

### INSTALLATION AND OPERATING INSTRUCTIONS

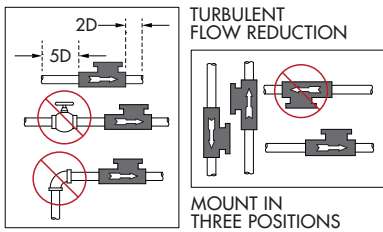
Model Q-8N or CR is normally mounted in a 1½" x 1½" x 1" or 2" x 1" SST PVC Tee, which may be plumbed into the system in vertical or horizontal lines, right side up or inverted using normal PVC pipe cement. Make sure that flow direction arrow on the cover is aligned with the flow in the pipe.

An unmounted Q-8N or CR should be threaded into the 1" NPT stem of the Tee after checking for uniform coating of threads with Teflon tape. Tighten sufficiently to produce a leak-tight seal and continue tightening up to one full turn to align flow direction arrow on cover parallel with flow axis of Tee. Check through open end of Tee that drag strip moves freely and is perpendicular to the flow axis. Install in pipe with flow direction arrows pointing correctly in flow direction.

Plumbers' tools such as pipe wrenches are not recommended. If possible, use a "Rigid" type wrench where the smooth jaws closely fit the hexagon section.

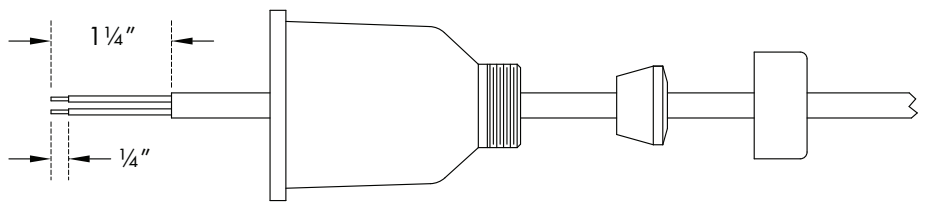
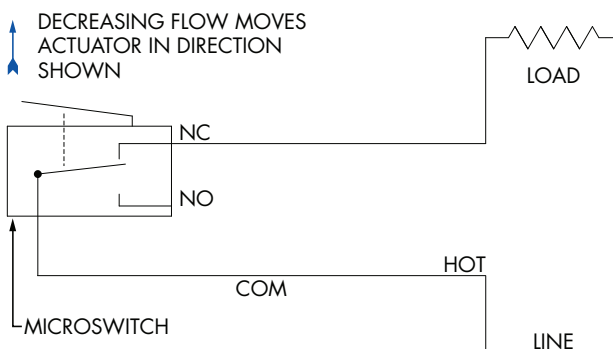
### ELECTRICAL WIRING

1. Remove strain relief nut, grommet, and switch cover.
2. Strip outer jacket of electrical cord back approximately 1¼". Strip insulation from individual conductors back approximately ¼"
3. Slip-on terminals are supplied with each switch. Remove from switch terminals and crimp on or solder to electrical leads.
4. Feed electrical cable through strain relief nut, grommet, and switch cover as shown.
5. Apply slip-on terminals to appropriate contacts of microswitch. Slide cover down cable and fasten to body of switch with four (4) screws provided. Slide grommet down cable until outer jacket is level with small end of grommet. Push grommet into tapered end of cover. Hold cable jacket to prevent rotation and thread strain relief nut firmly onto cover.



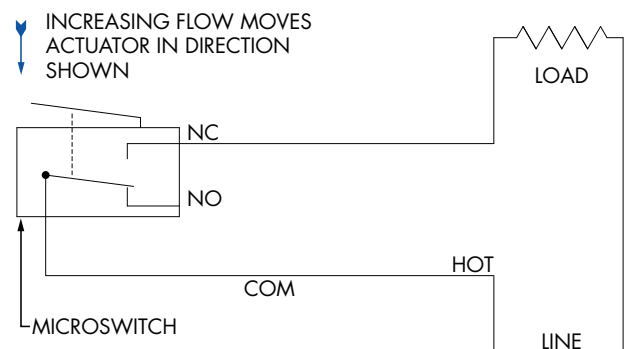
**Fig 1:** Wiring schematic for power applied to load when flow is less than set point (power to load interrupted when flow increases to above set point).

Decreasing flow moves actuator in direction shown.

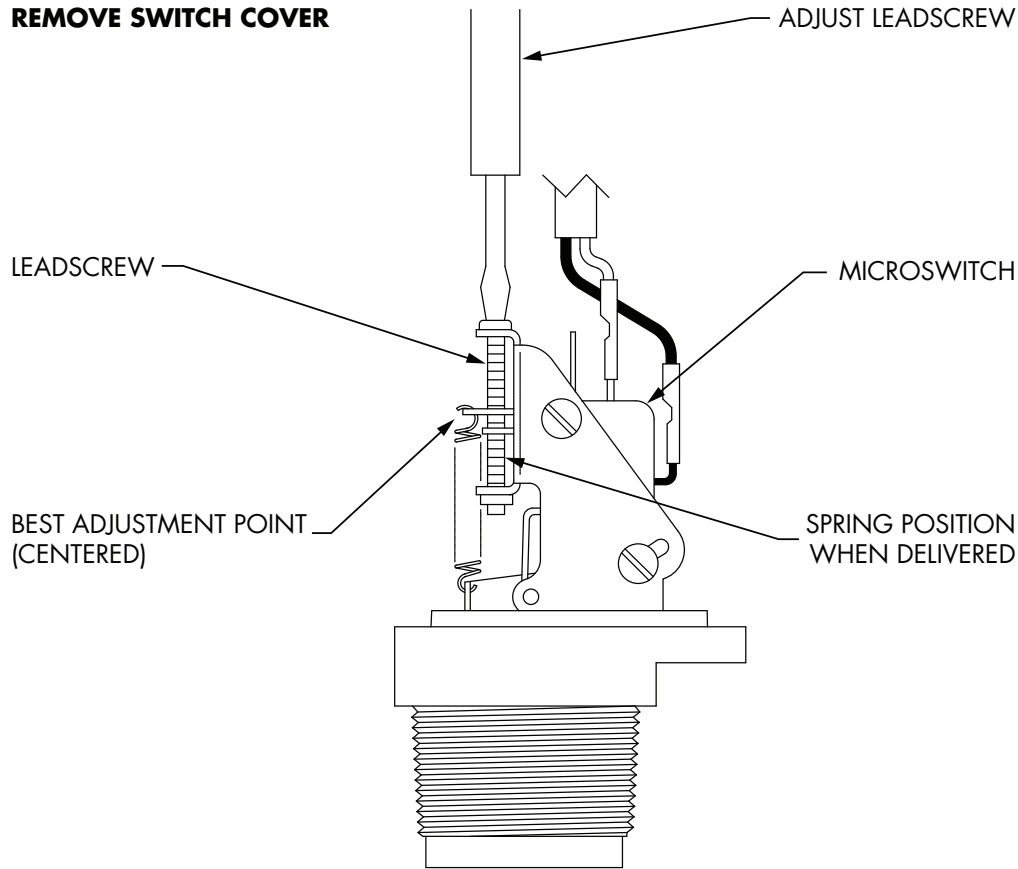


**Fig 2:** Wiring schematic for power applied to load when flow is greater than set point (power to load interrupted when flow decreases to below set point).

Increasing flow moves actuator in direction shown.



## SWITCH POINT ADJUSTMENT



1. Remove switch cover.
2. Adjust fluid flow in system to desired rate **WITHOUT** regard to Q-8 switch point setting.
3. The switch point adjusting mechanism consists of an adjusting screw, a "U" shaped lead screw nut, and a spring.

### NOTES:

CLOCKWISE rotation of the adjusting screw changes the microswitch actuation point toward HIGHER flow rates.

All Q-8 units are factory set at the lower end of the flow range, e.g. the adjusting screw is set at the low flow counter-clockwise position.

The lead screw nut locks the adjusting screw in position, maintaining the flow switch set point under all environmental conditions.

4. Turn the adjusting screw in a clockwise direction until the microswitch is actuated, while maintaining the desired fluid flow rate in the system. Turn the adjusting screw TWO (2) additional turns in the

## SWITCH POINT ADJUSTMENT (CONTINUED)

clockwise direction and then slowly back off in a counter-clockwise direction, until the microswitch is again actuated. The Q-8 flow switch is now set for maximum sensitivity for detecting small flow changes.

5. When set for maximum sensitivity (100% point) as described in STEP 4, flow turbulence may cause rapid on/off switching (dithering) of the microswitch contacts, resulting in reduced switch contact life and "noise" in the electrical circuit. This is eliminated by turning the adjusting screw in a counter-clockwise direction.
6. Microswitch actuation point may be monitored during the adjustment procedure detailed in STEPS 4 and 5 by an audible click or with an ohmmeter before connecting line power to the terminal strip, or by monitoring the voltage supplied to the load through the microswitch.
7. If the system flow rate is changed, the Q-8 can be adjusted to monitor the new flow rate by turning the adjusting screw in a counter-clockwise direction to the minimum flow position and then proceeding as in STEPS 4 and 5 above.
8. In the event that the system flow is at the desired rate and the adjustment mechanism runs out of travel (e.g., the lead screw nut is at either end of the support bracket before the microswitch is actuated), then the drag disk must be changed to shift the set point range so that it straddles the system flow rate.