



# Piston-Type Flow Switches

## P4 Series

### Installation . . .

Unless otherwise specified, the units are factory-calibrated with water mounting in vertical position, with lead wires up. Observe proper direction of liquid flow, as marked "IN" and "OUT" on housing.

Be careful to keep foreign material out of units during installation. Use of 50 micron filtration is recommended. All plastic NPT threads should be installed, using a suitable thread sealant, such as Teflon tape or Permatex "No More Leaks". Sealant must be kept out of unit during installation.

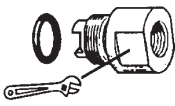
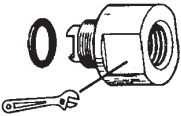
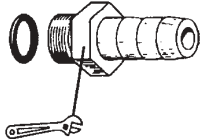
Avoid over-tightening when connecting piping to unit, which is constructed of plastic material. Connection of metallic piping to plastic units is not recommended.

**- Warning -**  
**These flow switches are plastic, straight-thread, O-ring sealed instruments. Over-tightening will result in breakage!**

### Port Adapter Fittings . . .

Install plastic adapters with O-rings (supplied) directly into "IN" and "OUT" ports of the flow switch before installing unit. **CAUTION:** Do not exceed 20 inch-pounds maximum torque when installing adapter fittings. Hold wrench flats on adapters as indicated below when installing unit in piping to prevent additional torque accumulation between adapter and body. (**Note: Port adapter fittings must be purchased separately.**)

### Port Adapters . . .

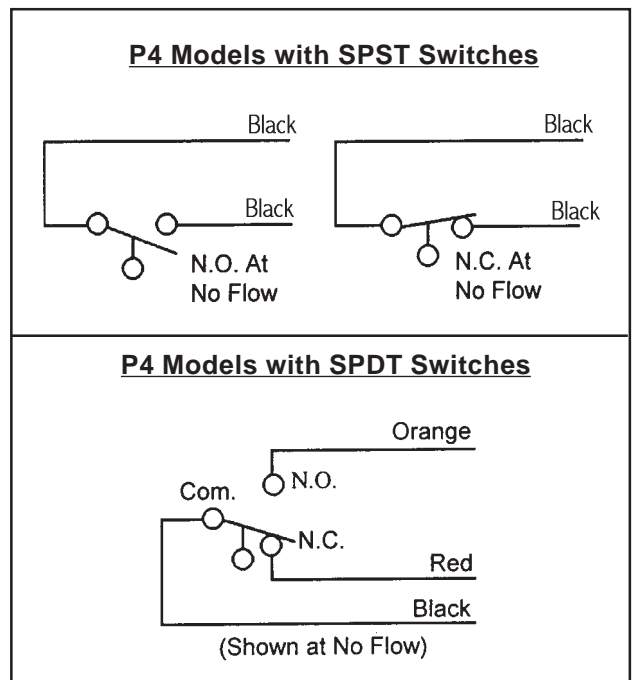
Adapter	Adapter Size	Model Numbers
	1/8" NPT*	P4-98
	1/4" NPT*	P4-94
	1/2" Barb **	P4-92

**Notes**

\* Wrench flats provide for proper assembly

\*\* Accepts 1/2" I.D. flexible hose

### Typical Wiring Diagrams . . .



## Specifications . . .

<u>Wetted Materials</u>	
Housing and Piston	Ryton <sup>®</sup> - R4
O-Ring	Viton <sup>®</sup>
Spring	316 Stainless Steel
Other Wetted Parts	Epoxy
Operating Pressure, Maximum	250 PSIG @ 70°F
Operating Temperature	0°F to 225°F (-17°C to +107°C)
Set Point Accuracy	±15% Maximum
Set Point Differential	20% Maximum
Switch, See "Switch Ratings"	SPST or SPDT, 20 VA
Inlet / Outlet Ports	9/16" - 18 UNF - 2B Thread
Electrical Termination SPST	No. 18 AWG, 24"L. Sarlink Zipcord Lead Wires
Electrical Termination SPDT	No. 18 AWG, 24" L., PVC Lead Wires

## Maintenance . . .

The only maintenance normally required is occasional cleaning when excessive contamination is present in the liquid.

To disassemble the flow switch for cleaning: With system shut down and no liquid in piping, remove: 1) Piston Plug 2) Spring 3) Piston

It is not necessary to remove the unit from the system. Reassemble unit in reverse order; i.e., #3 - #1 above. Use care when handling spring to prevent distortion.

## MAINTENANCE/REPAIR

Regular maintenance of the total system is recommended to assure sustained optimum performance. These devices are not field repairable and should be returned to the factory if recalibration or other service is required. After first obtaining a Returned Goods Authorization (RGA) number, send the unit freight prepaid to the following. Please include a clear description of the problem plus any application information available.

Dwyer Instruments, Inc.

Attn: Repair Department

102 Highway 212

Michigan City, IN 46360

## Important Points!

Product must be maintained and installed in strict accordance with the National Electrical Code and Dwyer product catalog and instruction bulletin. Failure to observe this warning could result in serious injuries or damages.

For hazardous area applications involving such things as (but not limited to) ignitable mixtures, combustible dust and flammable materials, use an appropriate explosion-proof enclosure or intrinsically safe interface device.

The pressure and temperature limitations shown on the individual catalog pages and drawings for the specified flow switches must not be exceeded. These pressures and temperatures take into consideration possible system surge pressures/temperatures and their frequencies.

Selection of materials for compatibility with the media is critical to the life and operation of Dwyer products. Take care in the proper selection of materials of construction, particularly wetted materials.

Life expectancy of switch contacts varies with applications. Contact Dwyer if life cycle testing is required.

Ambient temperature changes do affect switch set points, since the specific gravity of a liquid can vary with temperature.

Dwyer Products have been designed to resist shock and vibration; however, shock and vibration should be minimized.

Filter liquid media containing particulate and/or debris to ensure the proper operation of our products.

Electrical entries and mounting points in an enclosed tank may require liquid/vapor sealing.

Dwyer Products must not be field-repaired.

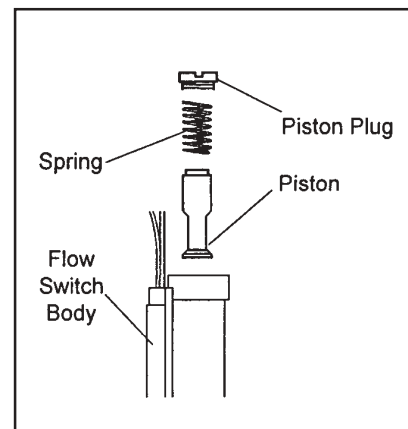
Physical damage sustained by the product may render it unserviceable.

## Switch Ratings Maximum Resistive Load

VA	Volts	Amps AC	Amps DC
20	0 - 30	.4	.3
	120	.17	.13
	240	.08	.06

### Note

The switch mechanism is an hermetically-sealed reed switch for pilot duty only. Refer to electrical data above or consult Factory.



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