

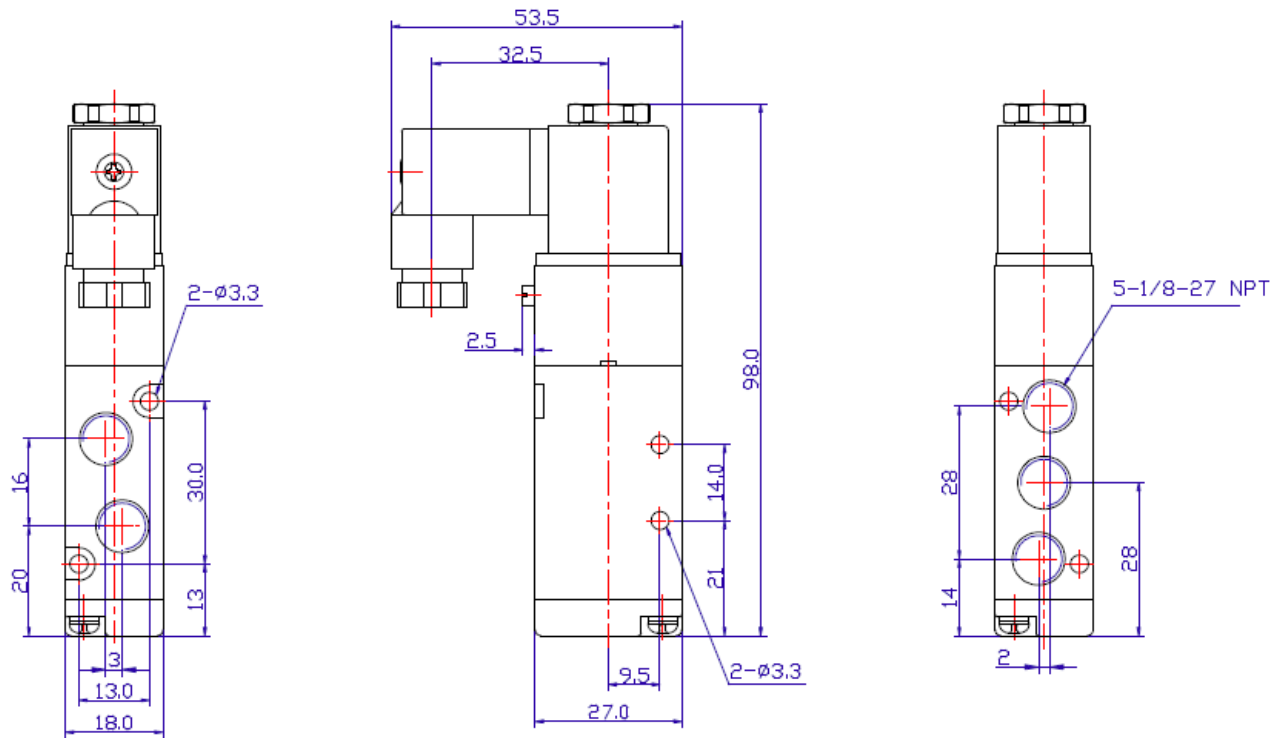
# 4V110-410 SERIES SOLENOID VALVE



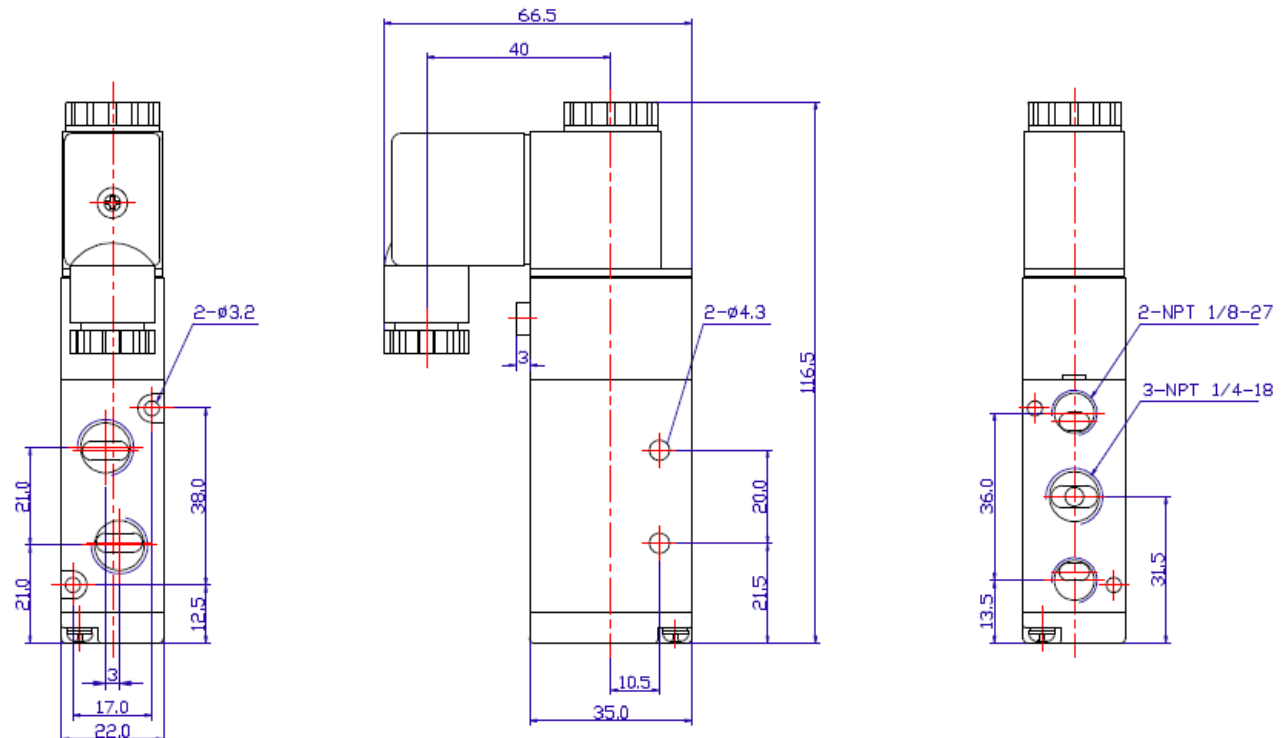
Valve Model	4V110-1/8	4V210-1/4	4V310-1/4	4V310-3/8	4V410-1/2
Port & Mounting	Body Ported, 4-way, 2-position				
Action & Motion	Air Pilot, Spool Design, 4-way, 2-position, Response Time <20 ms				
Operating Pressure	21 to 115 PSI				
Port Sizes	1/8 NPT	1/4 (in/outlet) 1/8 (exhaust)	1/4 (in/outlet) 1/4 (exhaust)	3/8 (in/outlet) 1/4 (exhaust)	1/2 NPT
Operating Temp.	14 to 140 °F				
C <sub>v</sub>	0.67	0.89	1.68	1.68	2.79
SFCM @ 100PSI	25	53	80	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			
Coil Locking Nut	M8X0.75 Threads				
Valve Body Material	Anodized Aluminum				
Seal Material	NBR (Buna N)				
Lubrication	Not Required				

## 4V110-410 SERIES SOLENOID VALVE DIMENSIONS

### MODEL: 4V110-1/8

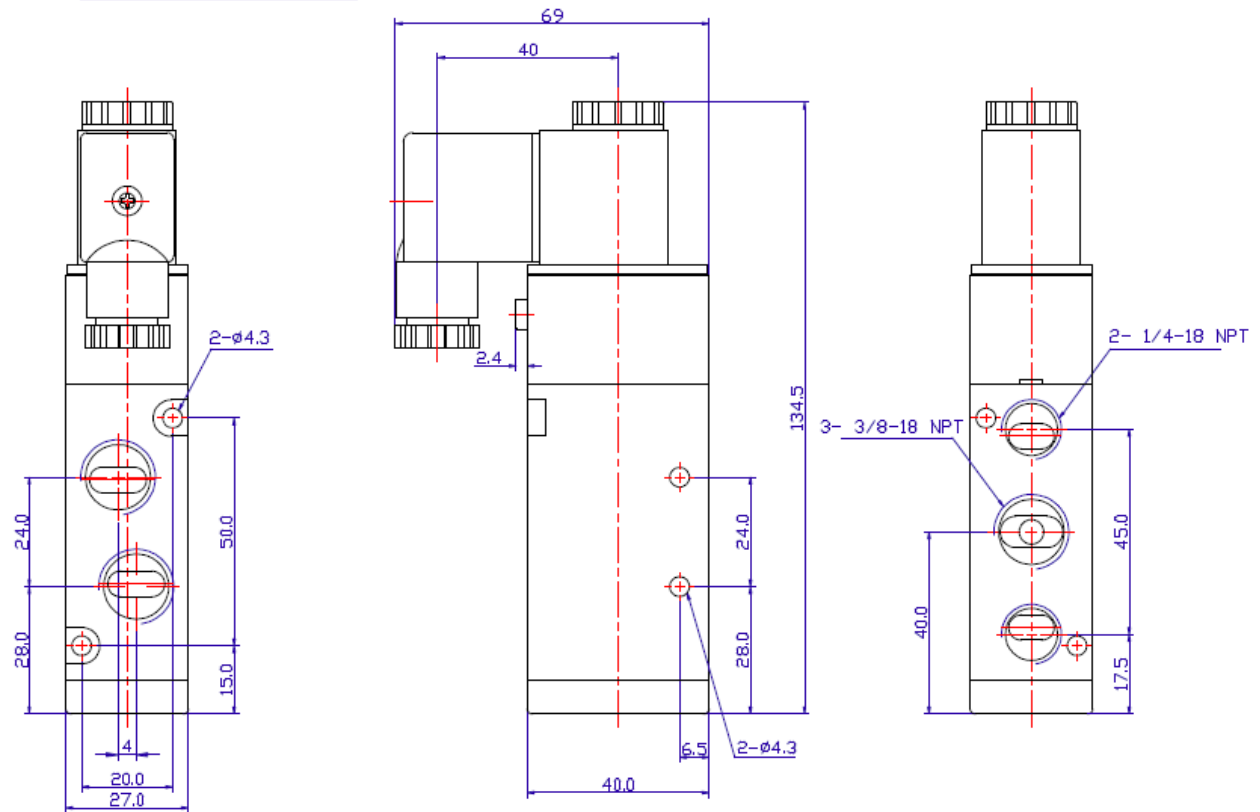


### MODEL: 4V210-1/4

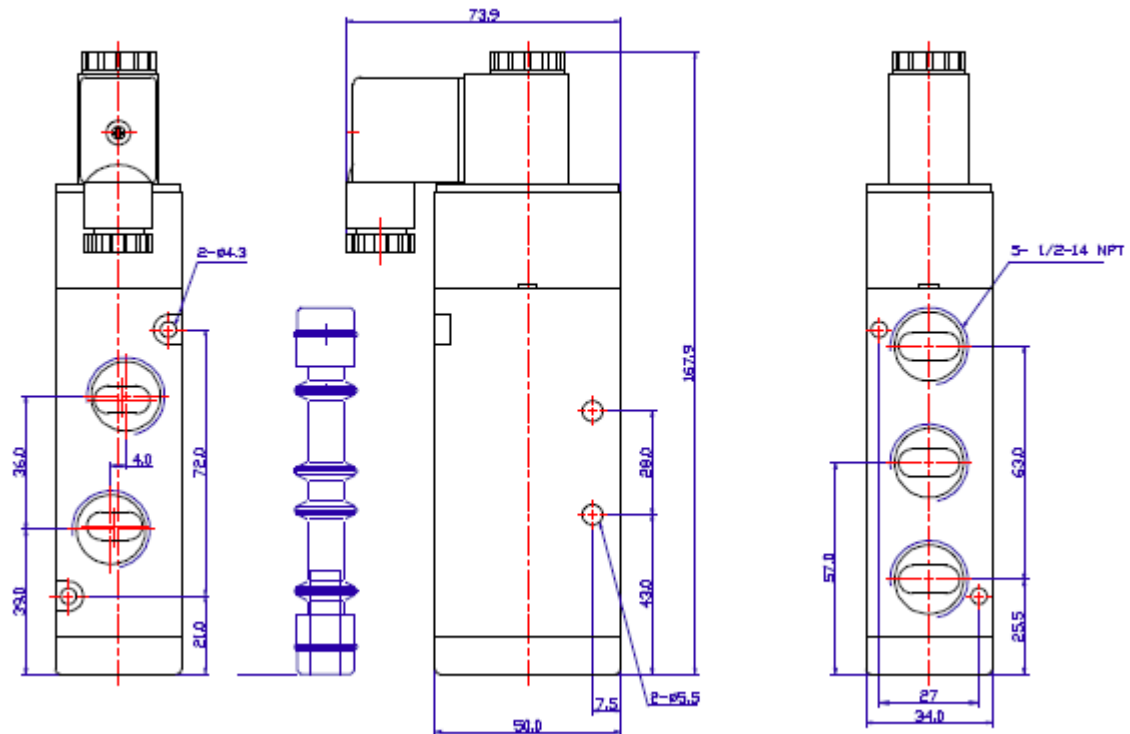


## 4V110-410 SERIES SOLENOID VALVE DIMENSIONS

MODEL: 4V310-3/8



MODEL: 4V410-1/2



# 4-Way Solenoid Valve

Models 4V110-4V410

## 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.
  - o For spring washers, the concave side should be oriented toward the coil.
3. Tighten the nut over the washer by hand.
  - o For spring washers, tighten the nut further until the spring coil is almost completely flat.
  - o For lock washers, tighten the nut another quarter turn.

### Installing Valve onto 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 "P" 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 first outlet to the port labeled "A".
3. Connect the first exhaust to the port labeled "EA".
4. Connect the second outlet to the port labeled "B".
5. Connect the second exhaust to the port labeled "EB".

## 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

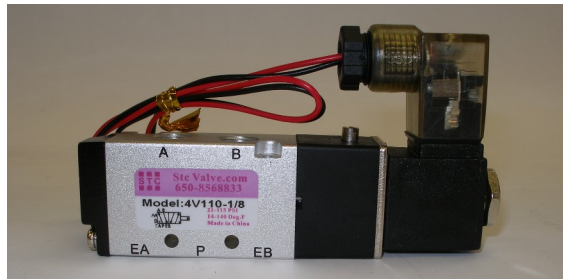


Figure 1: Model 4V110 with port labels shown.



Figure 2: 4-way valve with cutout, showing piston.

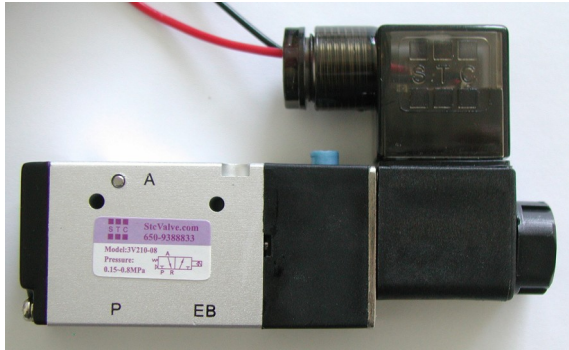
## Installation of 3V100-400 and 4V100-400 Solenoid Valves

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 :

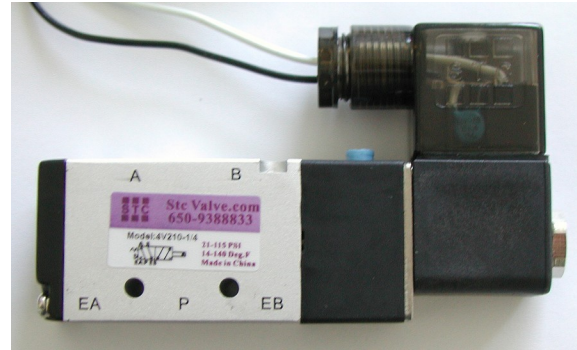
P= Air Supply Port

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:

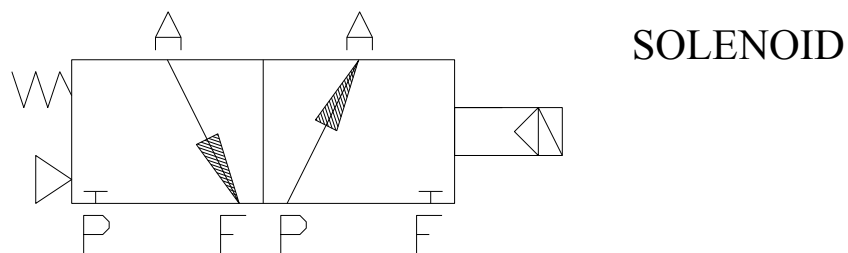
1. If the AC solenoid coil has a black a white wire, Connect the HOT wire to BLACK wire and Neutral to WHITE wire.
2. If the AC solenoid has two same color wires, connect HOT wire to one of the two wires and NEUTRAL wire to the other wire.

**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

### 3V110-3V410 & 4V110-4V410 Solenoid Valves

#### 3V110-3V410 (3 way valve)

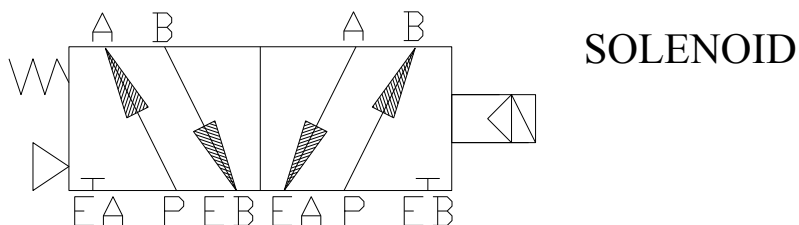


VALVE POSITION    1                      2

**Operations:**

1. When Solenoid is OFF (Position 1), Port A is connected to Port E. Port P is closed
2. When Solenoid is ON (Position 2), Port P is connected to Port A. Port E is closed.

#### 4V110-4V410 (4 way valve)



VALVE POSITION    1                      2

**Operations:**

1. When Solenoid is OFF (Position 1), Port P is connected to Port A. Port B is connected to Port EB.
2. When Solenoid is ON (Position 2), Port P is connected to Port B. Port A is connected to Port EA.

## Terms and Conditions

By purchasing from SIZTO TECH CORPORATION (STC), you agree to these TERMS AND CONDITIONS. No other terms shall apply except as agreed in writing signed by us. We reserve the right to correct typographic errors and reject orders.

### **SHIPMENTS:**

All shipments are F.O.B. 892 Commercial Street, Palo Alto, CA 94303, USA. Most orders are shipped via UPS Standard Ground unless instructions accompany order. Outside the UPS zones, shipment will be made Best Way. The responsibility for goods delay, lost or damaged in transit rests with the carrier and purchaser. Purchaser may purchase shipping insurance to cover lost or damaged products caused by shipping.

### **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.

**Shortages & Mis-Shipments:** Any shortages or mis-shipment must be reported within 15 days.

### **CANCELLATION POLICY:**

Blanket order can be canceled 90 days before scheduled ship date. There will be a 10% charge if a blanket order is cancel within 90 days of scheduled ship date, and a 20% charge if cancel within 60 days. Regular order for non-custom parts can be canceled any time before the order is shipped. For custom parts, a 30% down payment is required either at the time of order or 90 days prior to scheduled ship date, whichever comes later.

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

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

Credit Card Payments: Visa, MasterCard, Discover, or American Express Accepted

**International Customers:** Advance Payment Required via Bank Wire, Cashier's Check or Approved Credit Card.

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

### **LIMITED WARRANTY – IMPORTANT NOTICE TO PURCHASER:**

Sizto Tech Corporation (STC) only warrants this product to be free from defects in materials and workmanship at the time of shipment. This limited warranty expires one year after delivery to the end-user. STC's entire obligation to the Purchaser for breach of this limited warranty shall be limited to replacement of the defective product or refund of the original purchase price of this product, at STC's option. Purchaser has thirty (30) days to return the goods after STC has agreed to accept the return. All freight charges on returned material shall be paid by the Purchaser. STC's limited warranty shall not apply, however, to the product that have been subjected to misuse, alteration, accident or negligence during handling or storage.

### **DISCLAIMER OF IMPLIED WARRANTIES:**

All implied warranties, which may arise by implication of law or application of course of dealing or usage of trade, including, but not limited to, implied warranties of merchantability or fitness for a particular purpose are expressly excluded. There are no warranties, which extend beyond the description of the faced hereof. The end user is solely responsible for the suitability and fitness of this product selected for a particular application.

### **OBLIGATIONS**

You warrant, represent and agree: (1) to comply with all laws; (2) that our sale and shipment of the product will not, by export thereof, your legal status or otherwise, cause us to violate any law; and (3) to indemnify us against any losses from a failure by you or a third party to comply with law or these terms and conditions, or from use of the product.

### **SAFETY WARNING**

**Failure or improper selection or improper use of the components and products described herein or related items can cause death, personal injury and/or property damage.** This document and other related information from STC provide products options for further investigation by users having the technical expertise. It is important that you analyze all aspects of your application and review the information concerning the component or product in the current catalog. Due to the variety of operation conditions and applications for these components or products, the user, through his own analysis and testing, is solely responsible for making the final selection, installation and maintenance of the products and assuring that all performance, safety and warning requirements of the application are met. All products set-ups and maintenance require the supervision of a qualified individual who is familiar with installation, inspection and testing through training or experience.

### **IMPORTANT NOTICE:**

The products described herein, including without limitation, product features, specifications, design, availability and pricing, are subject to change without notice. We continuously improve the products, and we reserve the right to change specifications without incurring any obligation to incorporate new factors in equipment previously sold.



**Sizto Tech Corporation**

892 Commercial Street  
Palo Alto, CA 94303 USA

Tel: 650-856 8833 | Fax: 650-856 8811

Email: Sales@StcValve.com; www.StcValve.com