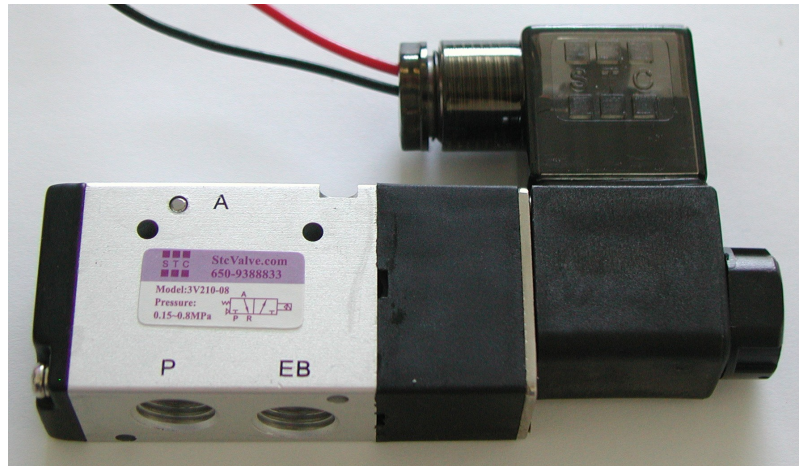


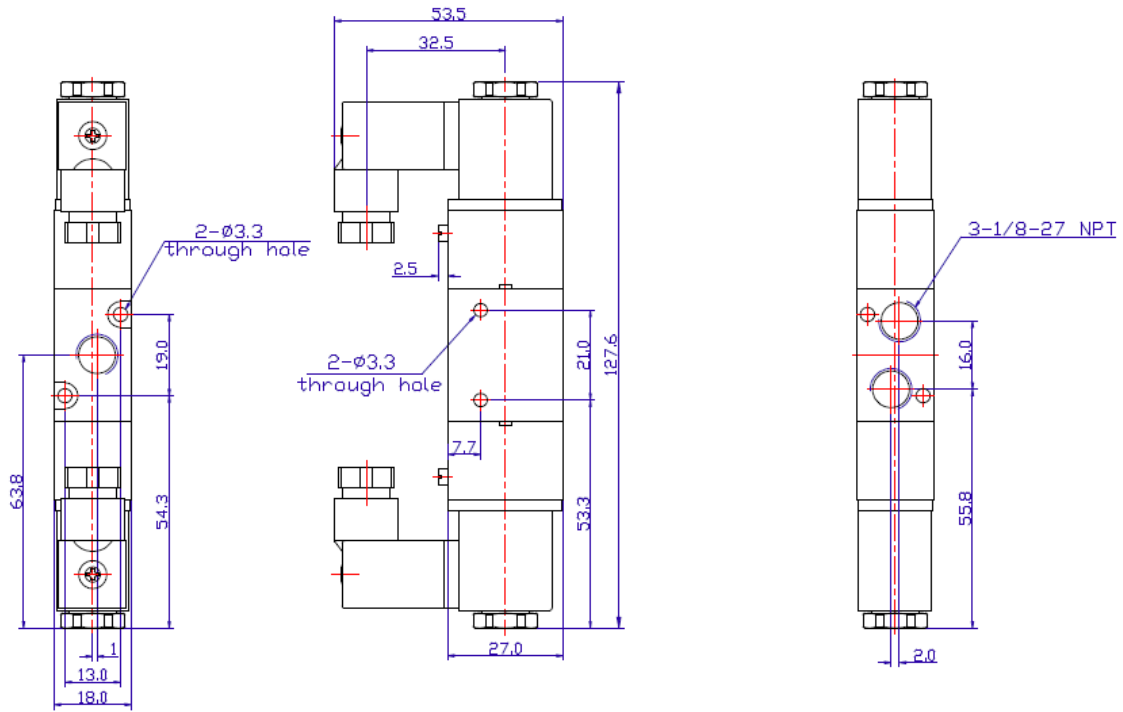
# 3V120-420 SERIES SOLENOID VALVE



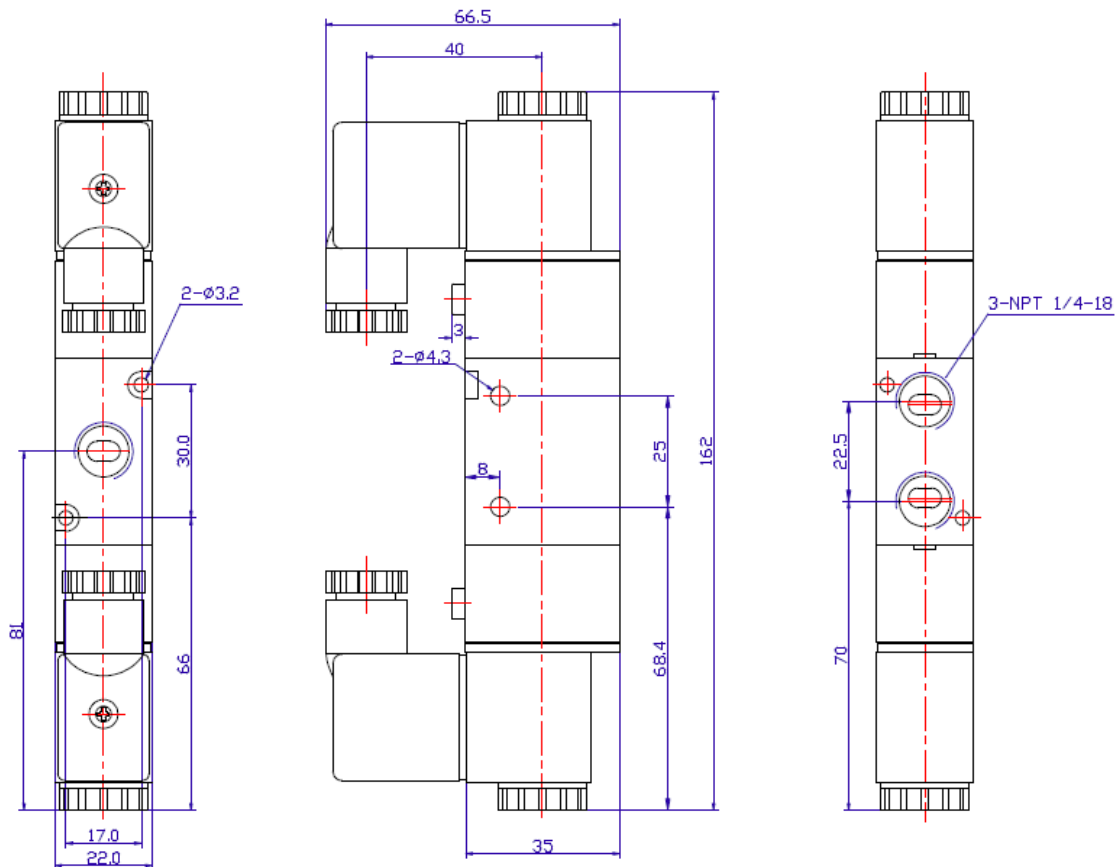
Valve Model	3V120-1/8	3V220-1/4	3V320-3/8	3V420-1/2
Port & Mounting	Body Ported			
Action & Motion	Air Pilot, Spool Design, Response Time <20 ms, Double Solenoid			
Operating Pressure	21 to 115 PSI			
Port Sizes	1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT
Operating Temp.	14 to 140 °F			
C <sub>v</sub>	0.67	0.89	1.68	2.79
SFCM @ 80PSI	25	53	80	160
Manual Override	Detentable			
Electrical Connection	Grommet, DIN			
Working Medium	40 micron filtered air or inert gas			
Coil Insulation & Protection Class	IP 65, Class F			
Coil Duty Cycle	100% ED (Continuous Duty)			
Coil Voltage Options	Options: 12, 24 VDC; 24, 110/120, 220/240 VAC (50/60Hz)			
Coil Power	2.5W	3/4.8W		
Valve Body Material	Anodized Aluminum			
Seal Material	NBR (Buna N)			
Lubrication	Not Required			

# 3V120-420 SERIES SOLENOID VALVE DIMENSIONS

## MODEL: 3V120-1/8

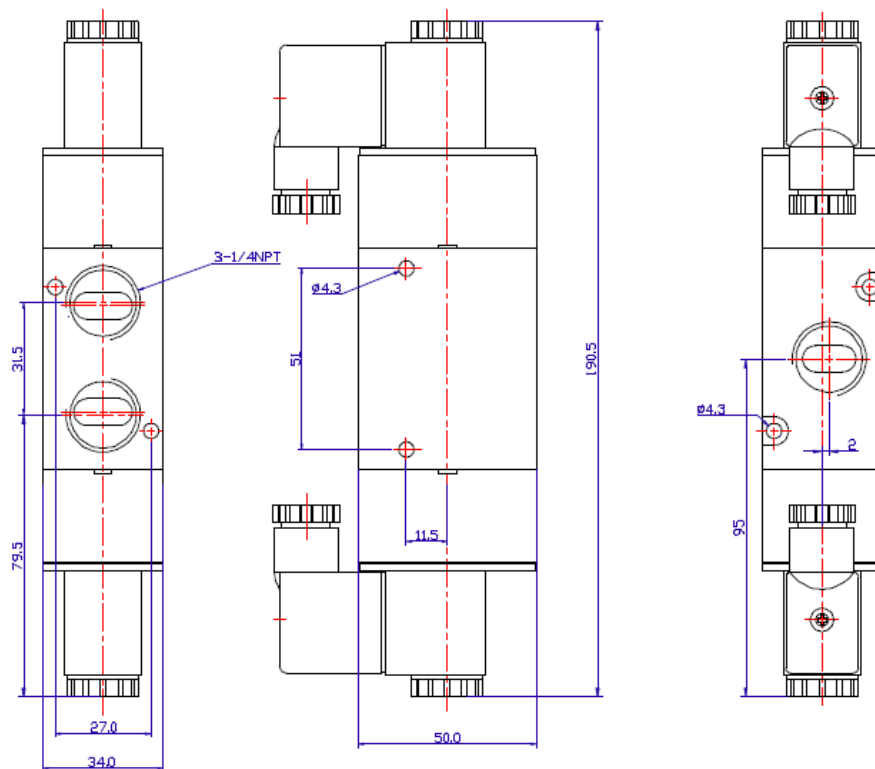
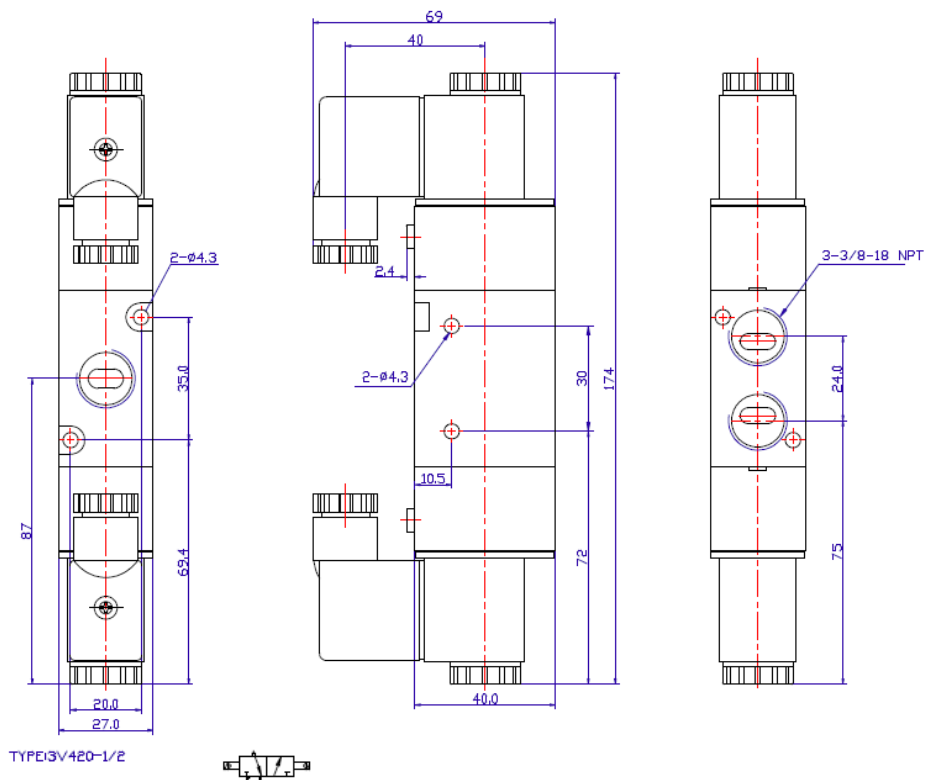


## MODEL: 3V220-1/4



# 3V120-420 SERIES SOLENOID VALVE DIMENSIONS

MODEL: 3V320-3/8



# 3-Way Solenoid Valve

## Models 3V120-3V420

### Installation Procedure

**Note:** This valve is designed for air flow only.

**Warning:** Do NOT over tighten the nut holding the coil to the armature tube. Over tightening may result in damage to the welded joint.

#### Attaching a Coil to a Valve:

1. After wiring the coil, fit the coil assembly over the armature tube. Ensure that the threads of the tube are accessible.
2. Fit the spring or lock washer over the assembly.
  - For spring washers, the concave side should be oriented toward the coil.
3. Tighten the nut over the washer by hand.
  - For spring washers, tighten the nut further until the spring coil is almost completely flat.
  - For lock washers, tighten the nut another quarter turn.

#### Installing a Valve onto a Manifold:

##### Note:

- Manifolds can fit 2, 4, 6, 8 and 16 valves.
- Secure screws until the component will not move freely, and tighten another quarter turn.

##### Procedure:

1. Place a rubber seal over the manifold openings.
2. Line up the valve with port “A” and corresponding pilot holes for the screws.
3. Secure the valve into place.
4. Cover the remaining holes with the provided gaskets.

##### Installation:

1. Connect the source to the port labeled “P”.
2. Connect the outlet to the port labeled “A”.
3. Connect the exhaust to the port labeled “EA”.

## Maintenance and Troubleshooting

**Note:** After an extended period of operation, if you do not hear a clicking sound when the valve is operational, and the wiring is correct, the coil may be burned out and must be replaced. This commonly occurs when input voltages are higher than the coil’s specifications.

##### Procedure:

1. Remove any coils attached to the valve.
2. Unscrew the holding plate and the armature tube and remove it from the valve body. Remove the piston and the spring.
3. Check for any debris that may have collected on the piston and the hole in the center of the valve.
4. Insert the piston and spring back into the valve body.
5. Screw the armature tube and holding plate back into the valve.

#### Reference Figures

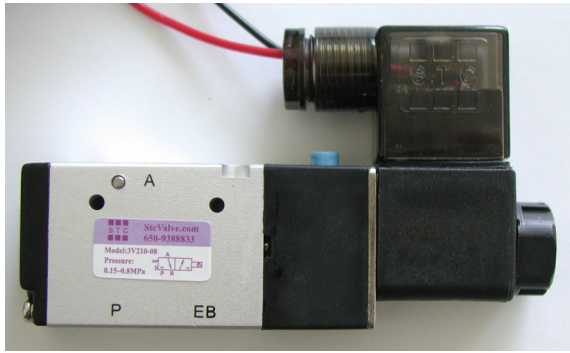


**Figure 1:** Model 3V110 with port labels shown. Model 3V220 has (2) Solenoids and (2) Air Pilots.

## Installation of 3V100-400 and 4V100-400 Solenoid Valves

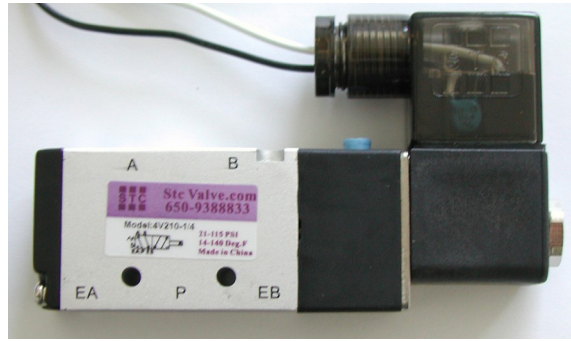
Connect the 3V100-400 3 way valve inlet and out as shown in the diagram :

P = Air Supply Port  
A = Outlet A Port  
EA/EB = Exhaust Outlet A  
(Connection Optional)



Connect the 4V100-400 4 way valve inlet and out as shown in the diagram :

P= Air Supply Port  
A = Outlet A Port  
B = Outlet B Port  
EA = Exhaust Outlet A Port  
(Connection Optional)  
EB = Exhaust Outlet B Port  
(Connection Optional)



## Connection of 3V100-400 & 4V100-400 Solenoid Coils

### Electrical Connections

#### To connect DIN coils:

1. Remove the Philip screw from the plastic housing and unplug it from the DIN coil.
2. From the screw opening, use the screw to push the terminal block out of the plastic housing.
3. Note the 1, 2 and ground markings on underside of DIN enclosure.
4. For DC DIN Coil, Connect 1 to Positive, 2 to Negative.
5. For AC DIN Coil, connect 1 to HOT wire, 2 to Neutral wire, and if required connect ground to ground wire.

#### To connect Grommet coils or Lead Wire DIN coils:

##### DC Coil:

1. If the DC solenoid coil has a red and a black wire, Connect Positive to RED wire and Negative to Black wire.
2. If the DC solenoid has two same color wires, connect Positive to one of the two wires and Negative to the other wire.

##### AC Coil:

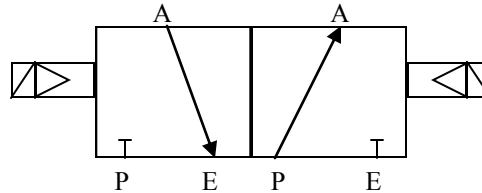
1. If the AC solenoid coil has a black a white wire, Connect the HOT wire to BLACK wire and Neutral to WHITE wire.
2. If the AC solenoid has two same color wires, connect HOT wire to one of the two wires and NEUTRAL wire to the other wire.

**Do not energize the coil without installing it onto the valve, it will burn the coil and create fire hazards.**

## STC Installation and Operation Procedure 3V120-3V420 & 4V120-4V420 Solenoid Valves

### 3V120-3V420 (3 way valve)

SOLENOID



SOLENOID

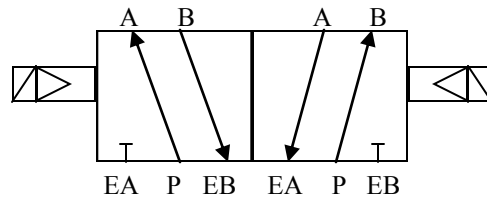
VALVE POSITION    1                      2

**Operations:**

1. When Valve is in Position 1, Port A is connected to Port E. Port P is closed
2. When Valve is in Position 2, Port P is connected to Port A. Port E is closed.

### 4V120-4V420 (4 way valve)

SOLENOID



SOLENOID

VALVE POSITION    1                      2

**Operations:**

1. When Valve is in Position 1, Port P is connected to Port A. Port B is connected to Port EB.
2. When Valve is in Position 2, Port P is connected to Port B. Port A is connected to Port EA.

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### **RETURN OF MERCHANDISE:**

No merchandise is accepted for return 30 days after delivery date. No credit allowed on merchandise shipped as ordered and returned without obtaining an authorization number IN ADVANCE. A 20% restocking charge applies to all returns, and transportation charges must be fully pre-paid. We will pay **ground** transportation charges on re-sent or returned merchandise due to STC's error.

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### **Remittances should be sent to:**

Sizto Tech Corporation, 892 Commercial Street, Palo Alto, CA 94303, USA

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**Credit Application:** To establish a net 30 day account, please mail or fax three trade references with complete mailing addresses and account numbers.

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