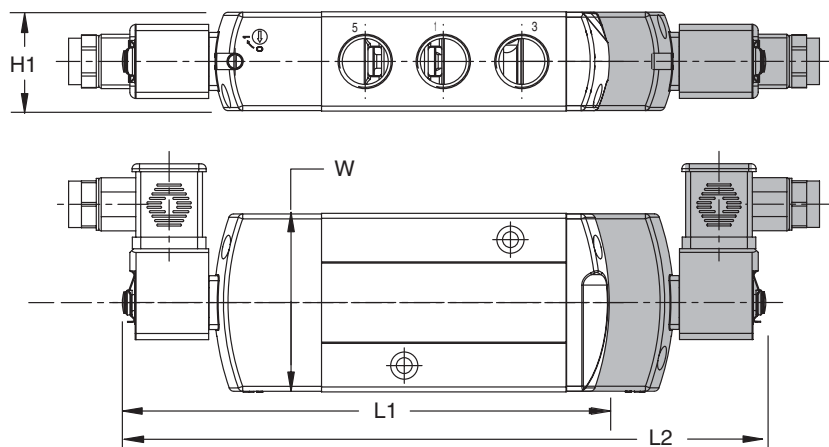
Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)		Fluid Temp. °C (for single and dual solenoid)			Single Solenoid	Dual Solenoid	Watt Rating/ Class of Coil Insulation	
			Min.	Max.	Min.	Max. AC	Max. DC	Catalog Number	Catalog Number	AC	DC
OPEN FRAME DIN COIL											
1/4	6	.75	2	10	-15	60	60	SC8551A017MS	SC8551A018MS	2.5	3
1/2	13	3.15	2	10	-25	60	60	SC8553A017MS	SC8553A018MS	5	6.9
WATERTIGHT ENCLOSURE											
1/4	6	.75	2	10	-15	60	25	WT8551A017MS	WT8551A018MS	6.3	6.9
1/2	13	3.15	2	10	-25	60	25	WT8553A017MS	WT8553A018MS	6.3	6.9
EXPLOSIONPROOF ENCLOSURE											
1/4	6	.75	2	10	-15	40	25	EF8551A017MS	EF8551A018MS	6.3	6.9
1/2	13	3.15	2	10	-25	40	25	EF8553A017MS	EF8553A018MS	6.3	6.9

Dimensions inches (mm)

Series	8551	8553
NPT	1/4	1/2
L1	6.18 (157)	7.76 (197)
L2	8.28 (210)	10.25 (260)
H1	1.10 (28)	1.58 (40)
W	1.77 (45)	2.85 (72)

NOTE: Valve shown with CM22 DIN terminal coil and connector. Connector sold separately.





Pilot Operated • High Flow
RedHat II Spool Valves
 Anodized Aluminum, Brass and Stainless Steel Bodies
 1/4" and 1/2" NPT

5/2•5/3
SERIES
8551
8553

Features

- Compact Spool Valve
- Single and dual solenoid constructions available
- Unique design combines hard T-seals and flexible o-rings, provides bubble-tight shutoff, resistance to dirt and multimillion cycle life controlling air or inert gas
- Low Power and Intrinsically Safe construction available
See Special Service Pilot Valve Section for details

Construction

Valve Parts in Contact with Fluids			
Body	Aluminum, Black Anodized	Brass	316L Stainless Steel
End Cover (Spring end)	Glass-filled Polyamide	Brass	316L Stainless Steel
Spool Valve Internals	Zamak, Stainless Steel, Acetal (POM), Aluminum	Brass, Acetal (POM), Delrin	
Pilot End Covers	Aluminum, Black Anodized	Brass	316L Stainless Steel
Core Tube	Stainless Steel		
Core and Plugnut	Stainless Steel		
Springs	Stainless Steel		
Seals and Discs	NBR		
Top Disc	Nylon (PA)		
Core Guide	Acetal		
Seat and Seat Insert	Brass, Acetal		
Shading Coil	Copper		
Rider Ring (low power)	PTFE		

Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	11.6	10.1	25	50	238610	238710	238614	238714

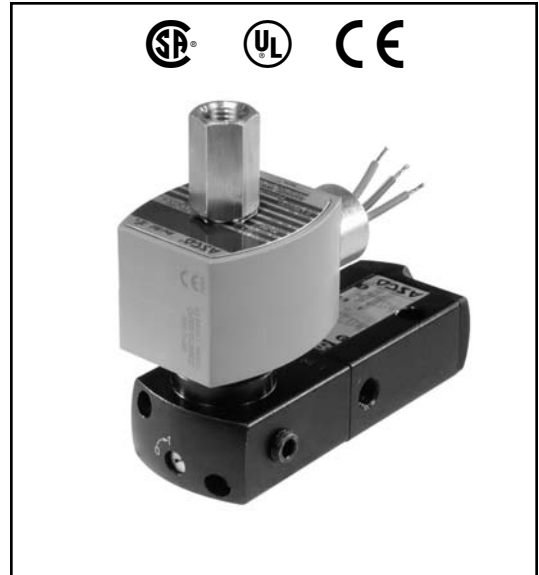
Standard Voltages: 24, 120, 240, 480 volts AC, 60 Hz (110, 220 volts AC, 50 Hz).
 6, 12, 24, 120, 240 volts DC. Must be specified when ordering.
 Other voltages are available when required.

Solenoid Enclosures

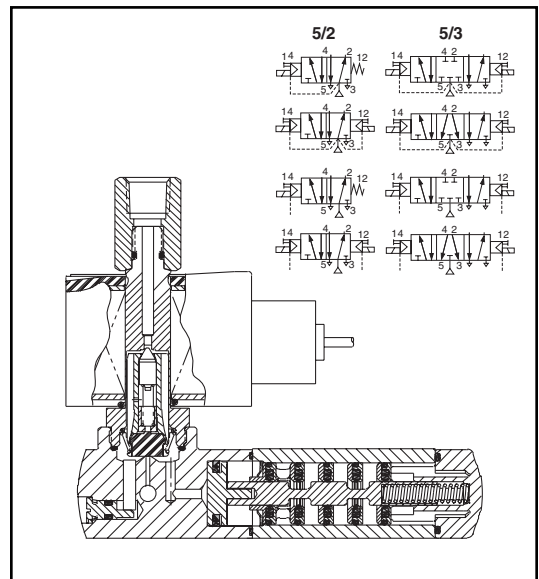
Standard: Watertight, Types 1, 2, 3, 3S, 4, and 4X.

Optional: Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9.
 (To order, add prefix "EF" or "EV" for stainless steel) to catalog number.)

See Optional Features Section for other available options.



4-WAY



Nominal Ambient Temp. Ranges

Body Material	Description
Aluminum	AC: 5°F to 125°F (-15°C to 52°C) DC: 5°F to 104°F (-15°C to 40°C)
Brass	AC: -40°F to 125°F (-40°C to 52°C)
Stainless Steel	DC: -40°F to 104°F (-40°C to 40°C)

Approvals

UL/CSA approvals for aluminum constructions pending. EF and EV are UL listed solenoids. CSA certified. Meet applicable CE directives.
Refer to Engineering Section for details.

Specifications (English units)

Body Material	Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Single Solenoid						Dual Solenoid											
				Operating Pressure Differential (psi)			Max. Fluid Temp. °F			Catalog Number	Const. Ref.	Operating Pressure Differential (psi)			Max. Fluid Temp. °F			Catalog Number	Const. Ref.	Watt Rating/Class of Coil Insulation	
				Air-Inert Gas			Air-Inert Gas					Air-Inert Gas			Air-Inert Gas					AC	DC
				Min.	Max. AC	Max. DC	AC	DC	Min.			Max. AC	Max. DC	AC	DC	Min.	Max. AC				
Aluminum 5/2	1/4	1/4	.86	30	145	120	140	120	8551G417	1	30	145	120	140	120	8551G418	1	10.1/F	11.6/F		
Aluminum 5/3 Center Closed									-							8551G467					
Aluminum 5/3 Center Open									-							8551G468					
Brass 5/2	1/2	1/2	3.7	30	145	120	140	120	EF8551G419 ①	1	30	145	120	140	120	EF8551G420 ①	1	10.1/F	11.6/F		
316L Stainless Steel 5/2									EV8551G421 ②							EV8551G422 ②					
Aluminum 5/2									8553G417							8553G418					
316L Stainless Steel 5/2									EV8553G421 ②						EV8553G422 ②						

① Brass construction supplied standard with EF solenoid. ② Stainless steel construction supplied standard with EV solenoid.

Specifications (Metric units)





Body Material	Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Single Solenoid						Dual Solenoid											
				Operating Pressure Differential (bar)			Max. Fluid Temp. °C			Catalog Number	Const. Ref.	Operating Pressure Differential (bar)			Max. Fluid Temp. °C			Catalog Number	Const. Ref.	Watt Rating/Class of Coil Insulation	
				Air-Inert Gas			Air-Inert Gas					Air-Inert Gas			Air-Inert Gas					AC	DC
				Min.	Max. AC	Max. DC	AC	DC	Min.			Max. AC	Max. DC	AC	DC	Min.	Max. AC				
Aluminum 5/2	1/4	6.4	.75	2	10	8.2	60	48	8551G417	1	2	10	8.2	60	48	8551G418	1	10.1/F	11.6/F		
Aluminum 5/3 Center Closed									-							8551G467					
Aluminum 5/3 Center Open									-							8551G468					
Brass 5/2	1/2	13	3.15	2	10	8.2	60	48	EF8551G419 ①	1	2	10	8.2	60	48	EF8551G420 ①	1	10.1/F	11.6/F		
316L Stainless Steel 5/2									EV8551G421 ②							EV8551G422 ②					
Aluminum 5/2									8553G417							8553G418					
316L Stainless Steel 5/2									EV8553G421 ②						EV8553G422 ②						

① Brass construction supplied standard with EF solenoid. ② Stainless steel construction supplied standard with EV solenoid.

Dimensions inches (mm)

Series	8551	8553
NPT	1/4	1/2
L1 ①	5.63 (143)	7.06 (179)
L2 ①	7.20 (183)	8.86 (225)
H2	4.38 (111)	4.77 (121)
H1	1.10 (28)	1.58 (40)
W	1.77 (45)	2.85 (72)

① Manual override option MH adds .250", MS option adds .468" to each solenoid endcap.

Optional Manual Operators		
Add Suffix		Description
MO		Push and turn to lock with flat head screwdriver slot
MI		Momentary push in with flat head screwdriver slot
MH		Momentary push in by hand
MS		Push and turn to lock by hand

Const. Ref. 1

