

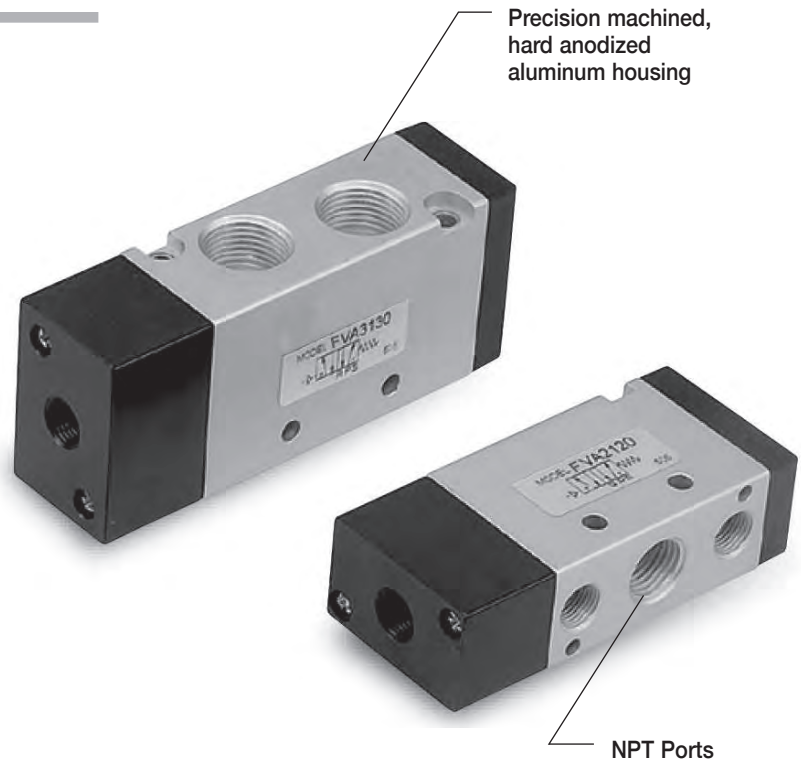
# FABCO-AIR

## *Pneumatic Valves – FVA & FVEC Series*



### Features

1. Fast acting valves are designed for high flow.
2. Housings are precision machined and hard anodized for low friction.
3. Low friction seals have high abrasion resistance to provide longer service life.
5. Can be used with or without lubrication.
6. Available with or without manifolds.  
See photos on front cover and page 4.



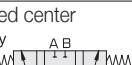





### Specifications

Model	Configuration		Port size		Cv
			R,S	P,A,B	P → A/B
FVA1000	5 port 2 position	Single	1/8	1/8	0.67
		Double			
	5 port 3 position	Closed center	1/8	1/8	0.5
		Exhaust center Pressure center			
FVA2000	5 port 2 position	Single	1/8	1/4	1.0
		Double			
	5 port 3 position	Closed center	1/8	1/4	0.7
		Exhaust center Pressure center			
FVA3000	5 port 2 position	Single	1/4	3/8	1.68
		Double			
	5 port 3 position	Closed center	1/4	3/8	1.2
		Exhaust center Pressure center			
FVA4000	5 port 2 position	Single	1/2	1/2	2.8
		Double			
	5 port 3 position	Closed center	1/2	1/2	2.8
		Exhaust center Pressure center			

Model	FVA1000	FVA2000	FVA3000	FVA4000
Operating media	Compressed air or inert gas			
Min. pilot pressure	30 psi - single or double pilot			
Max. operating pressure	150 psi			
Temperature range	5°C(41°F) ~ +60°C(140°F)			
Lubrication	None required or use ISO VG32			
Response time	0.050 sec.			
Cylinder range	ø20~ø63mm		ø63~ø160mm	
Max. cycles/second	5 cps		4 cps	

## How to order

<b>FVA1</b>	<b>1</b>	<b>1</b>	<b>O</b>	<b>N</b>	<b>M2N</b>
Series	Operation	Port size P, A, B	Piping	Port thread	Manifolds
FVA1 FVA2 FVA3 FVA4	1 Single air operated 4 Way  2 Double air operated 4 Way  3 Closed center 4 Way  4 Exhaust center 4 Way  5 Pressure center 4 Way 	1 1/8 for FVA1 2 1/4 for FVA2 3 3/8 for FVA3 4 1/2 for FVA4	<b>0</b> Without manifold <b>1</b> With manifold	NPT	M2N~M10N



## Price list

Valve Prices		
Model #	Weight (g)	Price
FVA1110	80	-
FVA1210	90	-
FVA1310	110	-
FVA1410	110	-
FVA1510	110	-
FVA2120	150	-
FVA2220	160	-
FVA2320	270	-
FVA2420	270	-
FVA2520	270	-
FVA3130	240	-
FVA3230	250	-
FVA3330	390	-
FVA3430	390	-
FVA3530	390	-
FVA4140	480	-
FVA4240	780	-
FVA4340	900	-
FVA4440	900	-
FVA4540	900	-

Manifold Prices	
Series-Code#.....	Price
FVA1-M2N	-
FVA1-M3N	-
FVA1-M4N	-
FVA1-M5N	-
FVA1-M6N	-
FVA1-M7N	-
FVA1-M8N	-
FVA1-M9N	-
FVA1-M10 N	-
FVA2-M2N	-
FVA2-M3N	-
FVA2-M4N	-
FVA2-M5N	-
FVA2-M6N	-
FVA2-M7N	-
FVA2-M8N	-
FVA2-M9N	-
FVA2-M10N	-

Series-Code#.....	Price
FVA3-M2N	-
FVA3-M3N	-
FVA3-M4N	-
FVA3-M5N	-
FVA3-M6N	-
FVA3-M7N	-
FVA3-M8N	-
FVA3-M9N	-
FVA3-M10N	-
FVA4-M2N	-
FVA4-M3N	-
FVA4-M4N	-
FVA4-M5N	-
FVA4-M6N	-
FVA4-M7N	-
FVA4-M8N	-
FVA4-M9N	-
FVA4-M10N	-

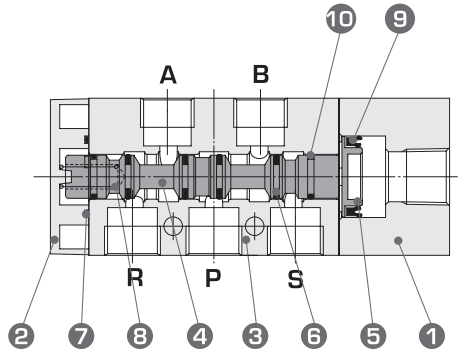
Manifold Block-Off Plates for unused/empty stations (includes seals & fasteners)		
Series	Part #	Price
FVA1	FVE01A	-
FVA2	FVE02A	-
FVA3	FVE03A	-
FVA4	FVE04A	-

Manifold Gasket Kit Replacement parts for valve-to-manifold assembly		
Series	Part #	Price
FVA1	FVE01032K	-
FVA2	FVE02032K	-
FVA3	FVE03032K	-
FVA4	FVE04032K	-

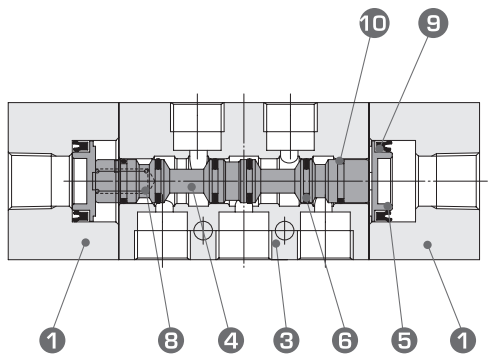
Manifolds available individually by ordering part number from above chart. (Includes seals & valve mounting screws.) All manifold ports are NPT.  
Example: *FVA1-M2N* signifies NPT ports.

### AIR PILOT VALVES – Construction

#### ● Single Air Pilot



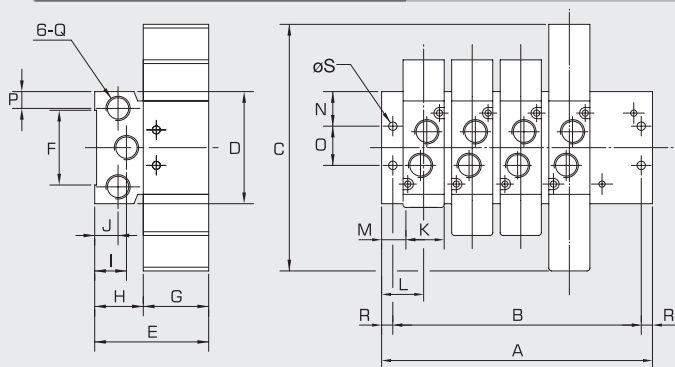
#### ● Double Air Pilot



#### Parts list

No.	Name	Material	Remarks
1	Adaptor plate	Aluminum alloy	Anodized
2	End plate	Delrin	-
3	Body	Aluminum alloy	Hard anodized
4	Spool	Aluminum alloy	-
5	Piston	Synthetic resin	-
6	Spool seal	NBR	-
7	End plate seal	NBR	-
8	Air/Spring return	Delrin	Stainless steel
9	Piston seal	NBR	-
10	Spool seal	NBR	-

#### Manifold dimensions (mm)



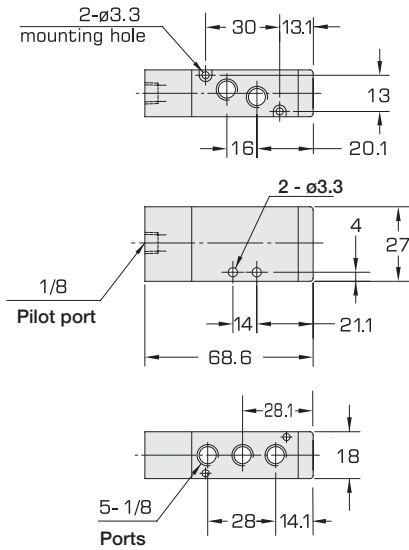
Manifolds	FVA1		FVA2		FVA3		FVA4	
	A	B	A	B	A	B	A	B
<b>M2N</b>	57	47	69	57	87	75	98	84
<b>M3N</b>	76	66	92	80	116	104	133	119
<b>M4N</b>	95	85	115	103	145	133	168	154
<b>M5N</b>	114	104	138	126	174	162	203	189
<b>M6N</b>	133	123	161	149	203	191	238	224
<b>M7N</b>	152	142	184	172	232	220	273	259
<b>M8N</b>	171	161	207	195	261	249	308	294
<b>M9N</b>	190	180	230	218	290	278	343	329
<b>M10N</b>	209	199	253	241	319	307	378	364

Series	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q*	R	S
<b>FVA1</b>	95.8	58	52	36	27	25	16	11	18	19	10	19	20	9	1/4	5	4.5
<b>FVA2</b>	111	65	61.5	33	35	26.5	16.5	12.5	22	23	12.5	21.5	22	11	1/4	6	5
<b>FVA3</b>	136	80	67.5	50	40	27.5	14.5	14.5	27	29	15.5	25.8	28.4	11.5	3/8	6	5
<b>FVA4</b>	168	100	89	68	50	39	20	20	34	31.25	14.25	34	32	18.5	1/2	7	5.5

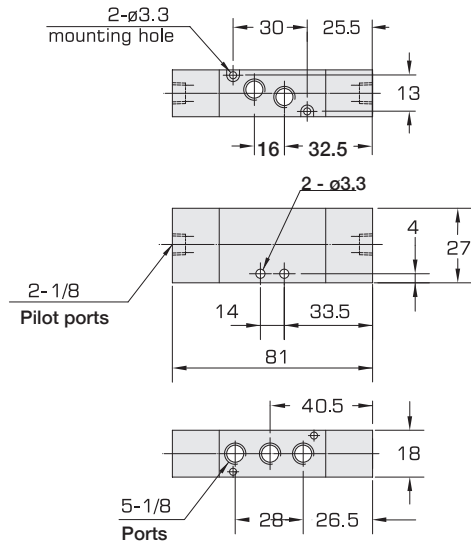
\* All manifold ports are NPT

### AIR PILOT VALVES – Dimensions (mm)

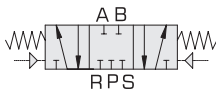
#### FVA1110 (1/8) Single Pilot Spring Return (Air Assist)



#### FVA1210 (1/8) Double Pilot



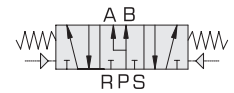
#### FVA1310 Closed Center



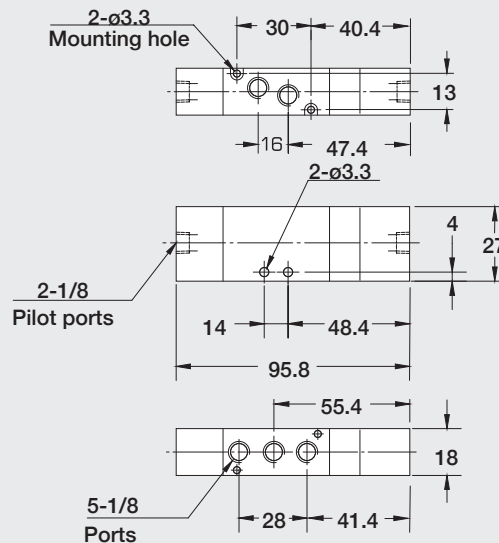
#### FVA1410 Exhaust Center



#### FVA1510 Pressure Center

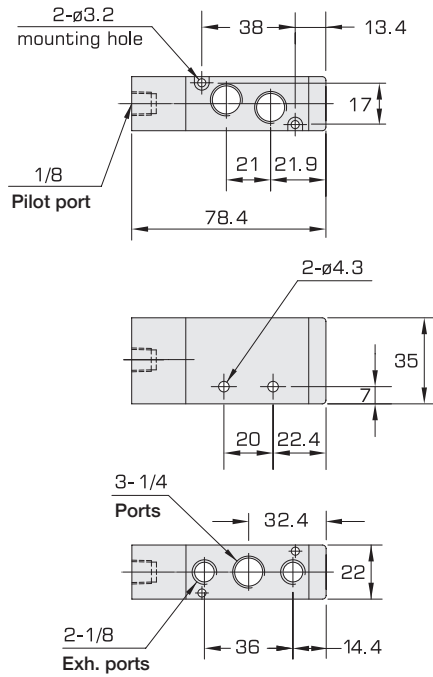
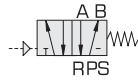


### 3 Position Valves

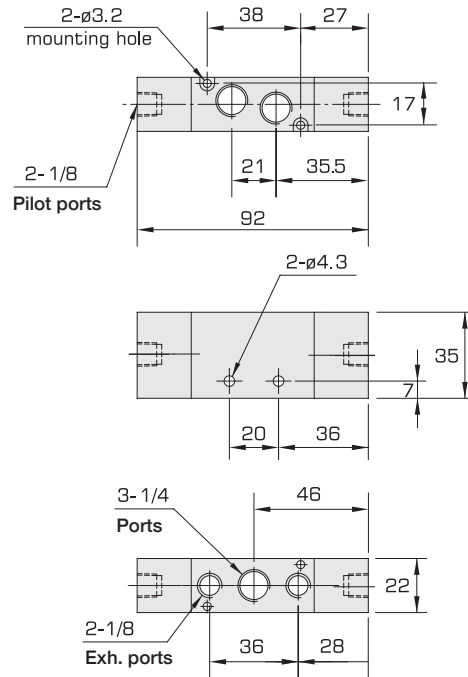


## AIR PILOT VALVES – Dimensions (mm)

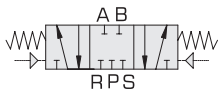
### FVA2120 (1/4) Single Pilot Spring Return (Air Assist)



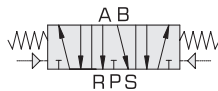
### FVA2220 (1/4) Double Pilot



### FVA2320 Closed Center



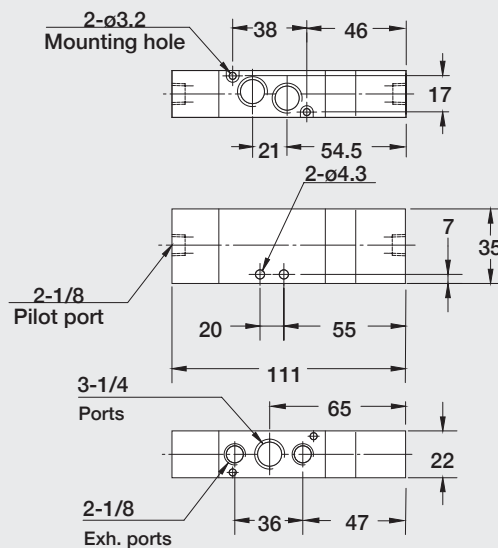
### FVA2420 Exhaust Center



### FVA2520 Pressure Center

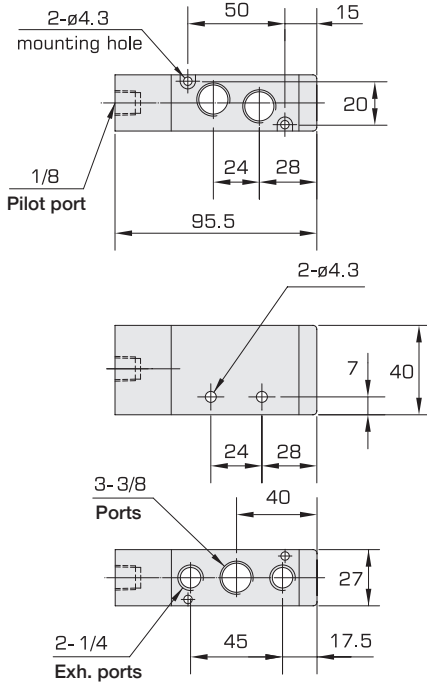
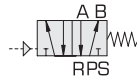


### 3 Position Valves

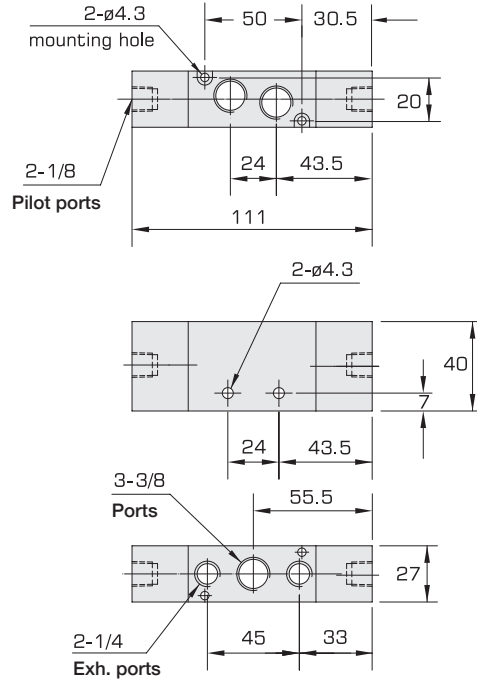
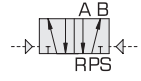


### AIR PILOT VALVES – Dimensions (mm)

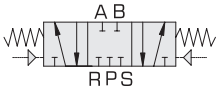
**FVA3130 (3/8) Single Pilot Spring Return (Air Assist)**



**FVA3230 (3/8) Double Pilot**



**FVA3330 Closed Center**



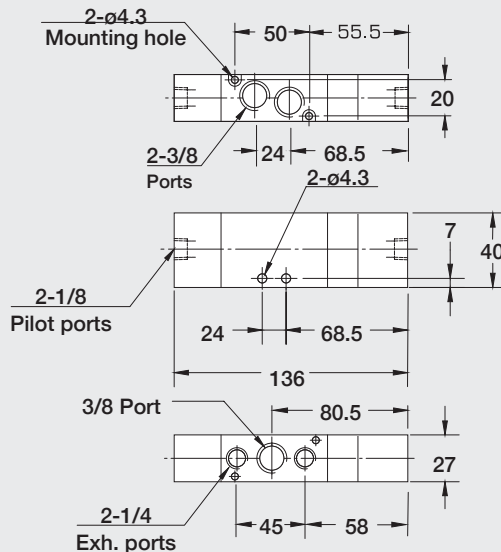
**FVA3430 Exhaust Center**



**FVA3530 Pressure Center**

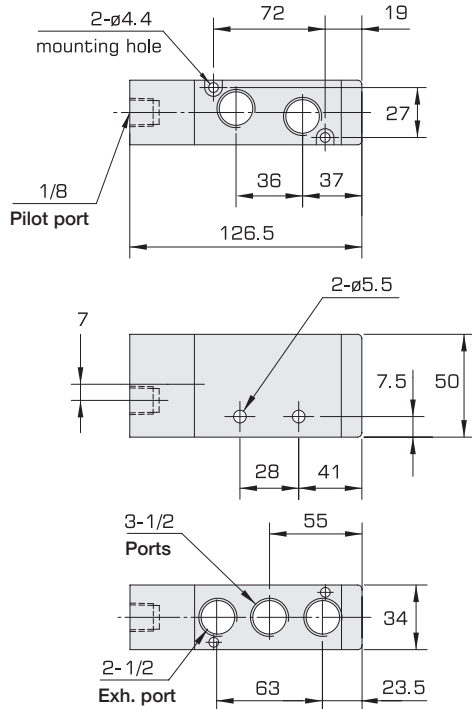


### 3 Position Valves

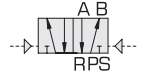
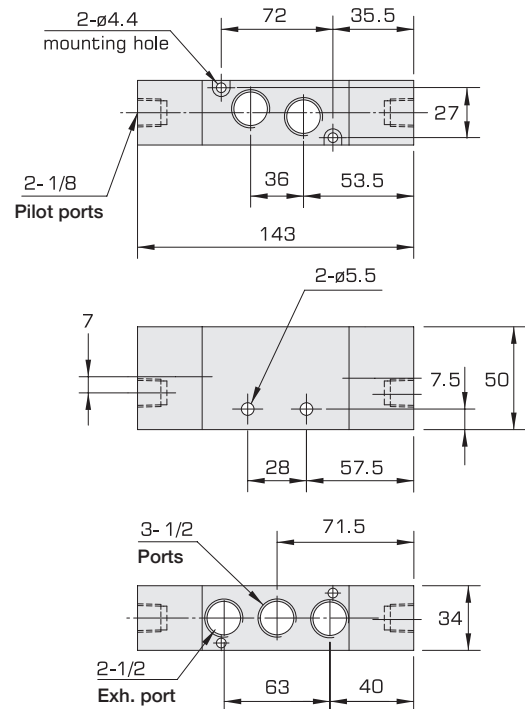


## AIR PILOT VALVES – Dimensions (mm)

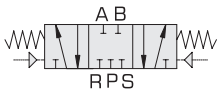
### FVA4140 (1/2) Single Pilot Spring Return (Air Assist)



### FVA4240 (1/2) Double Pilot



### FVA4340 Closed Center



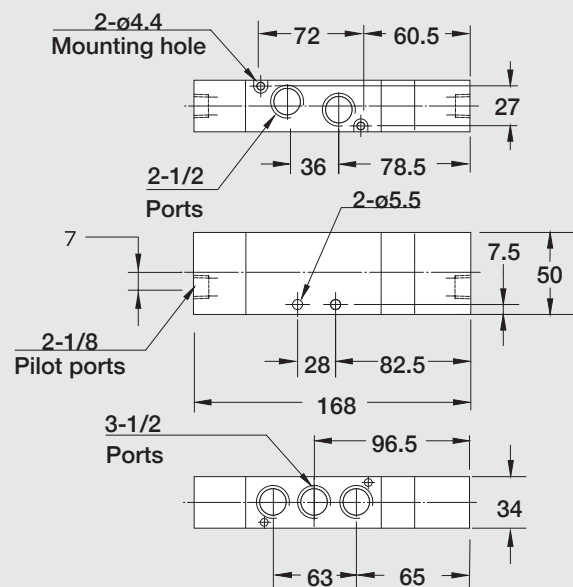
### FVA4440 Exhaust Center



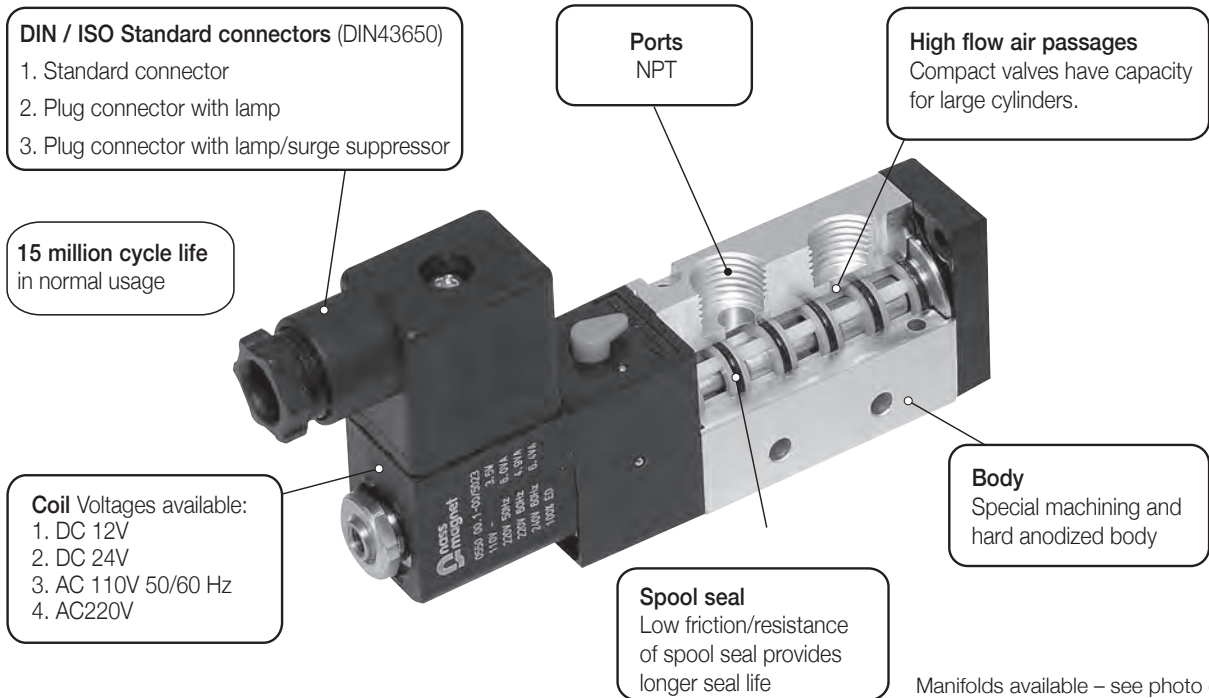
### FVA4540 Pressure Center



### 3 Position Valves







Manifolds available – see photo on front cover and dimensions on page 11.

### Specifications

Model	FVEC1000	FVEC2000	FVEC3000	FVEC4000
Operating media	Compressed air or inert gas			
Min. operating pressure	30 psi single or double solenoid			
Max. operating pressure	150 psi			
Temperature range	5°C(41°F) ~ +60°C(140°F)			
Lubrication	None required or use ISO VG32			
Response time	0.050 sec.			
Cylinder range	ø12-ø40mm	ø40-ø63mm	ø63-ø100mm	ø80-ø160mm
Electrical Connection	DIN 43650 electrical connector			
Voltage range	Rated voltage ± 10%			
Protection	IP65			
Coil insulation	Class F			
Power consumption	DC12V; 2.5W DC24V; 2.5W AC110V 50HZ; 4.8VA AC110V 60HZ; 4VA	DC12V; 2.5W DC24V; 2.5W AC110V 50HZ; 6.0VA AC110V 60HZ; 4.9VA AC220V 60HZ; 6.4VA	DC12V; 4.8W DC24V; 4.8W AC110V 50HZ; 8.4VA AC110V 60HZ; 6.8VA AC220V 60HZ; 8.5VA	

Model	Configuration	Port size		Cv	
		R,S	P,A,B	P → A/B	
FVEC1000	4 way 5 port 2 position	Single	1/8	1/8	0.67
		Double			
	4 way 5 port 3 position	Closed center Exhaust center Pressure center			0.5
	3 port 2 position	3 way normally closed			0.67
FVEC2000	4 way 5 port 2 position	Single	1/8	1/4	1.0
		Double			
	4 way 5 port 3 position	Closed center Exhaust center Pressure center			0.7
	3 port 2 position	3 way normally closed			1.0
FVEC3000	4 way 5 port 2 position	Single	1/4	3/8	1.68
		Double			
	4 way 5 port 3 position	Closed center Exhaust center Pressure center			1.2
	3 port 2 position	3 way normally closed			1.68
FVEC4000	4 way 5 port 2 position	Single	1/2	1/2	2.8
		Double			
	4 way 5 port 3 position	Closed center Exhaust center Pressure center			

### How to order

FVEC1	1	1	0	N	A11	L	M2N
Series	Operation	Port size P, A, B	Piping	Port thread	Standard voltage	Electrical entry	Manifolds
FVEC1 FVEC2 FVEC3 FVEC4	1 Single solenoid 4 Way 	1 1/8 for FVEC1	0 Without manifold	NPT	A11 AC110V 50/60Hz	Leave blank Standard connector DIN 43650	M2N M3N M4N
	2 Double solenoid 4 Way 	2 1/4 for FVEC2	1 With manifold		A22 AC220V*	L Plug connector with lamp DIN 43650	M5N M6N M7N
	3 Closed center 4 Way 	3 3/8 for FVEC3			D12 DC 12V	S Plug connector with lamp & surge suppressor DIN 43650	M8N M9N M10N
	4 Exhaust center 4 Way 	4 1/2 for FVEC4			D24 DC 24V		
	5 Pressure center 4 Way 						
	6 Normally closed 3 Way 						

\* Apply 240 VAC only intermittently.

Note: 3 way valves can be mounted on same manifold as 4 way valves.

Manifolds are available. See photo on the front cover and dimensions on page 11. Prices are below.

### Price list

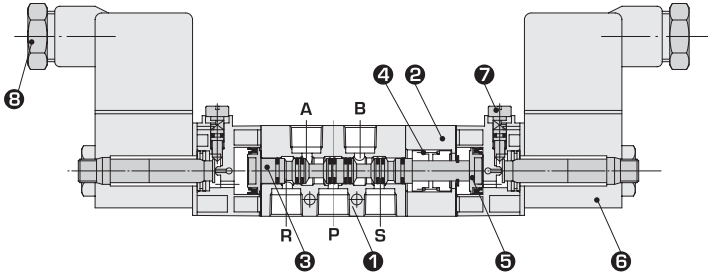
Model #	Standard Connector		Model #	Connector with Lamp		Model #	Connector with Lamp & Suppression	
	Weight (g)	Price		Weight (g)	Price		Weight (g)	Price
FVEC1110	120	-	FVEC1110L	120	-	FVEC1110S	120	-
FVEC1210	175	-	FVEC1210L	175	-	FVEC1210S	175	-
FVEC1310	185	-	FVEC1310L	185	-	FVEC1310S	185	-
FVEC1410	185	-	FVEC1410L	185	-	FVEC1410S	185	-
FVEC1510	185	-	FVEC1510L	185	-	FVEC1510S	185	-
FVEC1610	120	-	FVEC1610L	120	-	FVEC1610S	120	-
FVEC2120	210	-	FVEC2120L	210	-	FVEC2120S	210	-
FVEC2220	315	-	FVEC2220L	310	-	FVEC2220S	310	-
FVEC2320	420	-	FVEC2320L	420	-	FVEC2320S	420	-
FVEC2420	420	-	FVEC2420L	420	-	FVEC2420S	420	-
FVEC2520	420	-	FVEC2520L	420	-	FVEC2520S	420	-
FVEC2620	210	-	FVEC2620L	210	-	FVEC2620S	210	-
FVEC3130	300	-	FVEC3130L	300	-	FVEC3130S	300	-
FVEC3230	395	-	FVEC3230L	395	-	FVEC3230S	395	-
FVEC3330	470	-	FVEC3330L	470	-	FVEC3330S	470	-
FVEC3430	470	-	FVEC3430L	470	-	FVEC3430S	470	-
FVEC3530	470	-	FVEC3530L	470	-	FVEC3530S	470	-
FVEC3630	300	-	FVEC3630L	300	-	FVEC3630S	300	-
FVEC4140	605	-	FVEC4140L	605	-	FVEC4140S	605	-
FVEC4240	750	-	FVEC4240L	750	-	FVEC4240S	750	-
FVEC4340	860	-	FVEC4340L	860	-	FVEC4340S	860	-
FVEC4440	860	-	FVEC4440L	860	-	FVEC4440S	860	-
FVEC4540	860	-	FVEC4540L	860	-	FVEC4540S	860	-

Series-Code#	Price	Series-Code#	Price	Series-Code#	Price	Series-Code#	Price
FVA1-M2N	-	FVA2-M2N	-	FVA3-M2N	-	FVA4-M2N	-
FVA1-M3N	-	FVA2-M3N	-	FVA3-M3N	-	FVA4-M3N	-
FVA1-M4N	-	FVA2-M4N	-	FVA3-M4N	-	FVA4-M4N	-
FVA1-M5N	-	FVA2-M5N	-	FVA3-M5N	-	FVA4-M5N	-
FVA1-M6N	-	FVA2-M6N	-	FVA3-M6N	-	FVA4-M6N	-
FVA1-M7N	-	FVA2-M7N	-	FVA3-M7N	-	FVA4-M7N	-
FVA1-M8N	-	FVA2-M8N	-	FVA3-M8N	-	FVA4-M8N	-
FVA1-M9N	-	FVA2-M9N	-	FVA3-M9N	-	FVA4-M9N	-
FVA1-M10N	-	FVA2-M10N	-	FVA3-M10N	-	FVA4-M10N	-

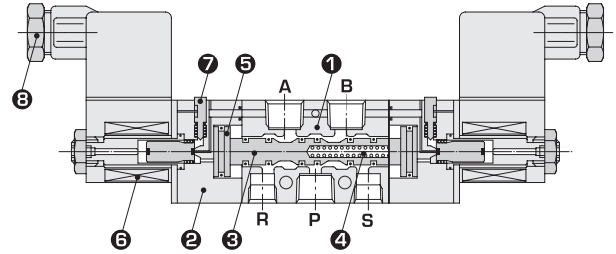
Manifolds are available individually by ordering part number from chart. (Includes seals & valve mounting screws.) All manifold ports are NPT. Example:  
**FVA1-M2N** signifies NPT ports.

See page 3 for manifold block-off plates part numbers, manifold gasket kits and prices.

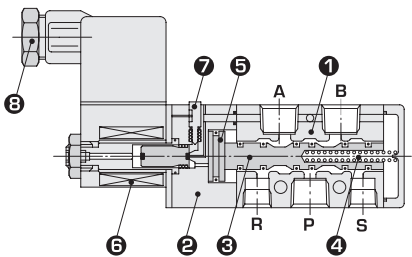
**3 Position Double Solenoid**



**2 Position Double Solenoid**



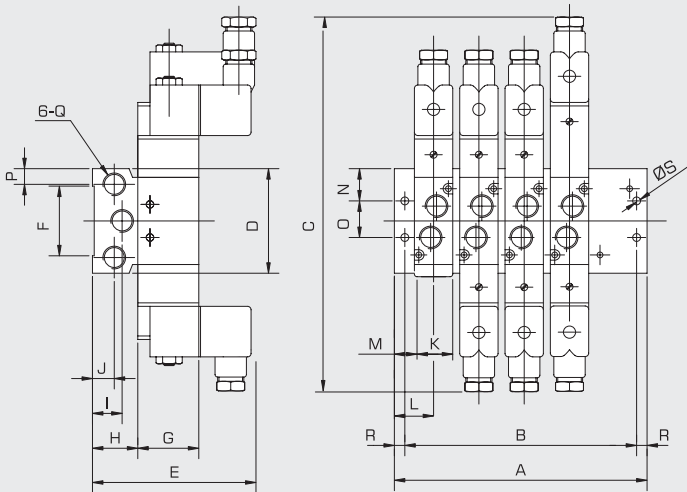
**2 Position Single Solenoid**



### Parts list

No.	Description	Material	Note
1	Valve body	Aluminum alloy	Hard anodized
2	Pilot base	Synthetic resin	Black
3	Spool	Aluminum alloy	Anodized
4	Air/Spring return	Delrin	Stainless steel
5	Piston	Synthetic resin	-
6	Coil	Synthetic resin	Black
7	Manual push pin	Carbon steel	Electro-plated
8	Electrical connector	Synthetic resin	DIN 43650

### Manifold dimensions (mm) with FVEC valves mounted



See manifold prices on page 10.  
FVEC Series uses FVA manifolds.

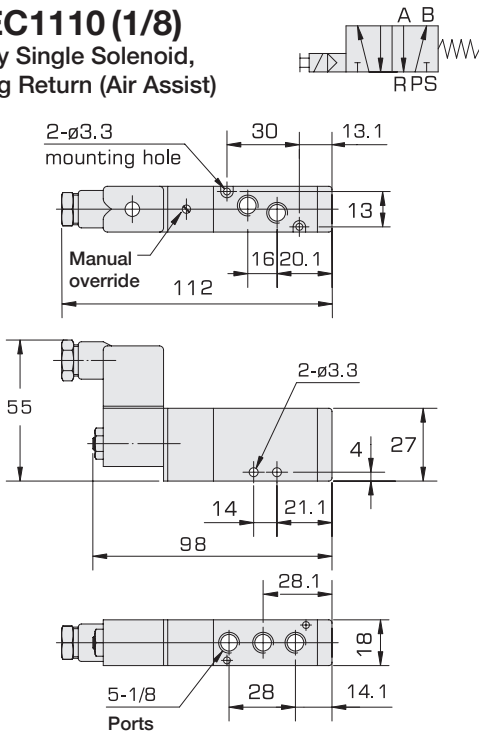
Manifolds	FVA1		FVA2		FVA3		FVA4	
	A	B	A	B	A	B	A	B
M2N	57	47	69	57	87	75	98	84
M3N	76	66	92	80	116	104	133	119
M4N	95	85	115	103	145	133	168	154
M5N	114	104	138	126	174	162	203	189
M6N	133	123	161	149	203	191	238	224
M7N	152	142	184	172	232	220	273	259
M8N	171	161	207	195	261	249	308	294
M9N	190	180	230	218	290	278	343	329
M10N	209	199	253	241	319	307	378	364

\* All manifold ports are NPT

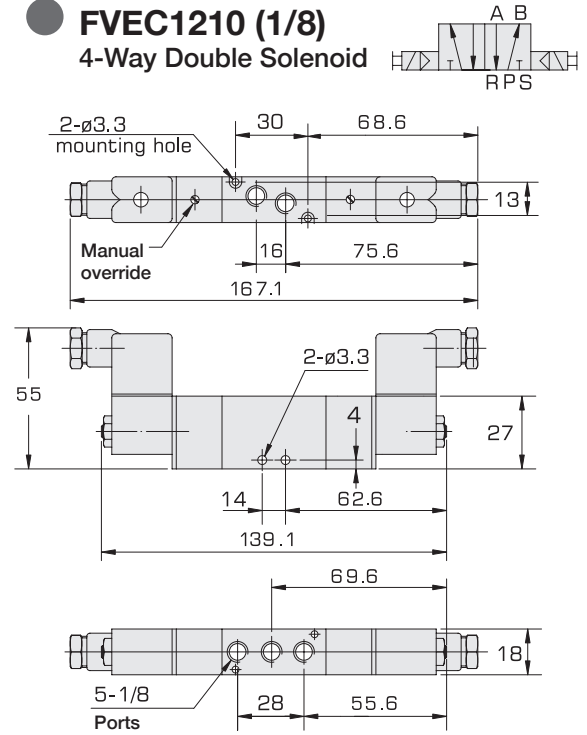
Series	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q*	R	S
FVA1	182.1	58	80	36	27	25	16	11	18	19	10	19	20	9	1/4	5	4.5
FVA2	213	65	93.8	33	35	26.5	16.5	12.5	22	23	12.5	21.5	22	11	1/4	6	5
FVA3	239	80	97.2	50	40	27.5	14.5	14.5	27	29	15.5	25.8	28.4	11.5	3/8	6	5
FVA4	270	100	113	68	50	39	20	20	34	31.25	14.25	34	32	18.5	1/2	7	5.5

### 4-Way, 2 Position

#### FVEC1110 (1/8) 4-Way Single Solenoid, Spring Return (Air Assist)

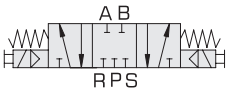


#### FVEC1210 (1/8) 4-Way Double Solenoid



### 4-Way, 3 Position (1/8)

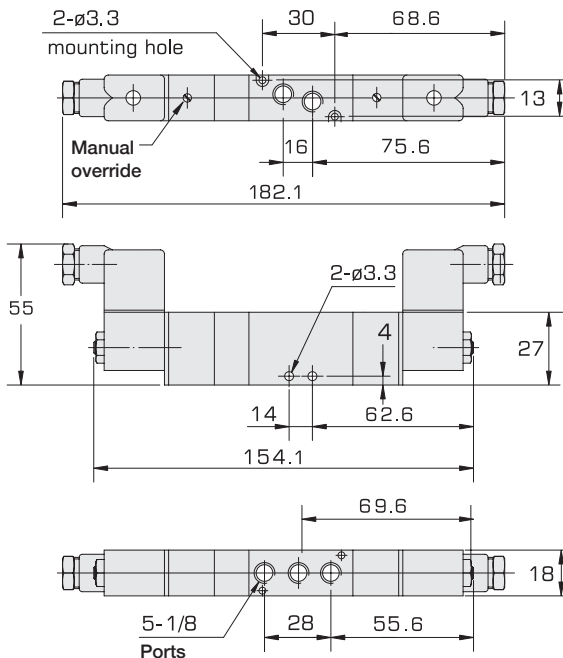
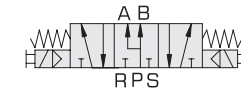
#### FVEC1310 Closed Center



#### FVEC1410 Exhaust Center

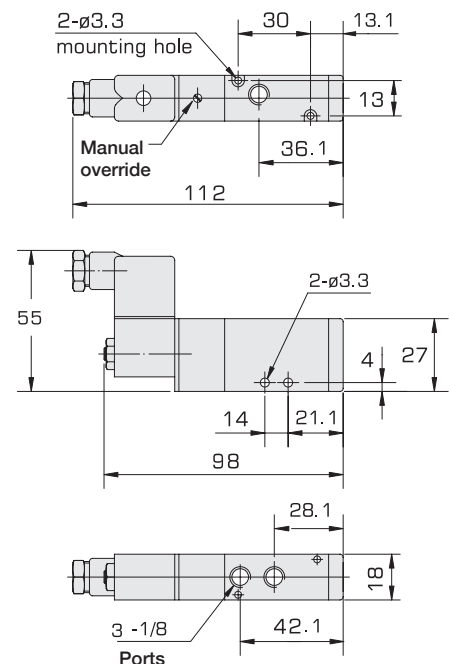
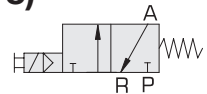


#### FVEC1510 Pressure Center



### 3-Way, Normally Closed

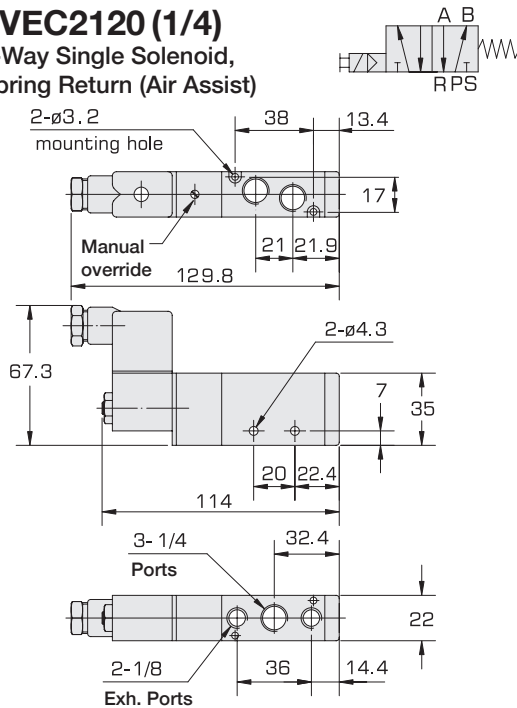
#### FVEC1610 (1/8) Single Solenoid, Spring Return, (Air Assist)



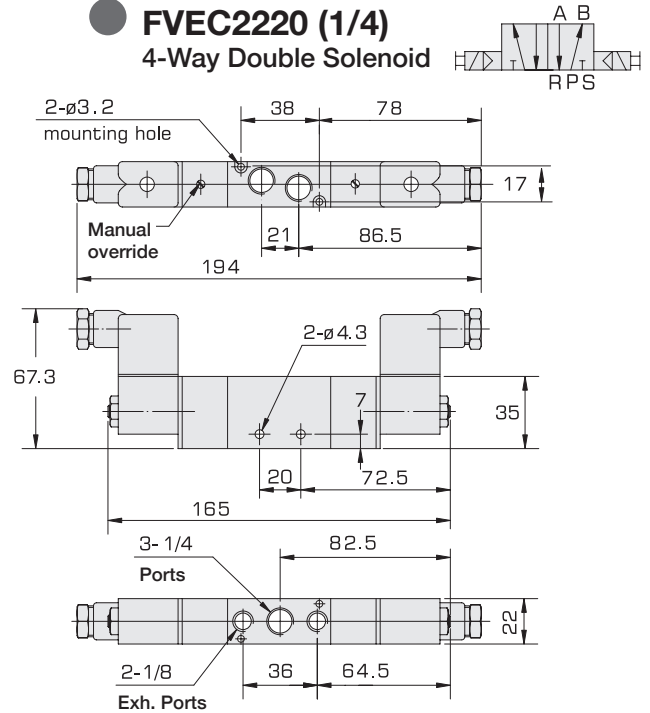
### SOLENOID VALVES – Dimensions (mm)

#### 4-Way, 2 Position

##### FVEC2120 (1/4) 4-Way Single Solenoid, Spring Return (Air Assist)



##### FVEC2220 (1/4) 4-Way Double Solenoid

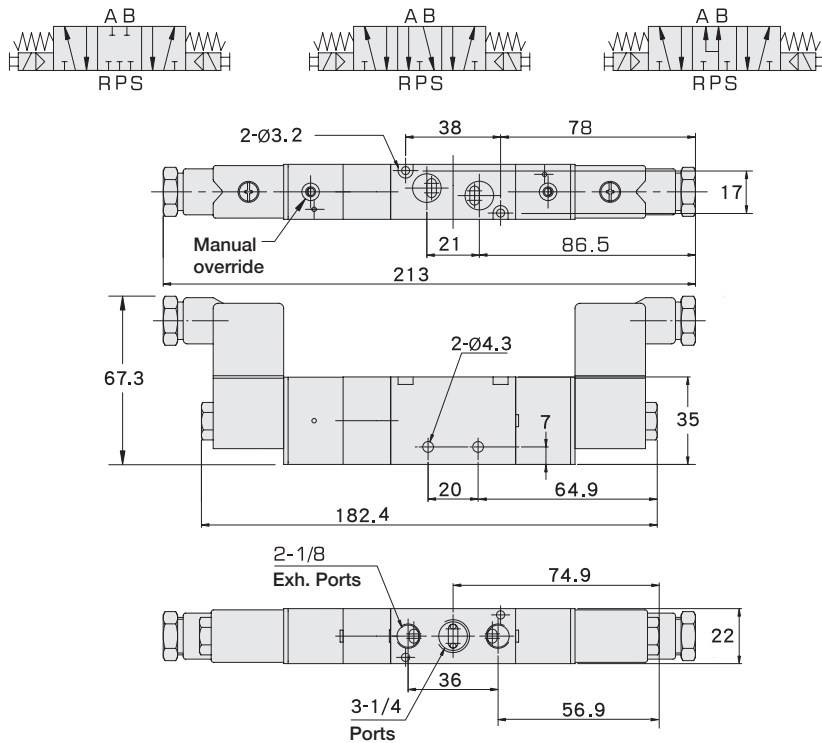


#### 4-Way, 3 Position (1/4)

##### FVEC2320 Closed Center

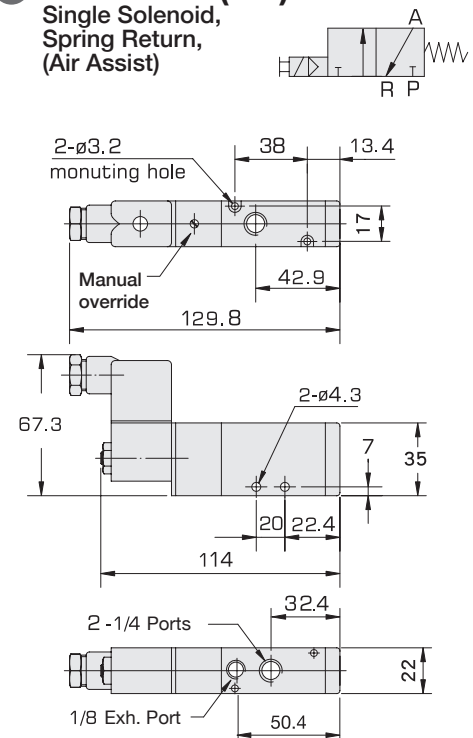
##### FVEC2420 Exhaust Center

##### FVEC2520 Pressure Center



#### 3-Way, Normally Closed

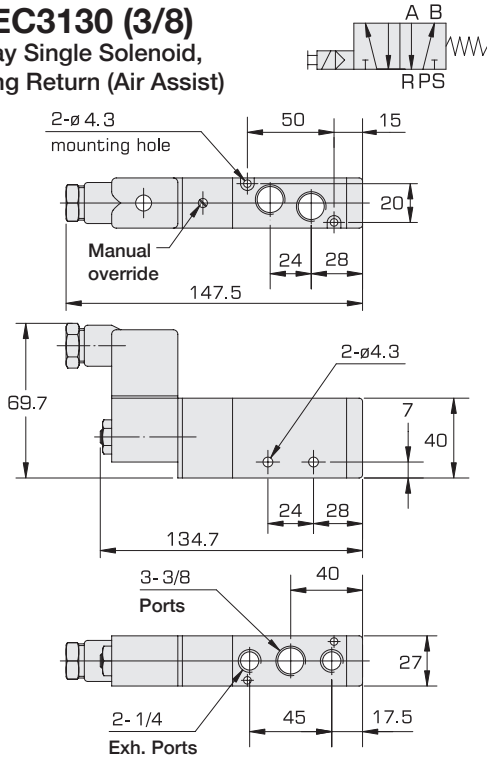
##### FVEC2620 (1/4) Single Solenoid, Spring Return, (Air Assist)



### 4-Way, 2 Position

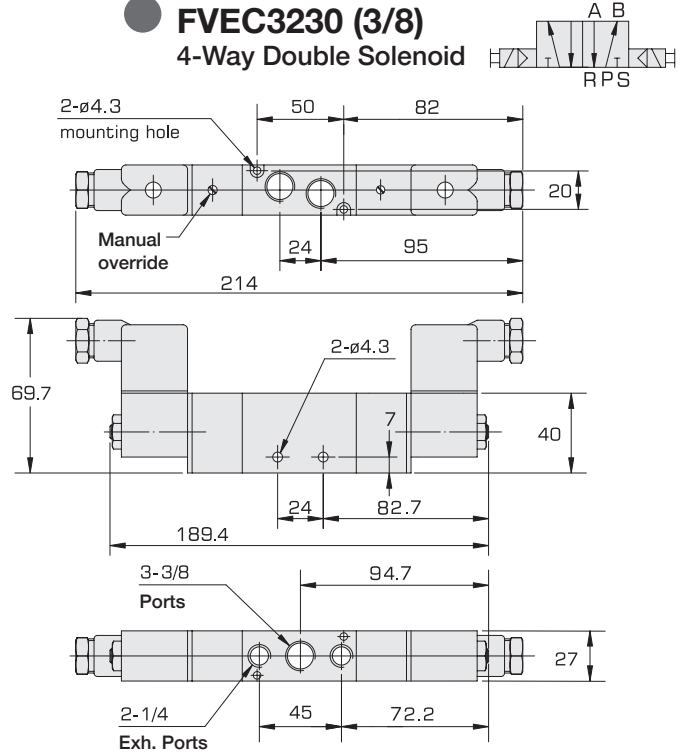
#### FVEC3130 (3/8)

4-Way Single Solenoid,  
Spring Return (Air Assist)



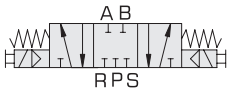
#### FVEC3230 (3/8)

4-Way Double Solenoid



### 4-Way, 3 Position (3/8)

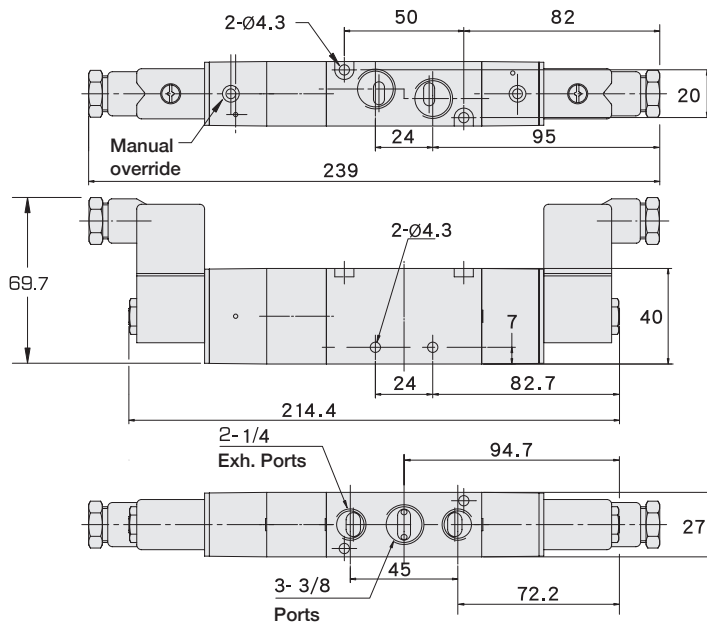
#### FVEC3330 Closed Center



#### FVEC3430 Exhaust Center



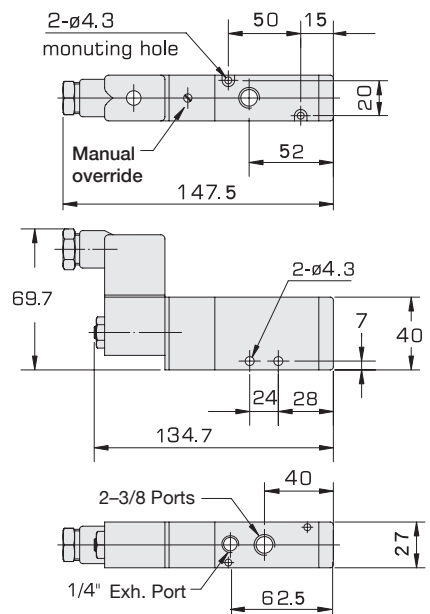
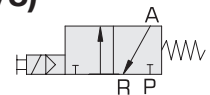
#### FVEC3530 Pressure Center



### 3-Way, Normally Closed

#### FVEC3630 (3/8)

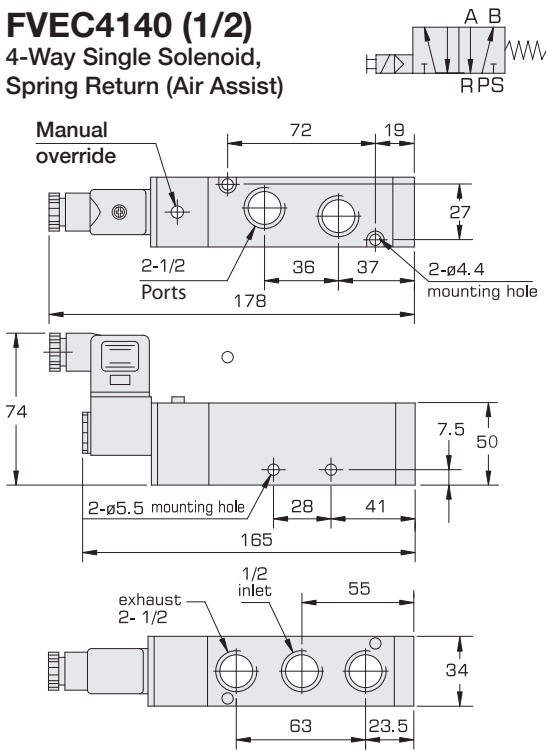
Single Solenoid,  
Spring Return,  
(Air Assist)



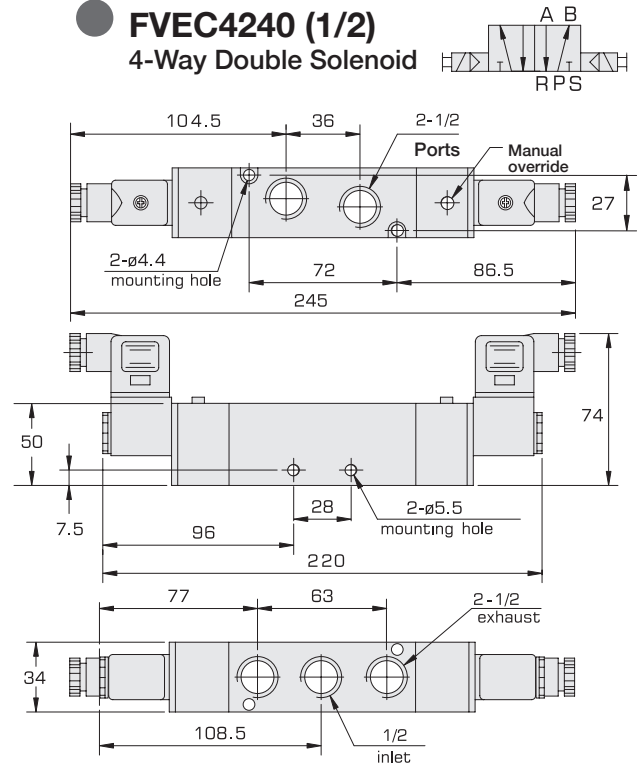
### SOLENOID VALVES – Dimensions (mm)

#### 4-Way, 2 Position

**FVEC4140 (1/2)**  
4-Way Single Solenoid,  
Spring Return (Air Assist)



**FVEC4240 (1/2)**  
4-Way Double Solenoid

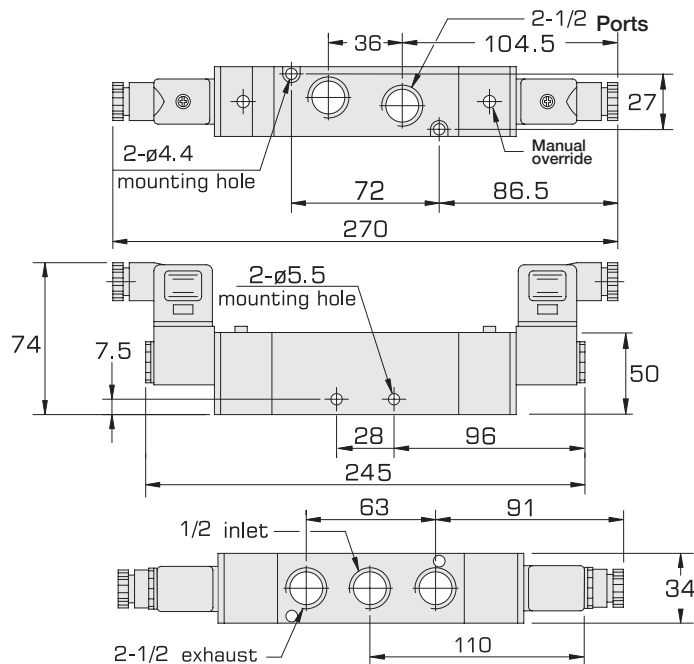
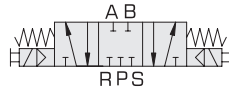


#### 4-Way, 3 Position (1/2)

**FVEC4340**  
Closed Center

**FVEC4440**  
Exhaust Center

**FVEC4540**  
Pressure Center



# FABCO-AIR

## Product Catalog Library

oem NFPA Air Cylinders  
Catalog #FCQN-OEM



Cylinders, Valves and Accessories Catalog #CV9



Pancake® II Air Cylinders Catalog #Pan2-2



Square Pancake® II Air Cylinders Catalog #SqPan2



ISO 6431 Cylinders Catalog #FAQ2R-09



Twin Rod, Non-Rotating Air Cylinders - Catalogs #FDX-09 & #FDXS-09



High Closing Force Angular Grippers Catalog #FKHC-10



Multi-Power® Air Presses Catalog #FP16



Swing Clamps Catalog #SC-DB04



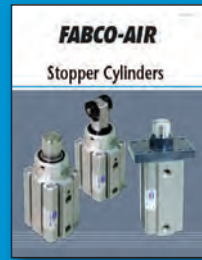
Modular Air Prep System FRLs Catalog #FRL-06



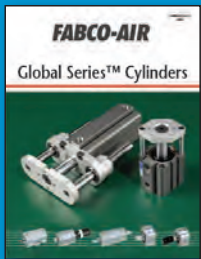
Compact Finger Slides Catalog #FDH-10



ISO 6432 Cylinders Catalog #FAE-09



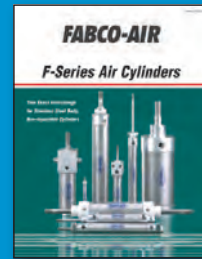
Stopper Cylinders Catalog #ST-SC



Global Series™ Metric Air Cylinders Catalog #GC-15



NAMUR Solenoid Valves Catalog #FVEN-10



Stainless Steel Body Air Cylinders Catalog #5SB-03



Air Table Slides Catalog #FGXS-10



Wide & Narrow Parallel Grippers - Catalogs #FKHZ-10 & #FKHQ-10



Toggle Type Angular Grippers Catalog #FKHT-10



Pneumatic Rotary Actuators Catalog #FRA.C-09



Guided Motion Air Cylinders Catalog #FGM-10



Pneumatic Rotary Actuators Catalog #FRB-14



Linear Slides - 6 Families Catalog #LS-03



Pneumatic & Hydraulic Swing Clamps Catalog #FML.H



Wide Opening Parallel Grippers Catalog #FKHL-10



Original Pancake® Air Cylinders Catalog #CV9



Pneumatic Crimping Tools Catalog #FCT-JY07



Magnetically Coupled Rodless Air Cylinders Catalog #FGYB & #FGYR Series



Magnetically Coupled Rodless Slides Catalog #FGYS-11



Angular Grippers Catalog #FKA-09



3 Series of Angular & Parallel Motion Grippers Catalog #GR8

**FABCO-AIR** Inc. • 3716 N.E. 49th Avenue • Gainesville, FL 32609 • Tel (352) 373-3578  
• Fax (352) 375-8024 • E-Mail: service@fabco-air.com • Web Site: www.fabco-air.com