



## SV-50 Valve Specifications Table of Contents

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All PacSeal Hydraulics' SV Directional Control Valves are designed with ShearFlo® metal-to-metal sealing technology. ShearFlo® sealing technology features:

- High cycle life and anti-wear design is suitable for critical service applications, including contaminated fluids.
- Leak proof, contaminant resistant metal-to-metal seal is accomplished by lapping and polishing hardened stainless steel sealing elements to exacting standards of finish and flatness.
- The sealing elements are spring preloaded and pressure energized, which maintains contact between the two sealing surfaces at all times.

All SV Valves are tested to PacSeal's strict quality control standards to ensure proper function and reliability. Every ShearFlo® sealing component in a repair kit is inspected to ensure trouble-free performance after field maintenance and repair.

PacSeal Hydraulics' rotary SV Directional Control Valves direct fluid flow to one or two cylinder ports, based on the selected rotor and detent combination, as specified in the "Valve Shift Options" table.

The SV valves' modular design accommodates various operator options (manual and remote with manual override) to suit the application at hand. The options available for manual operation are as follows:

- Detented (2 or 3-position)
- Spring Centered (3-position)
- Pin Lock Detent (3-position)

The remote operator options with manual override are available in pneumatic or hydraulic with 2 or 3 positions as follows:

- Actuator Cylinder bracket mounted to valve
- SVX Integral Actuator assembled atop the valve providing higher efficiency and immediate actuation

Various porting options provide further customization, as follows:

- Inline
- Bottom
- Subplate
- Manifold

### General Specifications

Port Size	3/8 or 1/2 in. NPT or SAE ORB
Working Pressure Options (Liquid)	3000 or 6000 psi
Working Pressure Options (Gas)	2000 or 4000 psi
Return Port Pressure	250 psi (Max) <sup>1</sup>
Proof Pressure	1.5X Working Pressure
Burst Pressure	2X Working Pressure
Cv Factor	3.2
Rated Flow	30 gpm
Leak Rate	0-1 drip/min.
Temp Rating	-40 to 250°F
Fluid Media	Hydraulic oil or lubricated water <sup>2</sup>
Weight	See Installation Drawings

### Materials

ShearFlo Sealing Components (Rotor and Seal Rings)	Hardened Stainless Steel <sup>2</sup>
Shaft	Stainless Steel
Body	Stainless Steel
Housing	Carbon Steel
Handle, Detent Disc and Spacers, Hardware	Plated Carbon Steel
O-rings	Buna-N (N), Viton (V), or EPR (E)
Backup Rings	Teflon

<sup>1</sup> Full rated pressure (3000 or 6000 psi) with All Blocked Rotor option

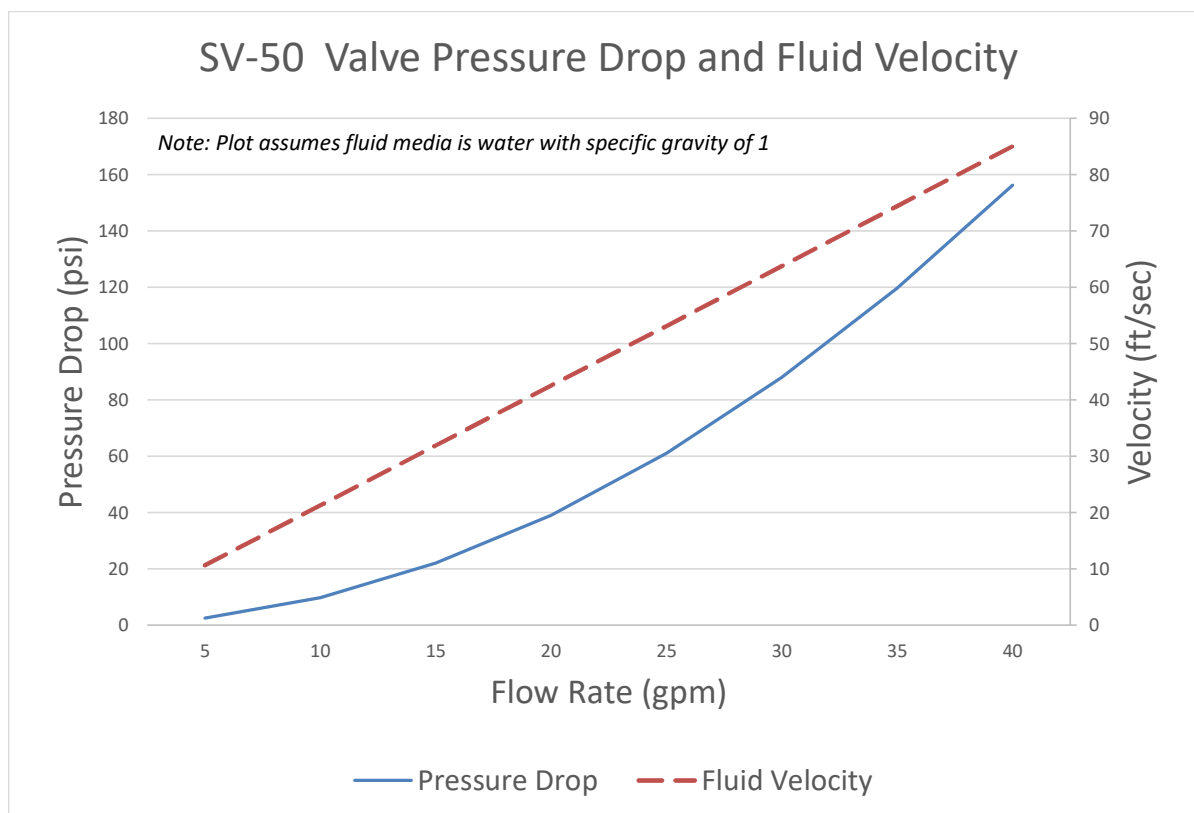
<sup>2</sup> For water based media, special alloy seal rings may be required for optimum performance and durability - Contact PacSeal for details

### Valve Shift Options

Detent Pattern	Valve Options
3-Position (4-way)	All options
2-Position 90° (4-way)	All options
2-Position 45° CW or CCW (3-way)	Selector, Manipulator, Open Center

### Rotor Flow Options

Rotor Configuration	Center Position	CW or CCW Position
Manipulator	Cylinders drain to tank and pressure port blocked	Operates a cylinder port while the opposite port is returned to tank
Selector	Return port is open while cylinder and pressure ports are blocked	Operates a cylinder port while the opposite port is returned to tank
Bypass	Return port is open while cylinder and pressure ports are blocked	Operates a cylinder port while the opposite port is blocked
Open Center	Cylinder ports blocked while pressure and return ports are connected	Operates a cylinder port while the opposite port is returned to tank
All Blocked	All ports blocked. Case Drain Required	Operates a cylinder port while the opposite port is returned to tank



### SV-50 Handle Torque (lb.-in.)

<u>Rotor Type</u>	<u>At 1500 psi Supply Pressure</u>	<u>At 3000 psi Supply Pressure</u>	<u>At 5000 psi Supply Pressure</u>	<u>At 6000 psi Supply Pressure</u>
<i>Selector</i>	44	60	100	108
<i>Bypass</i> <sup>1</sup>	71	96	156	285
<i>Spring Centered (Selector or Bypass)</i> <sup>2</sup>	180	180	NA	NA

Note: <sup>1</sup> Higher torque is a result of having two supply pressures from C1 and C2

<sup>2</sup> High torque is necessary for spring to return to center. Needs special repair kits (see below)

Kit Description	SV-50 Repair Kit Part Numbers by Rotor Type		
	<u>Selector</u>	<u>Manipulator</u>	<u>Bypass</u>
<i>O-ring Kit</i>	40-1851		
<i>Seal Kit</i>	40-1538		
<i>Minor Repair Kit</i>	40-1544	40-1619	40-1776
<i>Major Repair Kit</i>	40-1543	40-1569	40-1777

Kit Description	SV-50 10k and Spring Centered Repair Kit Part Numbers by Rotor Type			
	<u>Selector</u>	<u>Manipulator</u>	<u>Bypass</u>	<u>Open Center</u>
<i>O-ring Kit</i>	40-4735			
<i>Seal Kit</i>	40-4736			
<i>Minor Repair Kit</i>	40-4737	TBD	TBD	40-4815
<i>Major Repair Kit</i>	40-4738	TBD	TBD	40-4816

## Model Code Configurator

Basic Size	Port Size	Type of Ports	Pressure Rating (PSI)	Port Location	Bolts	Rotor Flow Pattern	Valve/Actuator Positions	Actuation Type	Handle	O-Ring	Actuator Cylinder Add-on	Nameplate Add-on	Sensor Options <sup>6</sup>
SV50-	3 3/8" N	NPT	3 3000	I Inline / Side	S Std Short	S Selector	1 3-Pos.	N/A (see add-on)	M Standard Manual	N Buna-N	None (leave empty)	-0 Blank	-SP1 Pressure Transducer (P Port)
	4 1/2" S	SAE	6 6000	B Bottom	L Long	O Open Center	2 2-Pos. 90°		R Actuator Cylinder	V Viton	-AL Air Cylinder, Left Mounted	("Open/Close")	-SP2 Pressure Transducer (C1, C2 Ports)
	M	Manifold		P Panel Mount	M Manipulator	S Spring Centered <sup>4</sup>	3 2-Pos. 45° CW		S Spring Centered <sup>4</sup>	E EPR	-AR Air Cylinder, Right Mounted		-SP3 Pressure Transducer (P, C1, C2 Ports)
	B	Subplate <sup>1</sup>		N None <sup>2</sup>	B Bypass	A All Blocked <sup>1</sup>	4 2-Pos. 45° CCW		L Pin Lock Detent		-HL Hyd. Cylinder, Left Mounted		-P Proximity Switch
								W Wing Handle		-HR Hyd. Cylinder, Right Mounted		-PX Proximity Switch, Exp. Proof	
								V Vertical Handle					
SVX50-	3 3/8" N	NPT	3 3000	I Inline / Side	N/A	S Selector	1 2-Pos. 90° (4W2P - 4W3P w/ Manual Override)	A Air - Direct Piloted	S Straight	N Buna-N		-0 Blank	-L Linear Transducer <sup>7</sup>
	4 1/2" S	SAE	6 6000	B Bottom		O Open Center	2 2-Pos. 45° CW (3W2P)	H Hydraulic - Direct Piloted	W Wing	V Viton		("Open/Close")	-LX Linear Transducer, Exp. Proof <sup>7</sup>
	M	Manifold				M Manipulator	5 2-Pos. 45° CCW (3W2P)	R Air - Solenoid Piloted	N Indicator <sup>3</sup>	E EPR	N/A		
	B	Subplate <sup>1</sup>				B Bypass	3 3-Pos. 90° (4W3P)	U Hydraulic - Solenoid Piloted	V Vertical Handle				
						A All Blocked <sup>1</sup>	4 3-Pos. 90° - Spring Centered (4W3P) <sup>5</sup>						
							6 2-Pos. 45° CW - Spring Centered (3W2P) <sup>5</sup>						
							7 2-Pos. 45° CCW - Spring Centered (3W2P) <sup>5</sup>						

Notes: <sup>1</sup> Not a standard Option

<sup>2</sup> For Manifold Mount Option

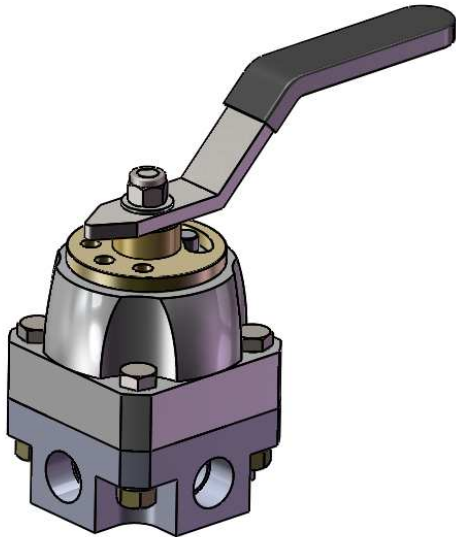
<sup>3</sup> No manual override

<sup>4</sup> Spring Centered Manual Operator is rated for 3000 psi only. High pressure seal rings are required - request kits accordingly.

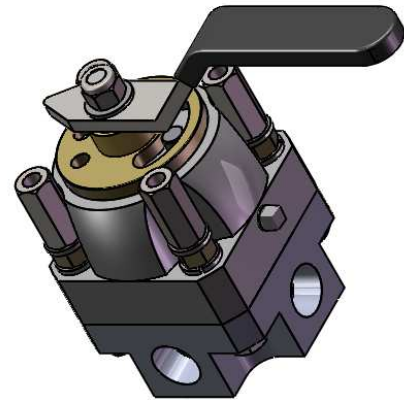
<sup>5</sup> If rated for 6000 psi, high pressure seal rings are required - request kits accordingly.

<sup>6</sup> 24VDC is standard.

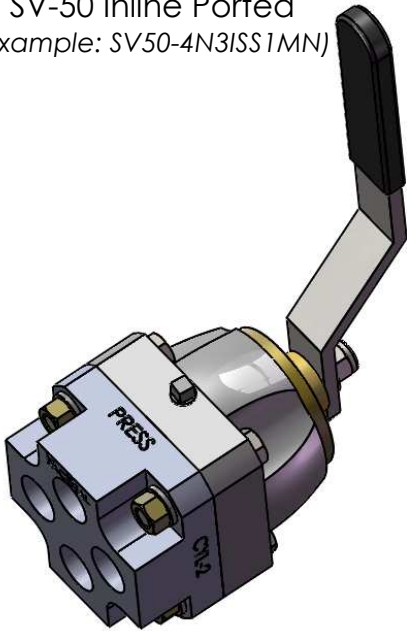
<sup>7</sup> M12 connector with 4-20 mA output and 11-28 VDC input is standard.



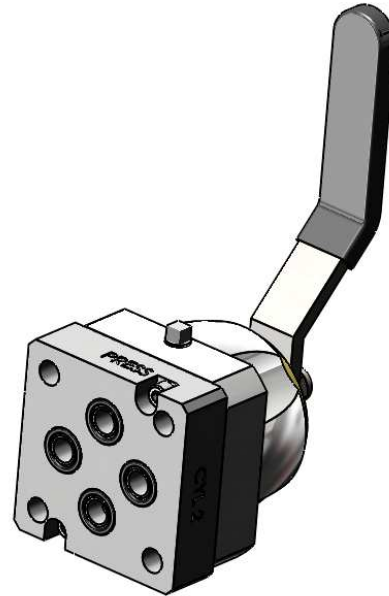
SV-50 Inline Ported  
(Example: SV50-4N3ISS1MN)



SV-50 Panel Mount  
(Example: SV50-4N6IPS1MN)



SV-50 Bottom Ported  
(Example: SV50-4N3BSS1MN)



SV-50 Manifold Ported  
(Example: SV50-4M3BSS1MN)



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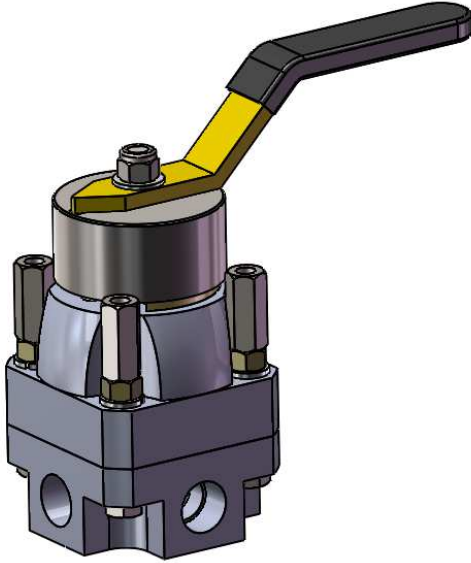
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TITLE **SV-50 Porting Configurations Overview**

SIZE	REV
<b>A</b>	<b>14</b>
SHEET 4 OF 20	

Model Code Configurator													
Basic Size	Port Size	Type of Ports	Pressure Rating (PSI)	Port Location	Bolts	Rotor Flow Pattern	Valve/Actuator Positions	Actuation Type	Handle	O-Ring	Actuator Cylinder Add-on	Nameplate Add-on	Sensor Options <sup>6</sup>
SV50-	3 3/8" N NPT	M Manifold B Subplate <sup>1</sup>	3 3000	I Inline / Side	S Std Short	S Selector	1 3-Pos.	N/A (see add-on)	M Standard Manual	N Buna-N	None (leave empty)	-0 Blank	-SP1 Pressure Transducer (P Port)
	4 1/2" S SAE		6 6000	B Bottom	L Long	O Open Center	2 2-Pos. 90°		R Actuator Cylinder	V Viton		-AL Air Cylinder, Left Mounted	(*Open/Close*)
					P Panel Mount	M Manipulator	3 2-Pos. 45° CW		S Spring Centered <sup>2</sup>	E EPR	-AR Air Cylinder, Right Mounted		-SP3 Pressure Transducer (P, C1, C2 Ports)
					N None <sup>2</sup>	B Bypass	4 2-Pos. 45° CCW		L Pin Lock Detent		-HL Hyd. Cylinder, Left Mounted		-P Proximity Switch
						A All Blocked <sup>1</sup>			W Wing Handle		-HR Hyd. Cylinder, Right Mounted		-PX Proximity Switch, Exp. Proof
									V Vertical Handle				
SVX50-	3 3/8" N NPT	M Manifold B Subplate <sup>1</sup>	3 3000	I Inline / Side	N/A	S Selector	1 2-Pos. 90° (4W2P - 4W3P w/ Manual Override)	A Air - Direct Piloted	S Straight	N Buna-N	None	-0 Blank	-L Linear Transducer <sup>7</sup>
	4 1/2" S SAE		6 6000	B Bottom		O Open Center	2 2-Pos. 45° CW (3W2P)	H Hydraulic - Direct Piloted	W Wing	V Viton		(*Open/Close*)	-LX Linear Transducer, Exp. Proof <sup>7</sup>
						M Manipulator	5 2-Pos. 45° CCW (3W2P)	R Air - Solenoid Piloted	N Indicator <sup>3</sup>	E EPR			
						B Bypass	3 3-Pos. 90° (4W3P)	U Hydraulic - Solenoid Piloted	V Vertical Handle				
						A All Blocked <sup>1</sup>	4 3-Pos. 90° - Spring Centered (4W3P) <sup>5</sup>						
							6 2-Pos. 45° CW - Spring Centered (3W2P) <sup>5</sup>						
							7 2-Pos. 45° CCW - Spring Centered (3W2P) <sup>5</sup>						

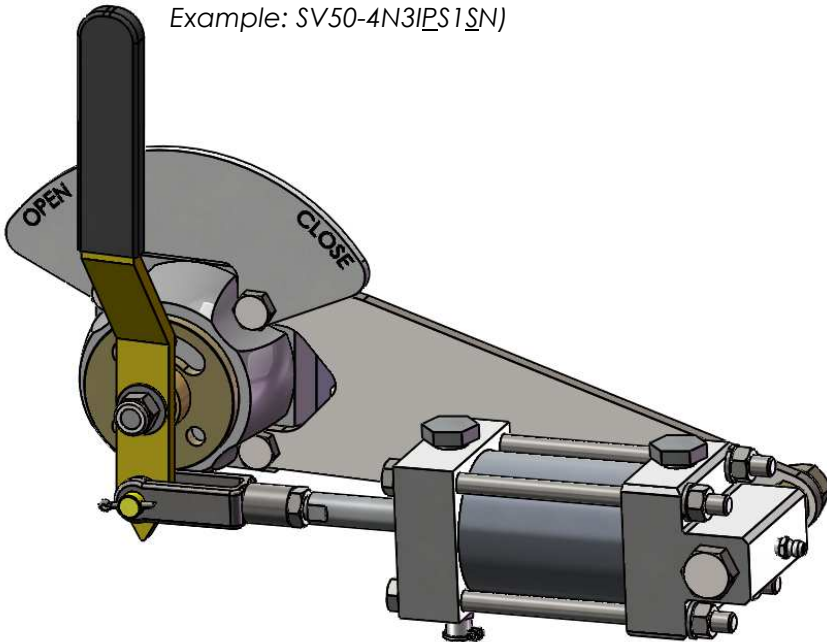
Notes: <sup>1</sup> Not a standard Option  
<sup>2</sup> For Manifold Mount Option  
<sup>3</sup> No manual override  
<sup>4</sup> Spring Centered Manual Operator is rated for 3000 psi only. High pressure seal rings are required - request kits accordingly.  
<sup>5</sup> If rated for 6000 psi, high pressure seal rings are required - request kits accordingly.  
<sup>6</sup> 24VDC is standard.  
<sup>7</sup> M12 connector with 4-20 mA output and 11-28 VDC input is standard.



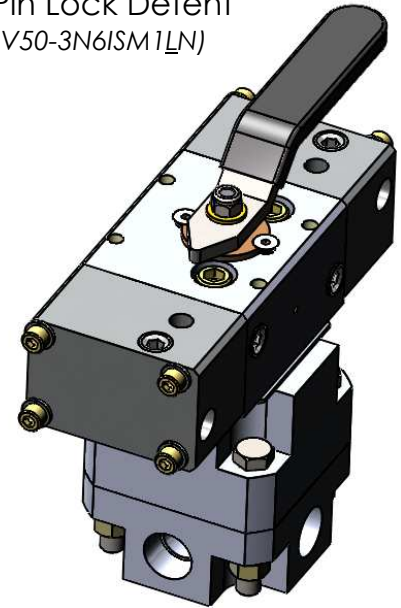
SV-50 Panel Mount with Spring Centered Operator  
 Example: SV50-4N3IPS1N



SV-50 with Pin Lock Detent  
 (Example: SV50-3N6ISM1LN)



SV-50 with Air Cylinder Actuator  
 (Example: SV50-4N3ISS1RN-AR0)

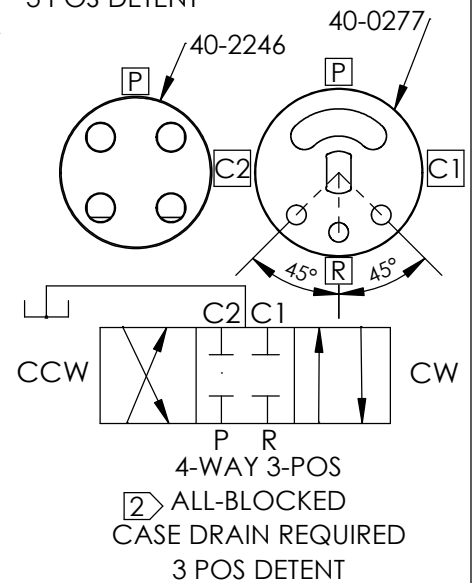
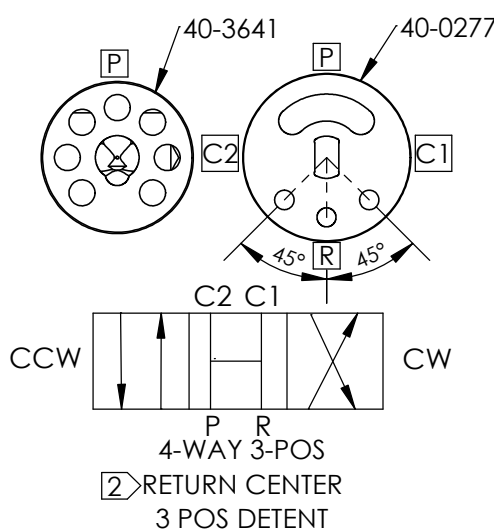
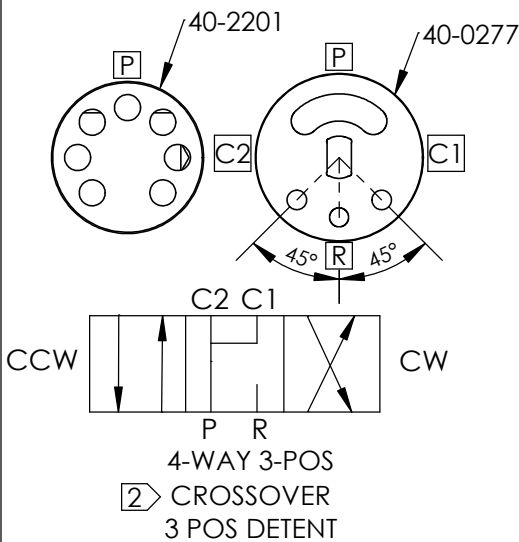
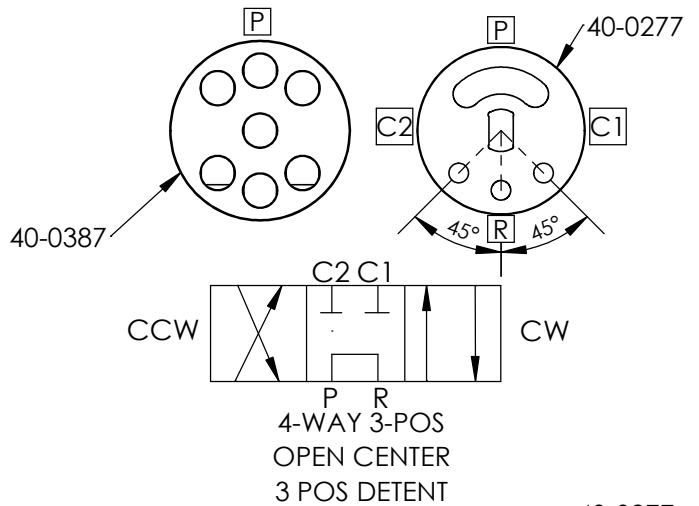
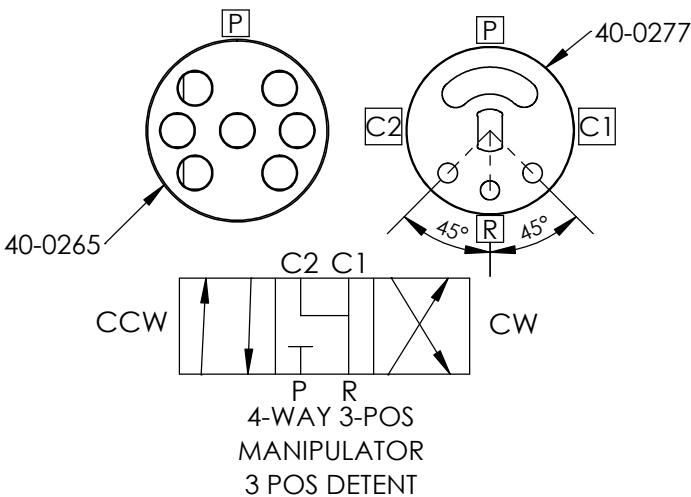
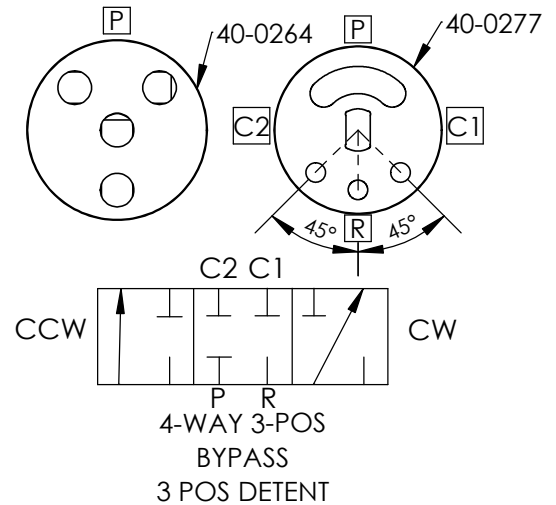
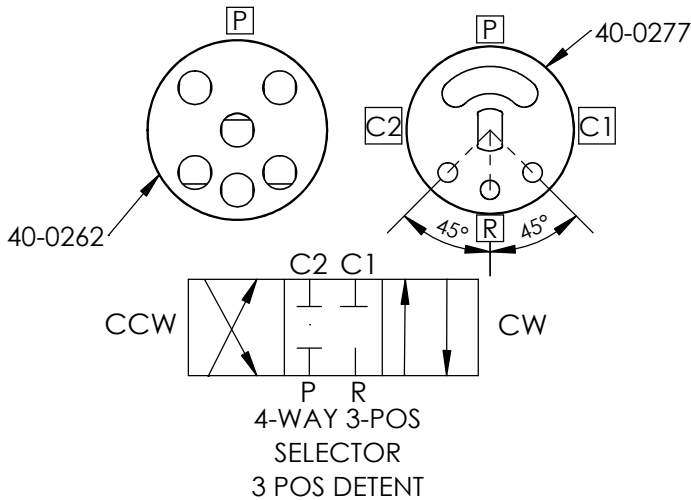


SVX-50 with 2 Pos. 90° Air or Hydraulic Actuation  
 (Example: SVX50-3N3IS1AN or SVX50-3N3IS1HSN)



Notes:

- 1. Rotor and Detent Disc Part No.'s displayed
- 2. Not a standard stock item



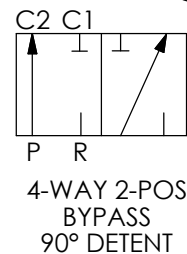
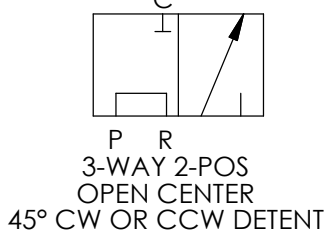
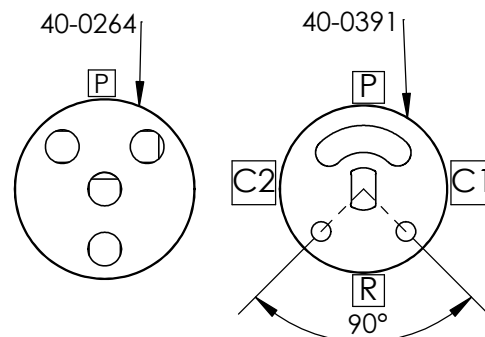
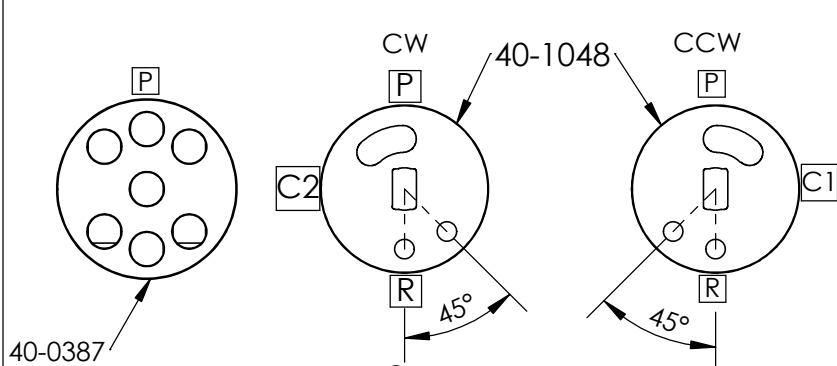
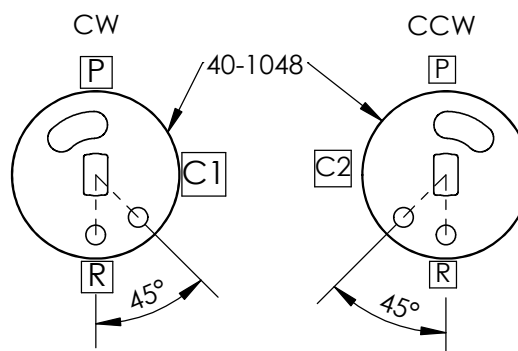
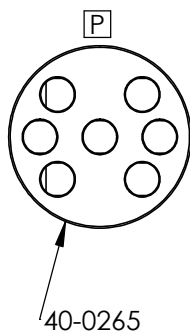
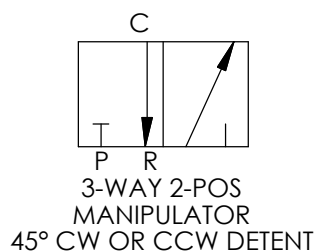
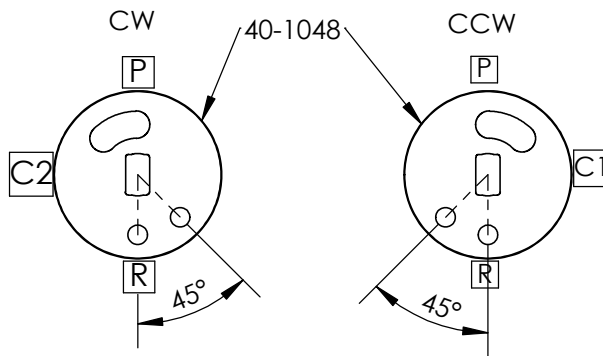
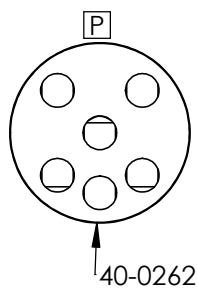
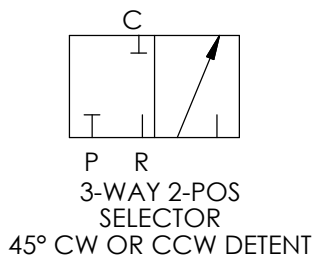
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TITLE  
**SV-50 Rotor Flow and Detent Disc 3-Position Options**

SIZE <b>A</b>	REV <b>14</b>
SHEET 6 OF 20	

Notes:

1. Rotor and Detent Disc Part No.'s displayed



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TITLE  
**SV-50 Rotor Flow and  
Detent Disc  
2-Position Options**

SIZE <b>A</b>	REV <b>14</b>
SHEET 7 OF 20	

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1125	O-Ring	1
2	23-1337	O-Ring	3
3	23-1414	Backup Ring	3
4	23-1415	O-Ring	1
5	40-0049	Ball, Bearing	1
6A	40-0219	Seal Ring, Standard	3
6B	40-4429	Seal Ring, 10k/SC	3
7	40-0227	Thrust Washer	2
8	40-0237	Wave Spring	3
9	40-0259	Ball, Bearing	20
10	40-0275	Shaft	1
11A	40-0280	Handle, Manual	1
11B	40-0647	Handle, Remote	1
12	40-0289	Retaining Ring	1
13	40-0292	Spacer, Handle	1
14	40-0296	Spring	1
15	40-0353	Housing	1
16	50-0078	Hex Nut	4
17	50-0092	Locknut	1
18A	50-0098	Bolt	4
18B	50-0267	Bolt	4
19	50-0103	Lock Washer	4/8*
20	50-0107	Washer, Shaft	1
21	50-0461	Nut, Panel Mount	4
22	Note 4	Rotor	1
23	Note 4	Detent Disc	1
24	Note 5	Body	1
25	50-0237	Grip, Handle	1
26	50-0732	Plug	1

Notes:

1. Standard Inline Ported SV-50 shown for illustration purposes. (Refer to Model Configuration for options.)
2. Panel Mount Option.
3. Remote Handle Option
4. See sheets 6-7 "Rotor and Detent Shift Options" for replacement parts.
5. See sheet 9 "SV-50 Porting Options" for Body option part numbers.
6. See sheets 10-17 for other operator and actuator options.
7. Contact PacSeal for Viton or EPR O-rings.
8. Refer to SV-50 Maintenance Instructions for more details.
9. Spring Centered valve requires special repair kits.
10. For long-term storage after use, remove plug and inject grease.

9. >

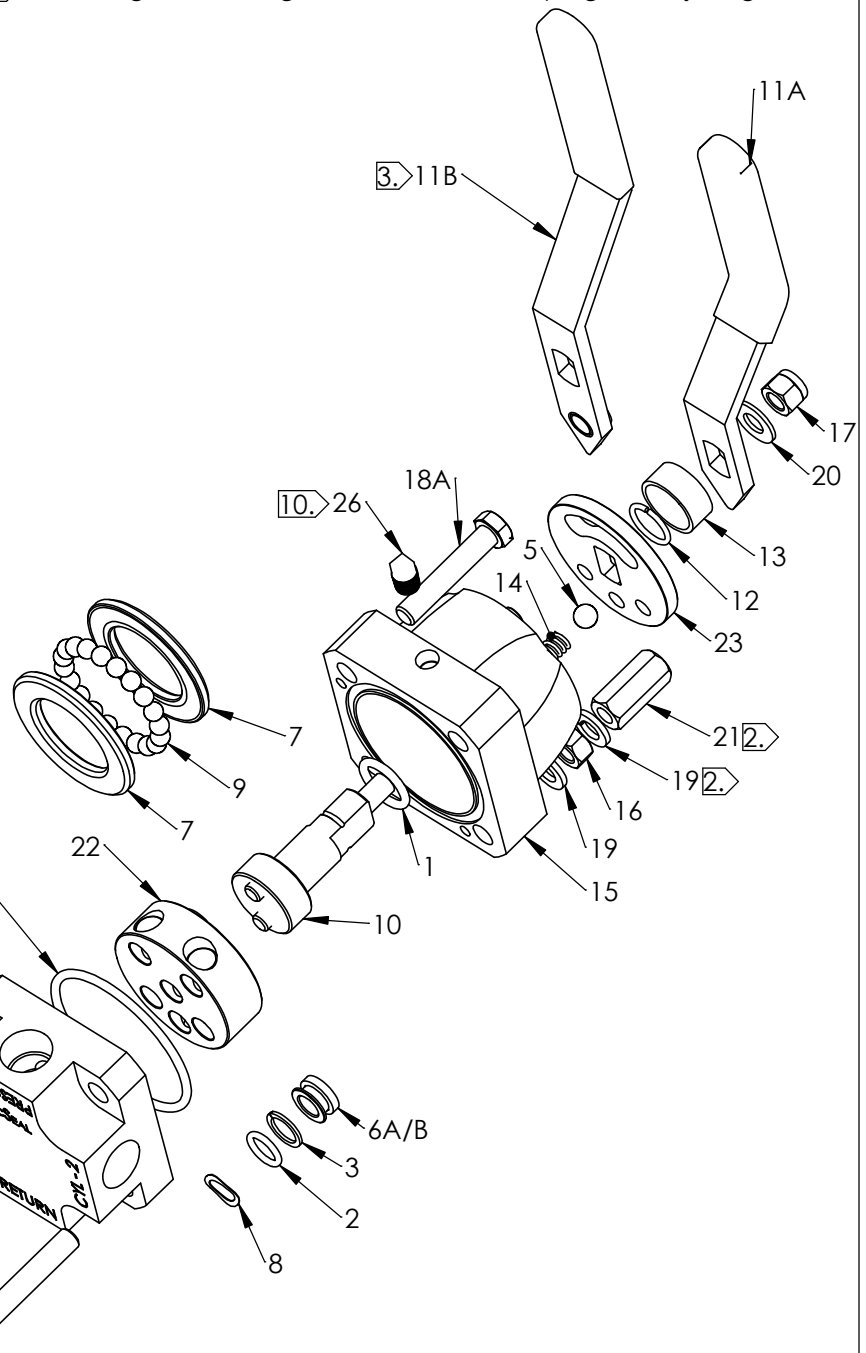
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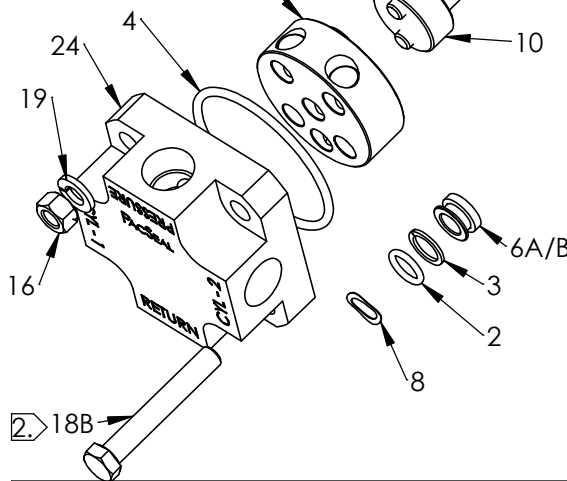
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\*Qty depends on Panel Mount vs. Standard Bolt Option



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TITLE **SV-50**  
**General Assembly**  
**Overview**

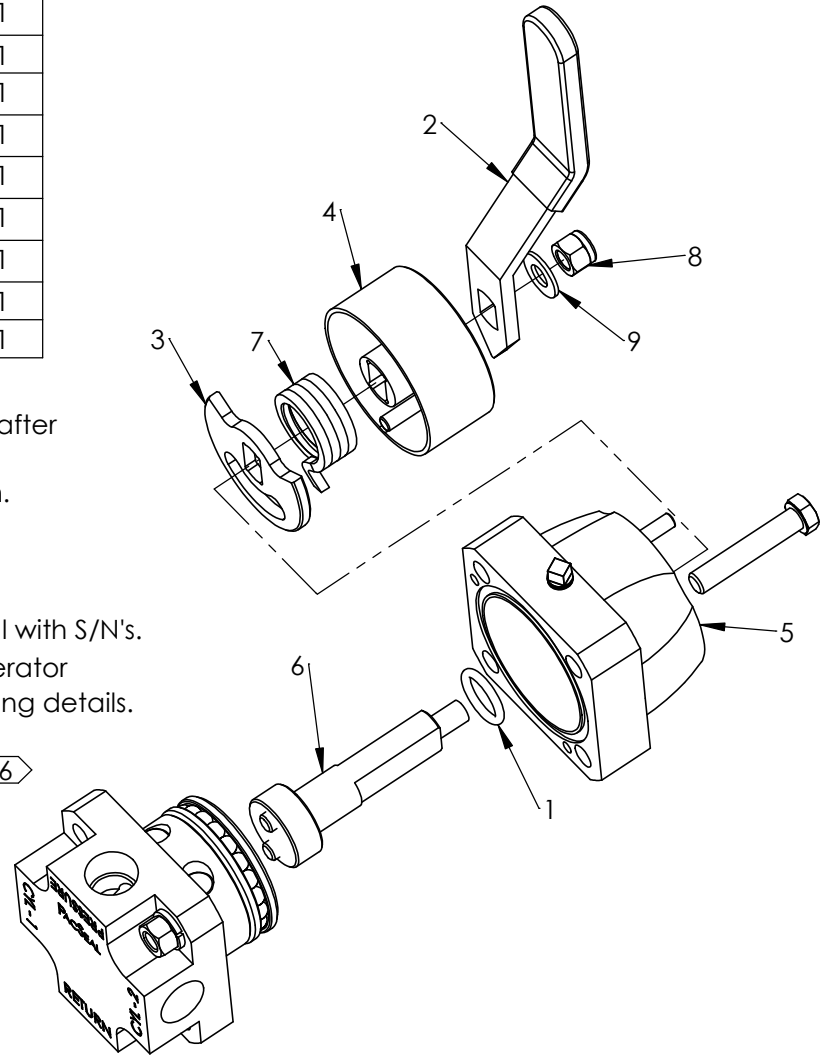
SIZE	REV
<b>A</b>	<b>14</b>
SHEET 8 OF 20	



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1125	O-ring	1
2	40-0280	Handle, Standard SV-50	1
3	40-0757	Detent Disc, Spring Centered	1
4	40-4007	Housing, Spring	1
5	40-4008	Housing	1
6	40-4011	Shaft, Spring Centered	1
7	40-4629	Torsion Spring, Spring Centered	1
8	50-0092	Locknut	1
9	50-0107	Washer, Shaft	1

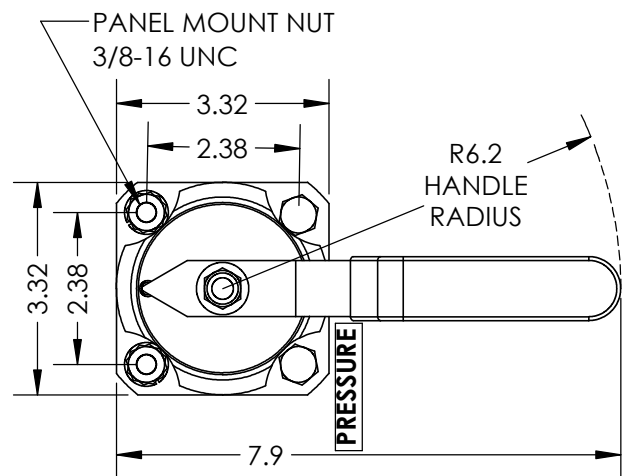
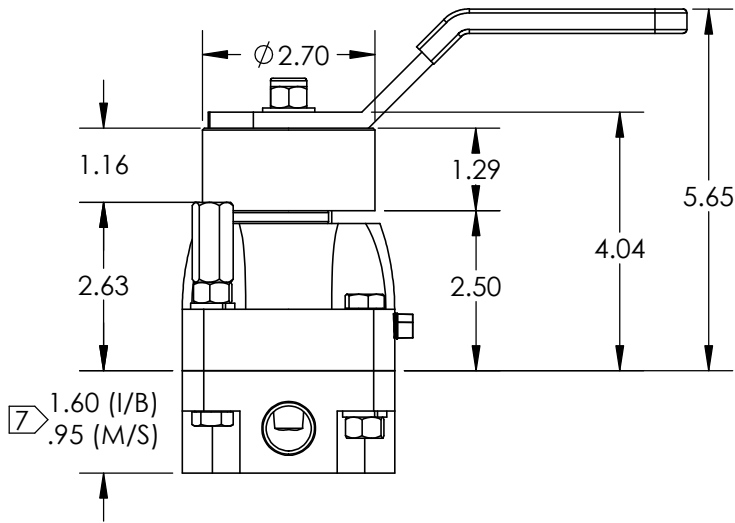
**Notes:**

1. Spring Centered operator centers the rotor after manual shifting.
2. Retrofitting an existing valve is not an option.
3. Working Pressure (Liquid) - 3000 psi
4. Working Pressure (Gas) - 2000 psi
5. Handle shifting torque - 15 lbf-ft.
6. Special repair kits needed. Contact PacSeal with S/N's.
7. See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for other porting details.



Kit Description	Repair Kit Part Numbers by Rotor Type			
	Selector	Manipulator	Bypass	Open Center
O-ring Kit	40-4735			
Seal Kit	40-4736			
Minor Repair Kit	40-4737	TBD	TBD	40-4815
Major Repair Kit	40-4738	TBD	TBD	40-4816

PANEL MOUNT DIMENSIONS      STANDARD BOLT DIMENSIONS



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	11
Bottom (B)	11
Manifold (M)	10
Subplate (S)	13



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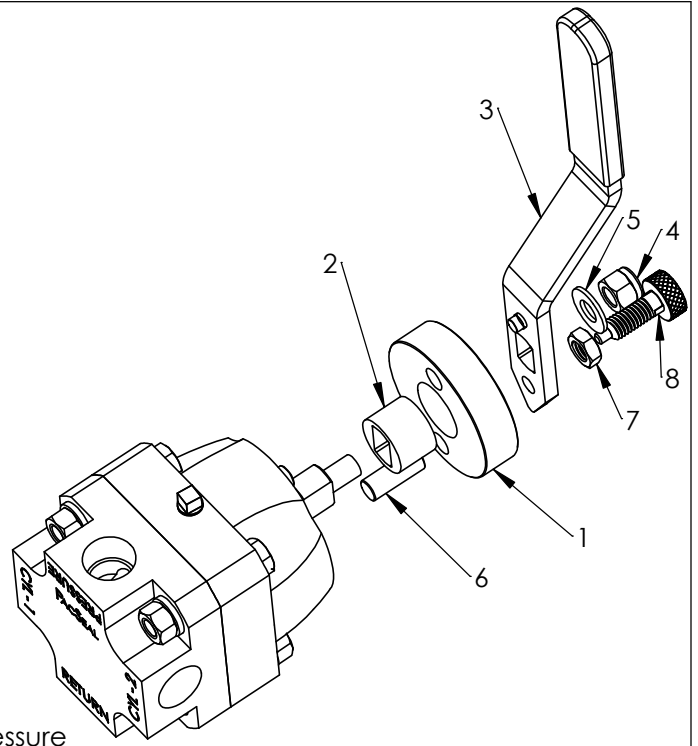
**TITLE** SV-50 Spring Centered Operator Installation and Assembly Drawing

**SIZE** A      **REV** 14  
 SHEET 10 OF 20

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	40-3725	Detent Plate	1
2	40-3727	Spacer	1
3	40-3738	Handle Ass'y	1
4	50-0092	Locknut	1
5	50-0107	Washer, Shaft	1
6	50-0329	Pin	1
7	50-0535	Hex Jam Nut	1
8	50-0536	Retractable Spring Plunger	1

Notes:

1. Pin Lock Detent operator prevents accidental shifting and ensures two-handed operation.
2. Can easily be retrofitted in field - reference P/N 40-3739 for Pin Lock Detent Kit.
3. See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for other porting details.

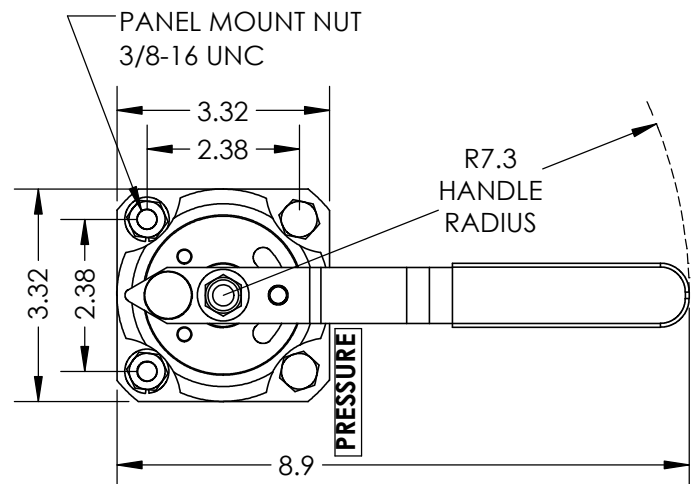
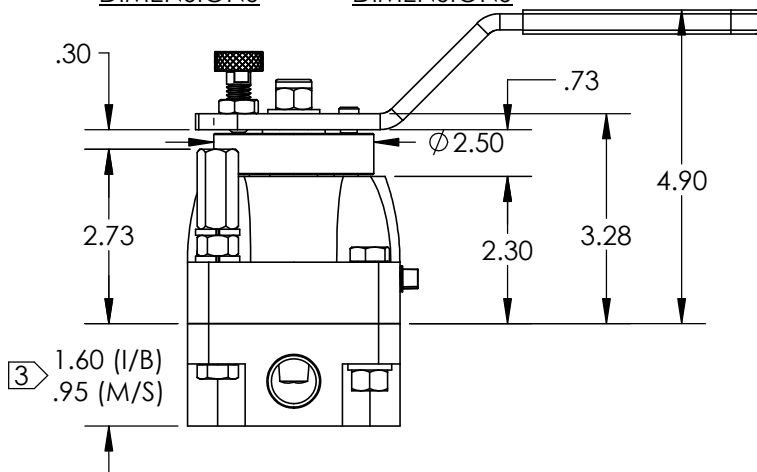


2 Conversion Instructions:

1. Ensure that the valve is not receiving hydraulic pressure
2. Remove the existing Locknut, Washer, Handle, Detent Disc, Spring, and Ball
3. Add the Pin (6) to the empty hole
4. Align the Detent Plate (1) with the two pins to match the drawing
5. Insert the Spacer (2) into the Detent Plate (1)
6. Assemble the Handle (3) with its pin inside the slot
7. Add the Washer (5) then tighten the Locknut (4) to the Shaft
8. Thread the jam nut (7) to the top of the Retractable Spring Plunger (8)
9. Thread the Retractable Spring Plunger to the Handle until the plunger just makes contact with the bottom of the hole
10. Tighten the jam nut of the plunger to the handle
11. Dry test each position to ensure that the Retractable Spring Plunger is fully engaged in each hole

PANEL MOUNT DIMENSIONS

STANDARD BOLT DIMENSIONS



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	10
Bottom (B)	10
Manifold (M)	9
Subplate (S)	12



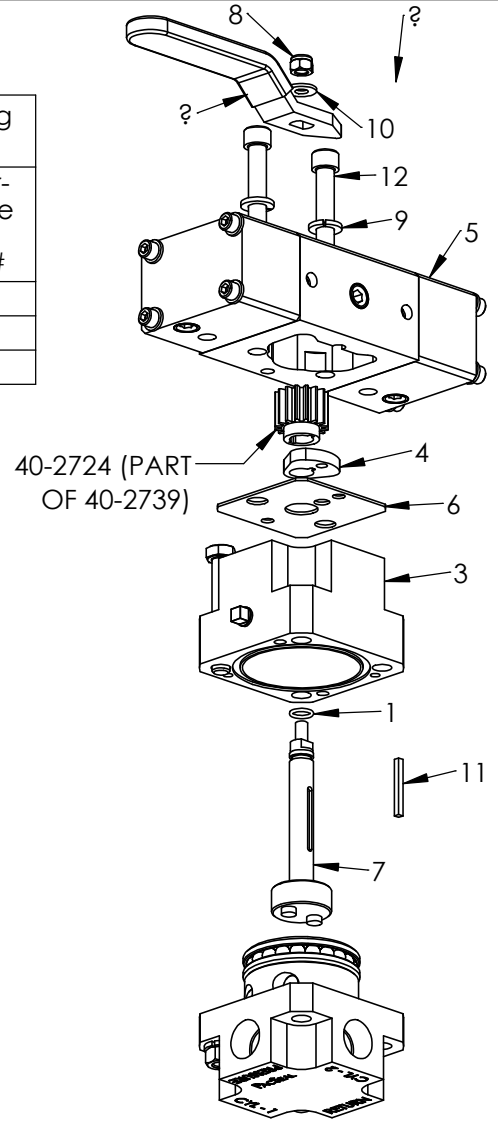
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TITLE **SV-50 Pin Lock Detent Operator Installation and Assembly Drawing**

SIZE **A** REV **14**  
 SHEET 11 OF 20

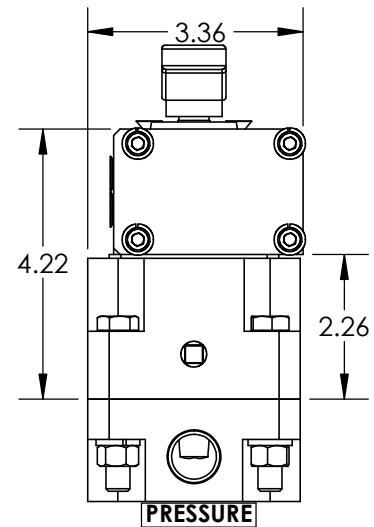
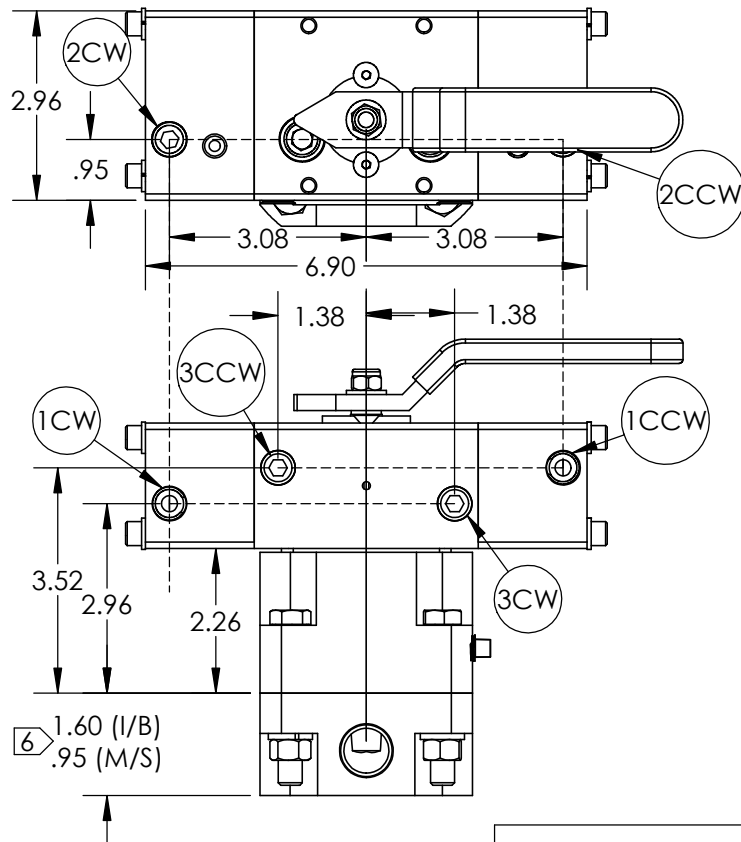
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1344	O-Ring	1
2A	40-3108	Straight Handle	1
3	40-2626	Housing, SVx-50	1
4	40-2718	Detent, SVx-25	1
5	40-2739	Air Actuator Ass'y, SVx-50	1
6	40-2785	Aluminum Gasket	1
7	40-2786	Shaft, SVx-50	1
8	50-0091	Locknut	1
9	50-0103	Lock Washer	6
10	50-0106	Washer, Shaft	1
11	50-0444	Key	1
12	50-0527	Bolt	2

1/4 NPT Air Inlet Porting Location Options	
Clockwise (CW) Option #	Counter-Clockwise (CCW) Option #
1CW	1CCW
2CW	2CCW
3CW	3CCW



**Notes:**

1. Model displays SVX with 2-Position 90° Direct Air actuation.
2. Center (3rd) position is accomplished with manual override.
3. Recommended air actuator working pressure - 80 to 125 psi
4. Actuator material - Aluminum (anodized)
5. Retrofitting an existing valve is not an option.
6. See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for other porting details.



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	13
Bottom (B)	13
Manifold (M)	12
Subplate (S)	15

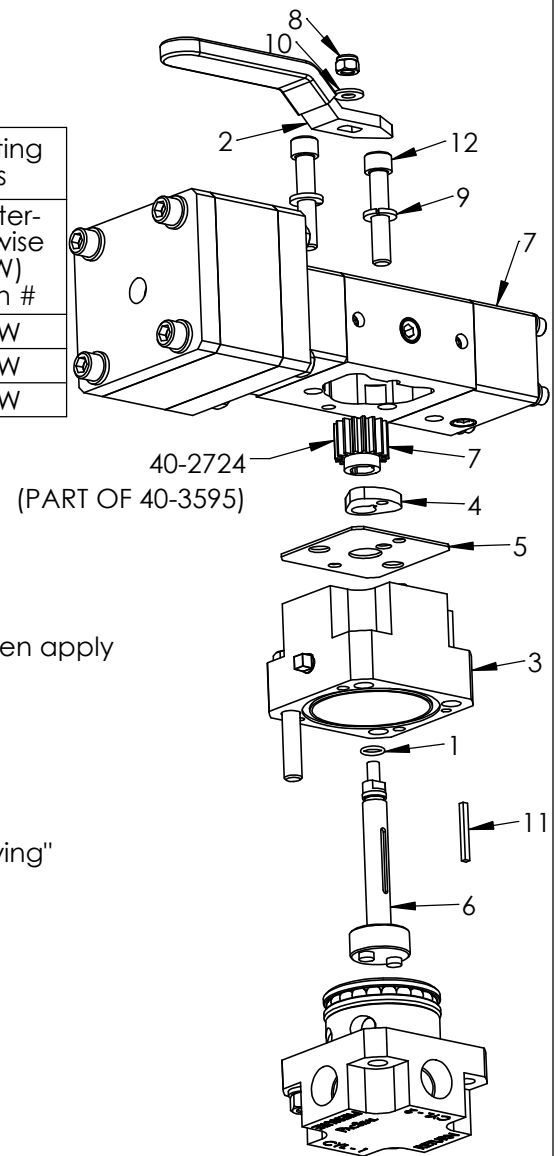


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TITLE	SVX-50 2-Position 90° Direct Air Actuation Installation and Assembly Drawing	SIZE	A	REV	14
					SHEET 12 OF 20

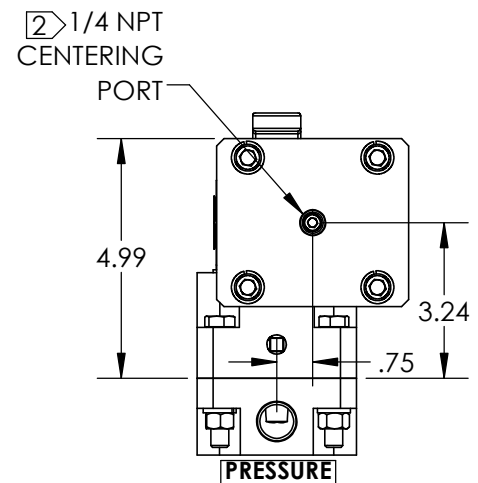
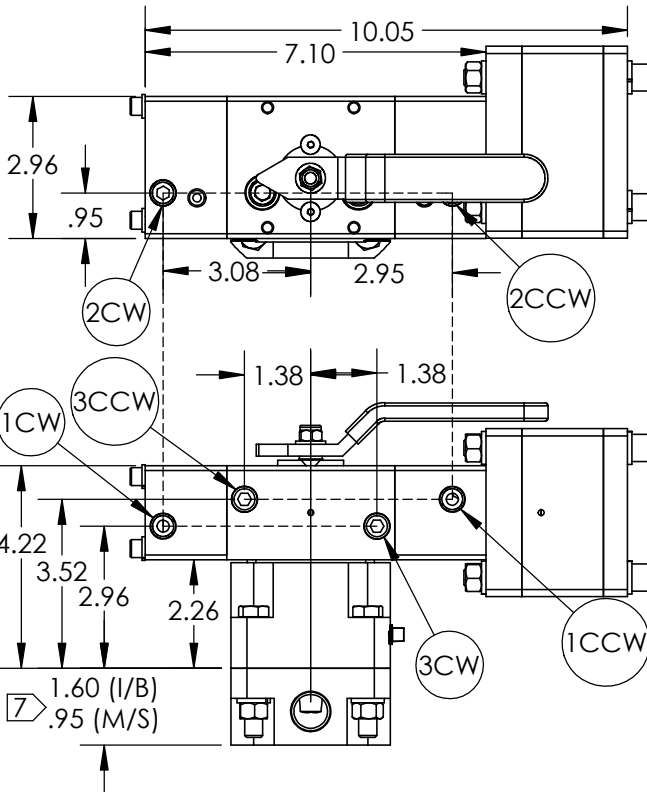
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1344	O-Ring	1
2	40-3108	Straight Handle	1
3	40-2626	Housing, SVx-50	1
4	40-2718	Detent, SVx-25	1
5	40-2785	Aluminum Gasket	1
6	40-2786	Shaft, SVx-50	1
7	40-3595	3-Position Air Actuator, SVx-50	1
8	50-0091	Locknut	1
9	50-0103	Lock Washer	6
10	50-0106	Washer, Shaft	1
11	50-0444	Key	1
12	50-0527	Bolt	2

1/4 NPT Air Inlet Porting Location Options	
Clockwise (CW) Option #	Counter-Clockwise (CCW) Option #
1CW	1CCW
2CW	2CCW
3CW	3CCW



**Notes:**

- Model displays SVX with 3-Position 90° Direct Air actuation.
- For center position, first apply air pressure to "CENTERING PORT", then apply air pressure to a "CW" port.
- For 2-position operation, apply air to "CW" and "CCW" ports only.
- Recommended air actuator working pressure - 80 to 125 psi
- Actuator material - Aluminum (anodized)
- Retrofitting an existing valve is not an option.
- See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for other porting details.



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	18
Bottom (B)	18
Manifold (M)	17
Subplate (S)	15



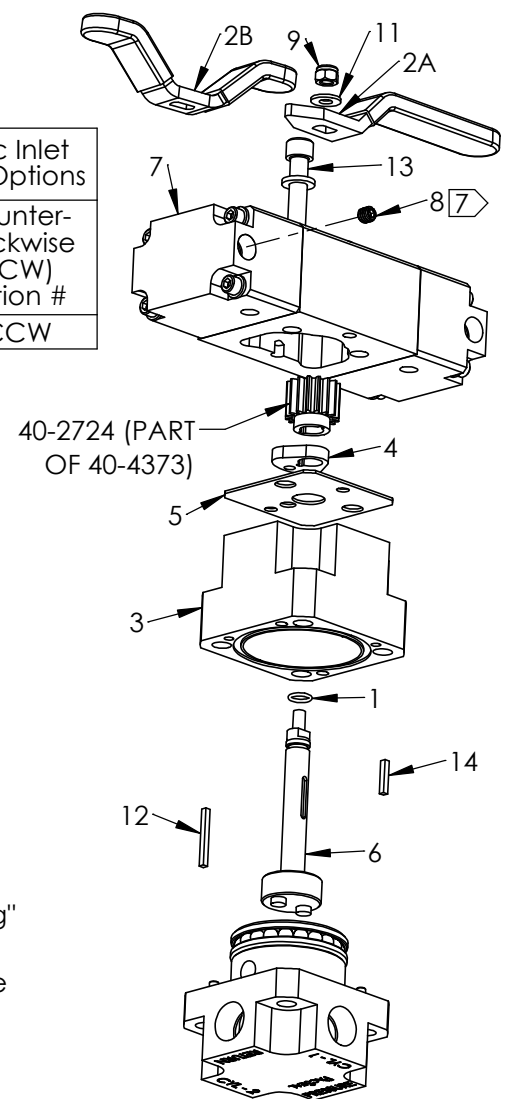
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**TITLE SVX-50 3-Position 90° Direct Air Actuation Installation and Assembly Drawing**

SIZE	REV
<b>A</b>	<b>14</b>
SHEET 13 OF 20	

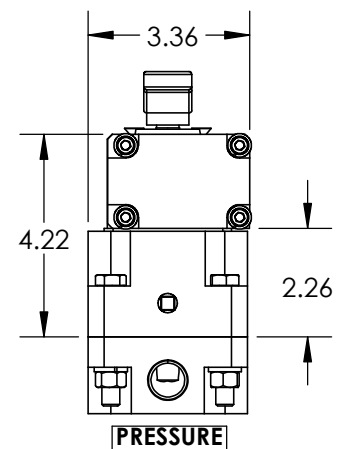
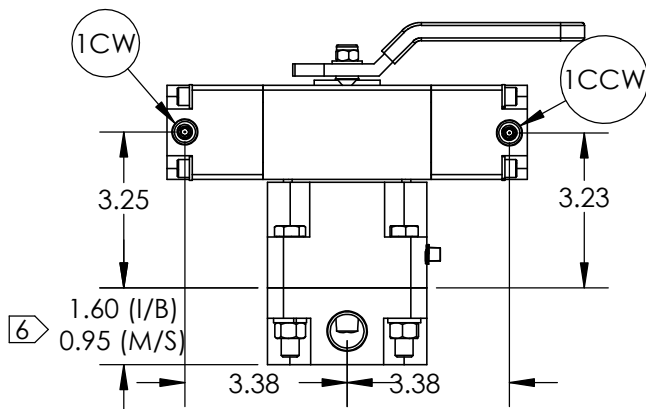
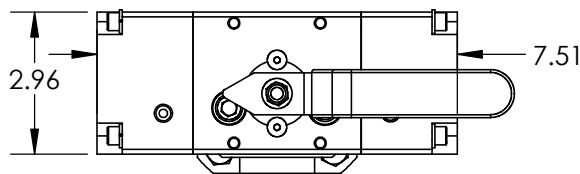
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1344	O-Ring	1
2A	40-3108	Straight Handle	1
2B	40-2803	Wing Handle	
3	40-2626	Housing, SVx-50	1
4	40-2718	Detent, SVx-25	1
5	40-2785	Aluminum Gasket	1
6	40-2786	Shaft, SVx-50	1
7	40-4373	Hydraulic Actuator Ass'y, SVx-50	1
8	40-4868	Orifice (Flow Reducer)	
9	50-0091	Locknut	1
10	50-0103	Lock Washer	6
11	50-0106	Washer, Shaft	1
12	50-0444	Key	1
13	50-0527	Bolt	2
14	50-0561	Key	1

1/4 NPT Hydraulic Inlet Porting Location Options	
Clockwise (CW) Option #	Counter-Clockwise (CCW) Option #
1CW	1CCW



**Notes:**

- Model displays SVX with 2-Position 90° Direct Hydraulic actuation.
- Center (3rd) position is accomplished with manual override.
- Retrofitting an existing valve is not an option.
- Recommended hydraulic actuator working pressure - 350 to 1200 psi  
i. If operating at > 800 psi, then it is strongly recommended to include flow restrictors or a flow control valve just upstream.
- Actuator material - Aluminum (anodized)
- See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for other porting details.
- For low flow rate hydraulic pilot, set screw orifices (8) may need to be removed.



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	14
Bottom (B)	14
Manifold (M)	13
Subplate (S)	16



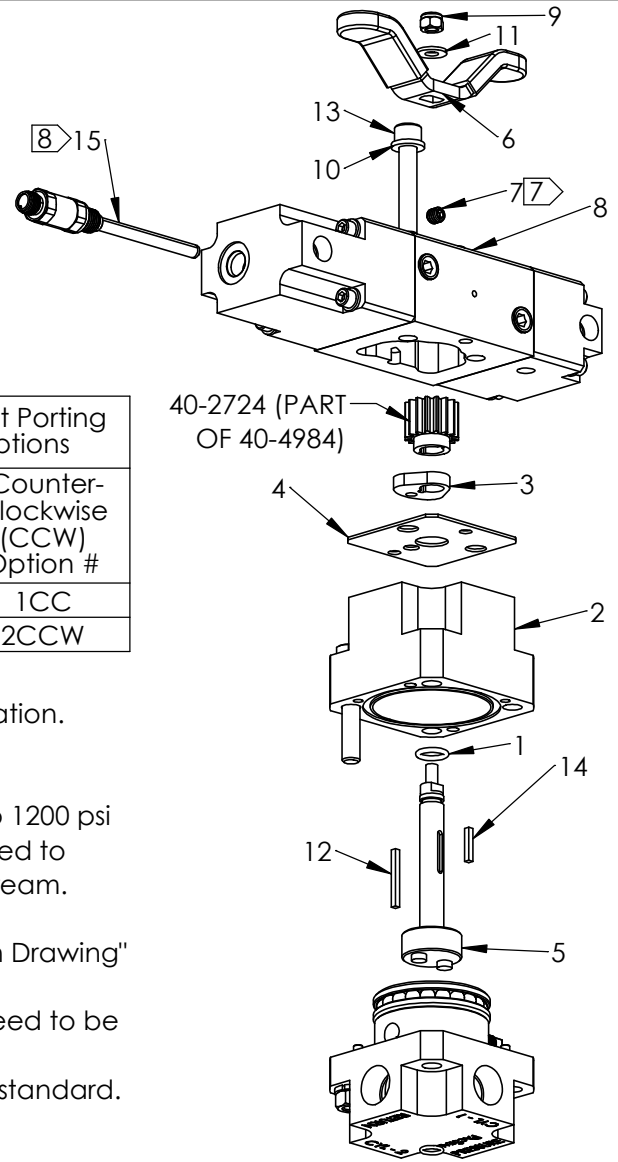
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TITLE **SVX-50 2-Position 90° Direct Hydraulic Actuation Installation and Assembly Drawing**

SIZE **A** REV **14**  
 SHEET 14 OF 20

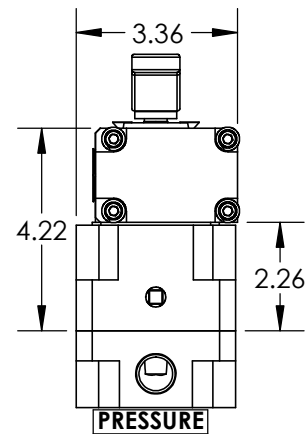
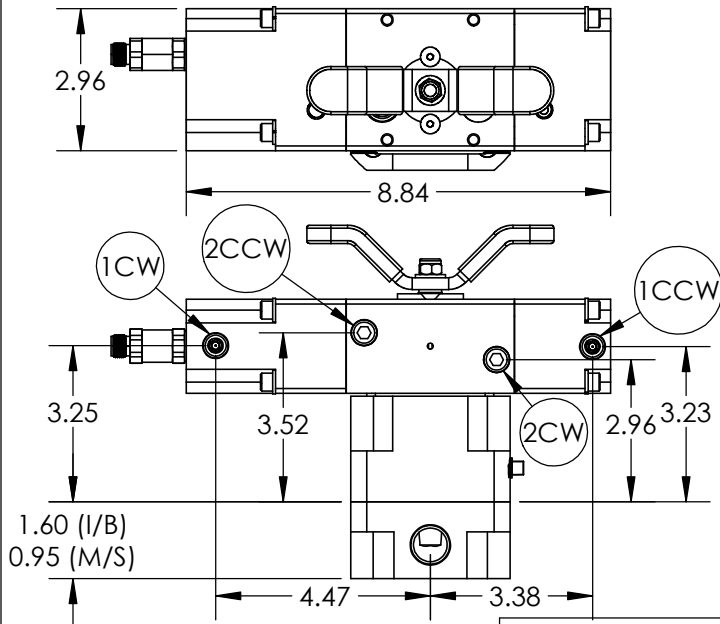
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1344	O-Ring	1
2	40-2626	Housing	1
3	40-2718	Detent	1
4	40-2785	Aluminum Gasket	1
5	40-2786	Shaft	1
6	40-2803	Handle, Wing	1
7	40-4868	Orifice (Flow Reducer)	1
8	40-4984	2-Pos Hydraulic Actuator	1
9	50-0091	Locknut	1
10	50-0103	Lock Washer	6
11	50-0106	Washer, Shaft	1
12	50-0444	Key	1
13	50-0527	SHCS	2
14	50-0561	Key	1
15	80-0367	Position Sensor, Linear	1

1/4 NPT Air Inlet Porting Location Options	
Clockwise (CW) Option #	Counter-Clockwise (CCW) Option #
1CW	1CC
2CW	2CCW



Notes:

- Model displays SVX with 2-Position 90° Direct Hydraulic actuation.
- Center (3rd) position is accomplished with manual override.
- Retrofitting an existing valve is not an option.
- Recommended hydraulic actuator working pressure - 350 to 1200 psi
  - If operating at > 800 psi, then it is strongly recommended to include flow restrictors or a flow control valve just upstream.
- Actuator material - Aluminum (anodized)
- See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for other porting details.
- For low flow rate hydraulic pilot, set screw orifices (8) may need to be removed.
- M12 connector with 4-20 mA output and 11-28 VDC input is standard.



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	14
Bottom (B)	14
Manifold (M)	13
Subplate (S)	16



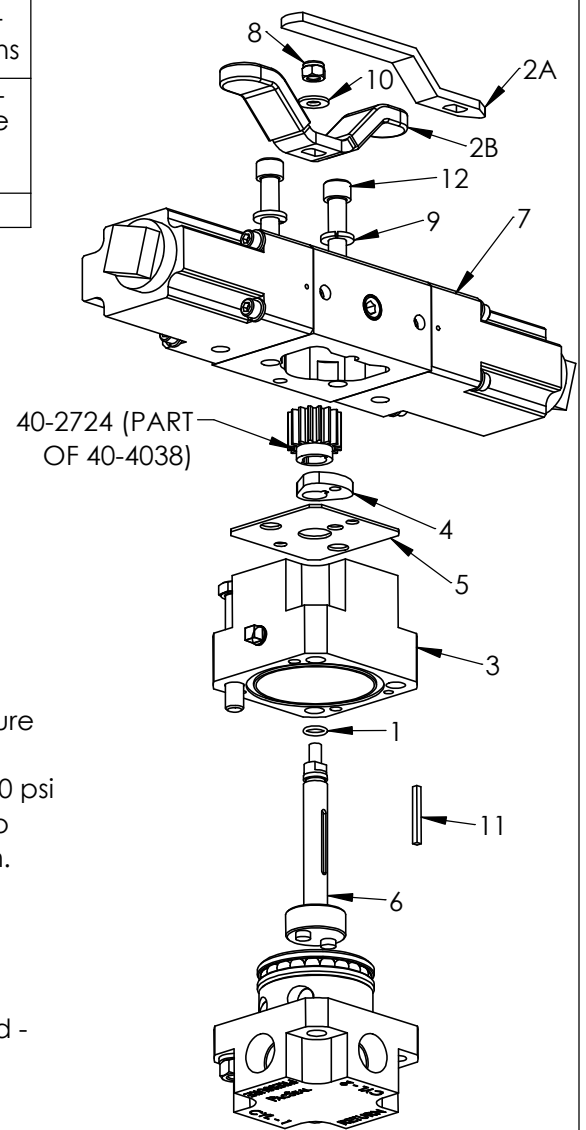
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TITLE **SVX-50 2-Pos. 90° Direct Hyd. Actuation w/ Pos. Sensor Installation and Assembly dwg**

SIZE	REV
<b>A</b>	<b>14</b>
SHEET 15 OF 20	

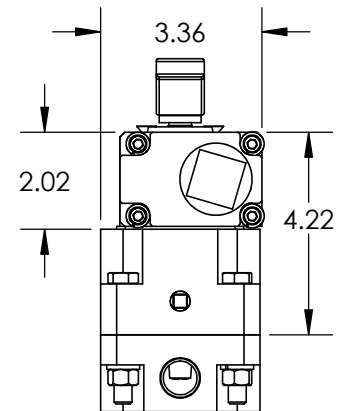
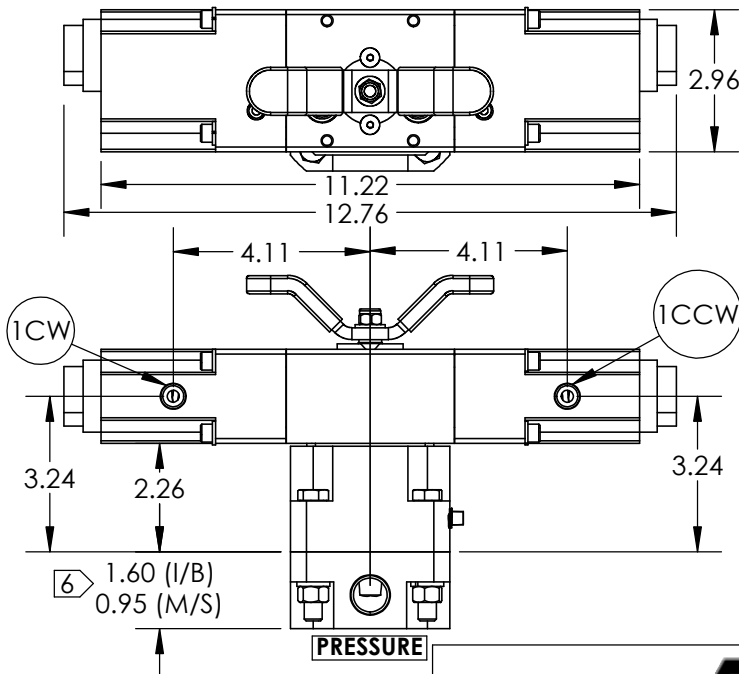
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1344	O-Ring	1
2A	40-0279	Straight Handle	1
2B	40-2803	Wing Handle	1
3	40-2626	Housing, SVx-50	1
4	40-2718	Detent, SVx-25	1
5	40-2785	Aluminum Gasket	1
6	40-2786	Shaft, SVx-50	1
7	40-4038	Hydraulic Actuator Ass'y, SVx-25 / 50	1
8	50-0091	Locknut	1
9	50-0103	Lock Washer	6
10	50-0106	Washer, Shaft	1
11	50-0444	Key	1
12	50-0527	Bolt	2

1/4 NPT Hydraulic Inlet Porting Location Options	
Clockwise (CW) Option #	Counter-Clockwise (CCW) Option #
1CW	1CCW



Notes:

- Model displays SVX with 3-Position 90° Spring Centered Direct Hydraulic actuation.
- Center (3rd) position is accomplished when hydraulic pilot pressure is relieved.
- Recommended hydraulic actuator working pressure - 350 to 1200 psi
  - If operating at > 800 psi, then it is strongly recommended to include flow restrictors or a flow control valve just upstream.
- Actuator material - Aluminum (anodized)
- Retrofitting an existing valve is not an option.
- See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for other porting details.
- For 6000 psi working pressure, high pressure seal rings are required - request special repair kits accordingly.



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	16
Bottom (B)	16
Manifold (M)	15
Subplate (S)	18



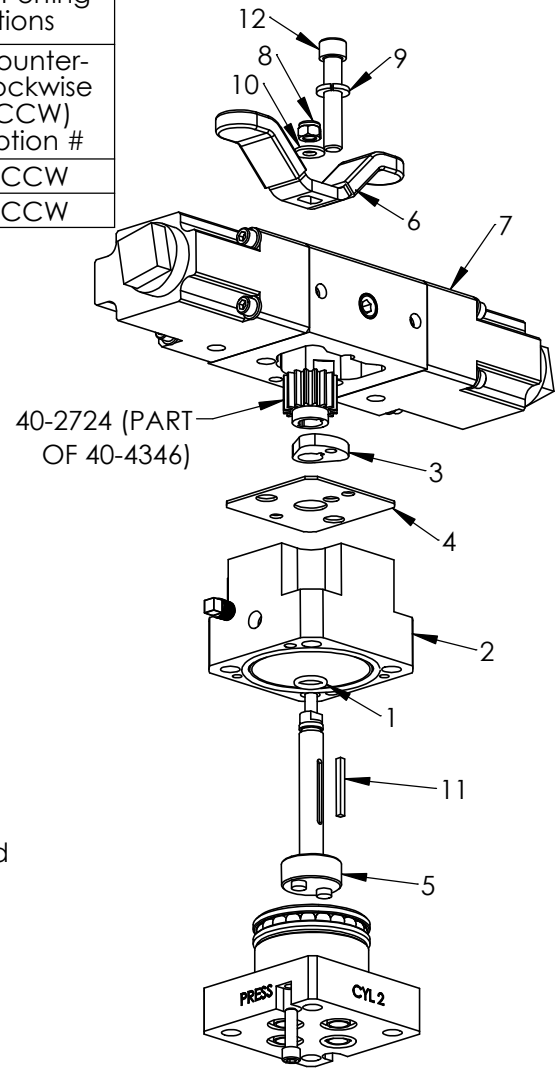
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**TITLE** SVX-50 3-Position 90° Spring Centered Direct Hydraulic Actuation Installation and Assembly Drawing

**SIZE** A **REV** 14  
 SHEET 16 OF 20

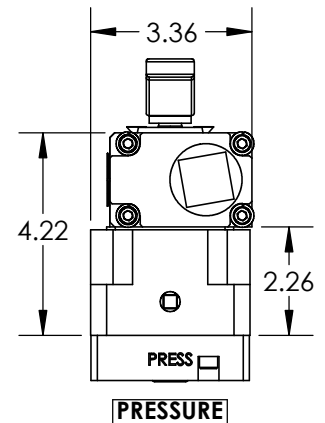
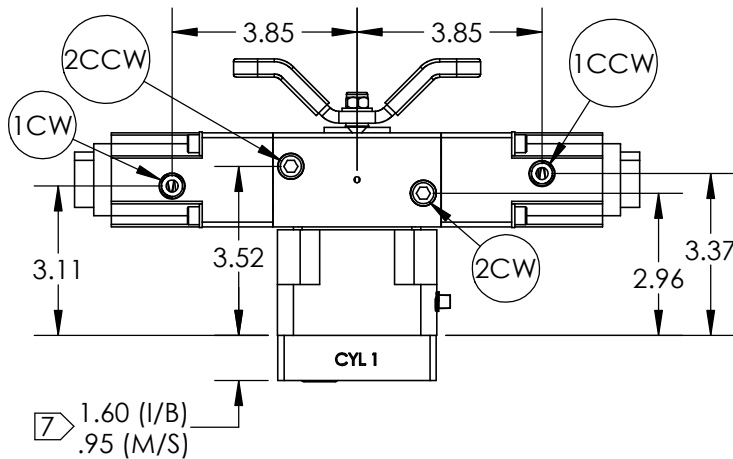
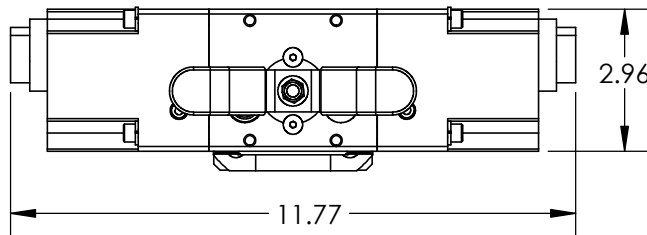
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1337	O-Ring	4
2	40-2626	Housing, SVx-50	1
3	40-2718	Detent, SVx-25/50	1
4	40-2785	Aluminum Gasket, SVx-25/50	1
5	40-2786	Shaft, SVx-50	1
6	40-2803	Handle, SVx-25 / 50	1
7	40-4346	SVx-25/50 SC Air Actuator Ass'y	1
8	50-0091	Locknut	1
9	50-0103	Lock Washer	2
10	50-0106	Washer, Shaft	1
11	50-0444	Key	1
12	50-0527	Screw	2

1/4 NPT Air Inlet Porting Location Options	
Clockwise (CW) Option #	Counter-Clockwise (CCW) Option #
1CW	1CCW
2CW	2CCW



Notes:

1. Model displays SVX with 3-Position 90° Spring Centered Direct Air actuation.
2. Center (3rd) position is accomplished when air or hydraulic pilot pressure is relieved.
3. Recommended air actuator working pressure - 100 to 125 psi
4. Actuator material - Aluminum (anodized)
5. Retrofitting an existing valve is not an option.
6. See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for other porting details.
7. For 6000 psi working pressure, high pressure seal rings are required - request special repair kits accordingly.
8. Solenoid piloted porting option not shown.



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	15
Bottom (B)	15
Manifold (M)	14
Subplate (S)	17



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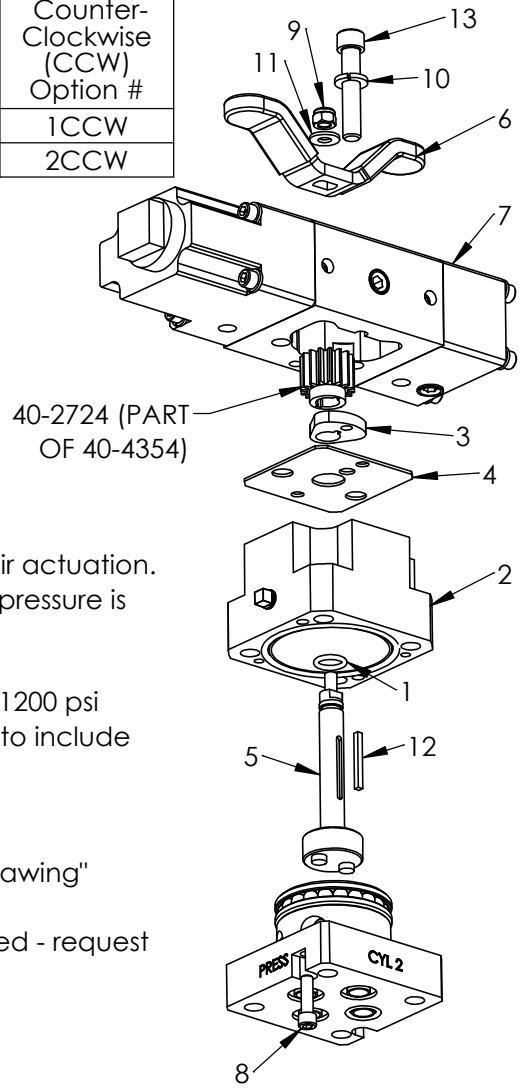
**TITLE**  
 SVX-50 3-Position 90° Spring Centered Direct Air Actuation Installation and Assembly Drawing

**SIZE** A  
**REV** 14  
 SHEET 17 OF 20

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1337	O-Ring	4
2	40-2626	Housing, SVx-50	1
3	40-2718	Detent, SVx-25	1
4	40-2785	Aluminum Gasket	1
5	40-2786	Shaft, SVx-50	1
6	40-2803	Handle, SVx-25 / 50	1
7	40-4354	SVx-25 / 50 Air Actuator Ass'y	1
8	50-0066	Bolt	2
9	50-0091	Locknut	1
10	50-0103	Lock Washer	2
11	50-0106	Washer, Shaft	1
12	50-0444	Key	1
13	50-0527	Bolt	2

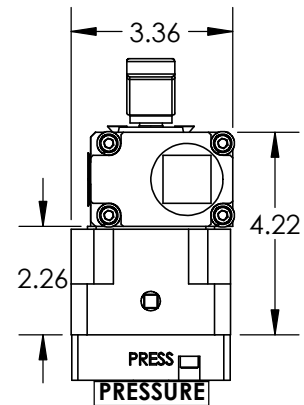
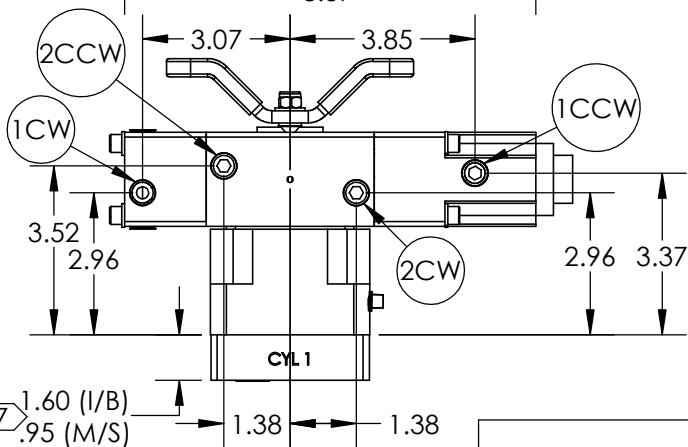
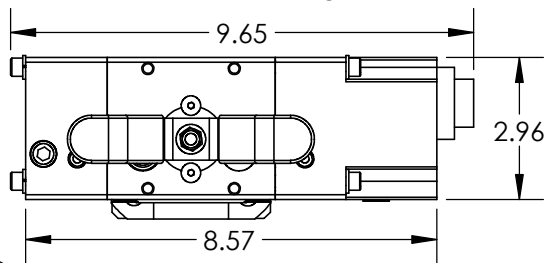
1/4 NPT Air Inlet Porting Location Options

Clockwise (CW) Option #	Counter-Clockwise (CCW) Option #
1CW	1CCW
2CW	2CCW



Notes:

- Model displays SVX with 2-Position 45° Spring Centered Direct Air actuation.
- Center (2nd) position is accomplished when air/hydraulic pilot pressure is relieved.
- Recommended air actuator operating pressure - 100 to 125 psi
- Recommended hydraulic actuator operating pressure - 350 to 1200 psi
  - If operating at > 800 psi, then it is strongly recommended to include flow restrictors or a flow control valve just upstream.
- Actuator material - Aluminum (anodized)
- Retrofitting an existing valve is not an option.
- See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for other porting details.
- For 6000 psi working pressure, high pressure seal rings are required - request special repair kits accordingly.



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	14
Bottom (B)	14
Manifold (M)	13
Subplate (S)	16

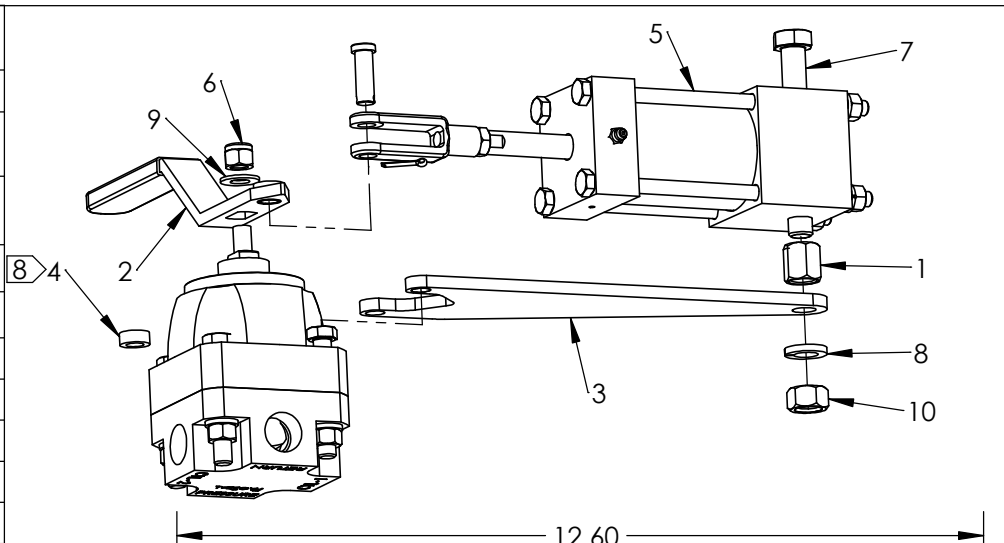


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**TITLE**  
 SVX-50 2-Position 45° Spring Centered (A/H) Actuation Installation and Assembly Drawing

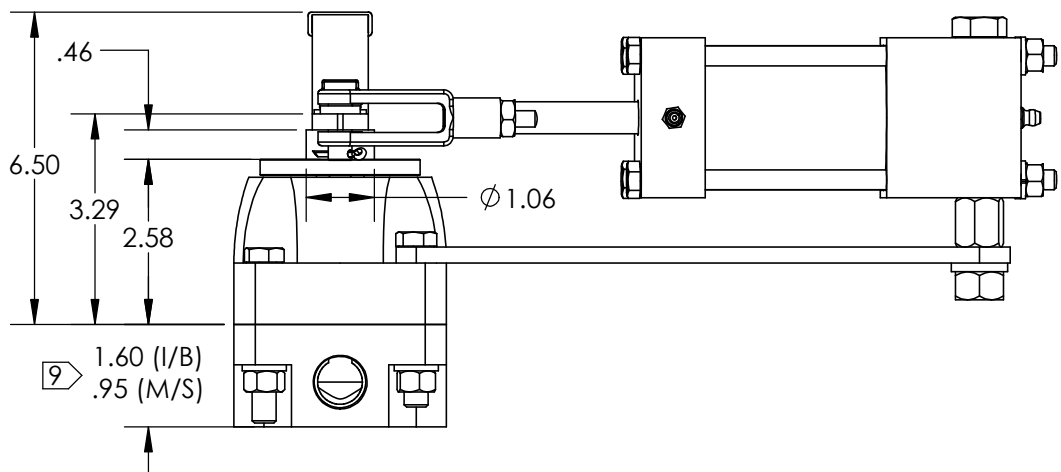
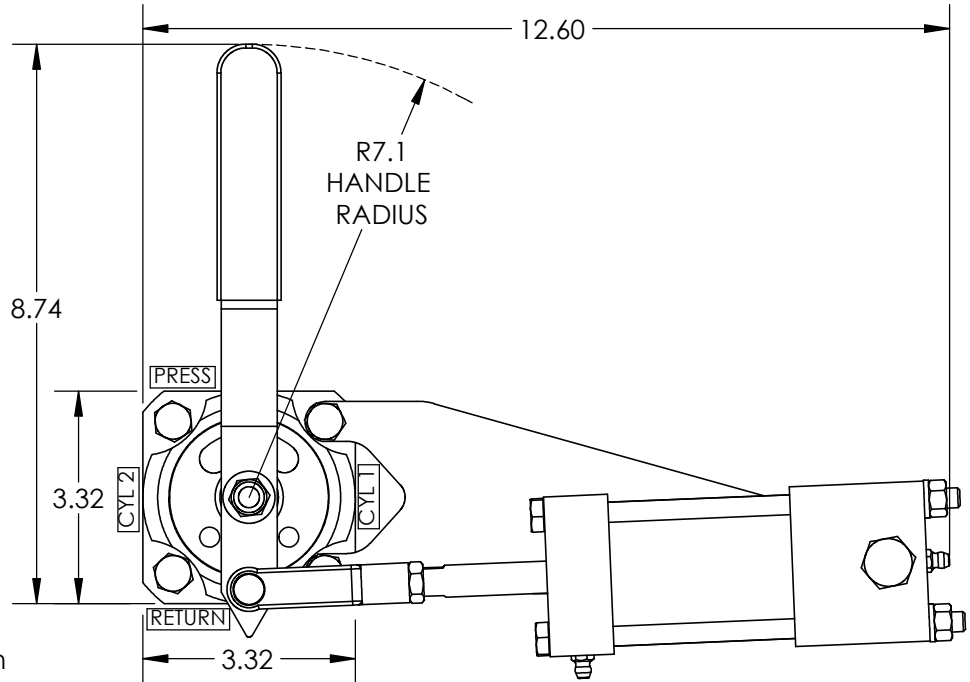
**SIZE** A  
**REV** 14  
 SHEET 18 OF 20

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	40-0558	Spacer Nut	1
2	40-0647	Handle, Remote	1
3	40-1441	Air Cylinder Bracket	1
4	40-2616	Spacer	1
5	40-4191	AAC-202	1
6	50-0092	Locknut	1
7	50-0100	Bolt	1
8	50-0104	Lock Washer	1
9	50-0107	Washer, Shaft	1
10	50-0110	Hex Nut	1



Notes:

1. Model displays Right Mounted Air Cylinder Actuator
2. Cylinder Positions - 2
3. Cylinder Air working pressure - 80 to 150 psi
4. Cyl max pressure rating - 250 psi
5. Cylinder Stroke - 2.13 in.
6. Cylinder Bore/Rod - 2 X 1/2 in.
7. Actuator Material - Aluminum (anodized)
8. Spacer is only necessary if a name plate is used.
9. See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for installation dimensions of other porting options.



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	15
Bottom (B)	15
Manifold (M)	14
Subplate (S)	17



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TITLE  
**SV-50 Air Cylinder Actuator Installation and Assembly Drawing**

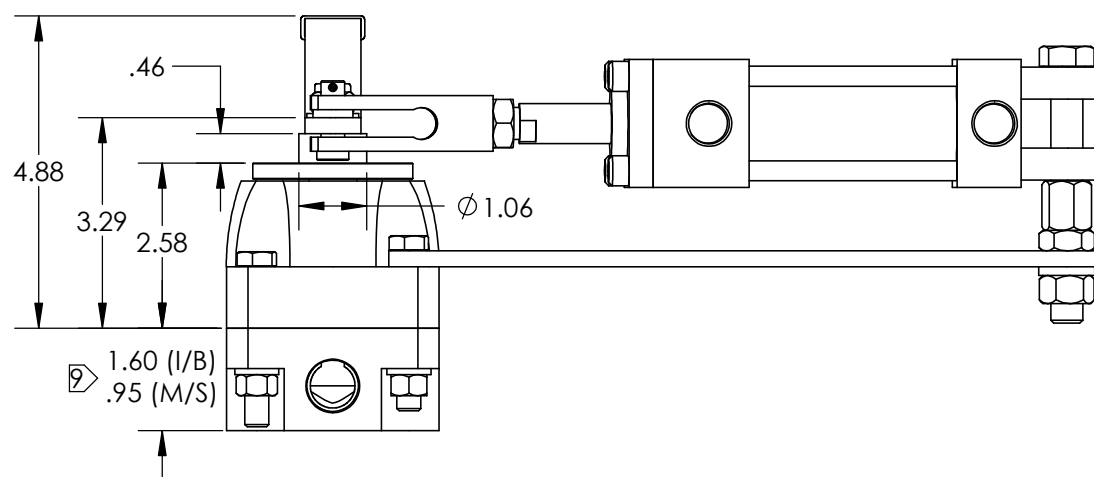
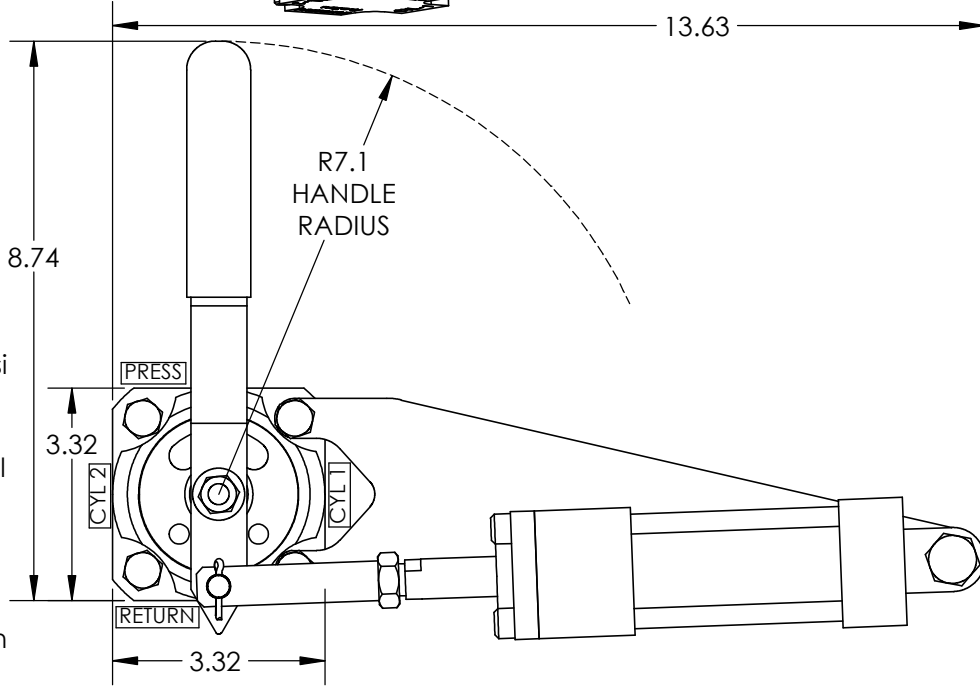
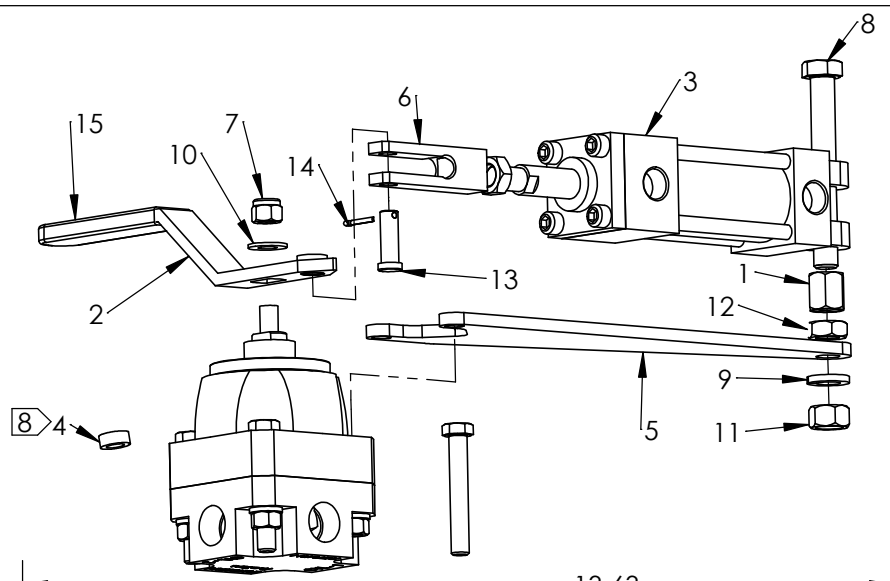
SIZE	REV
<b>A</b>	<b>14</b>

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	40-0558	Spacer Nut	1
2	40-0647	Handle, Remote SV-50	1
3	40-1412	HHC-202	1
4	40-2616	Spacer	1
5	40-3649	Bracket, Hydraulic	1
6	40-3650	Clevis, Hydraulic	1
7	50-0092	Locknut	1
8	50-0100	Bolt	1
9	50-0104	Lock Washer	1
10	50-0107	Washer, Shaft	1
11	50-0110	Hex Nut	1
12	50-0163	Hex Jam Nut	1
13	50-0195	Clevis Pin	1
14	50-0196	Cotter Pin	1
15	50-0237	Grip, Handle	1
16	50-0394	Jam Nut	1

Notes:

1. Model displays Right Mounted Air Cylinder Actuator
2. Cylinder Positions - 2
3. Cylinder Hyd. working pressure - 500 to 1200 psi
4. Cyl max pressure rating - 1500 psi
5. Cylinder Stroke - 2.13 in.
6. Cylinder Bore/Rod - 2 X 1/2 in.
7. Actuator Material - Carbon Steel
8. Spacer is only necessary if a name plate is used.
9. See "SV-50 Porting Options with Manual Operator Installation Drawing" (Sheet 9) for installation dimensions of other porting options.



Weight (lb.) of Manual Valve Porting Option	
Inline (I)	17
Bottom (B)	17
Manifold (M)	16
Subplate (S)	19



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TITLE **SV-50 Hydraulic Cylinder Actuator Installation and Assembly Drawing**

SIZE **A** REV **14**  
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