

FLT93C Thermal Flow Switch Helps Clean Up In Demanding Sanitary CIP Processes

Helps Assure Continuous Liquid Flow Rate in Cleaning Systems

San Marcos, CA — Engineers responsible for maintaining a sanitary environment in pharmaceutical, biotechnology and food/beverage plants will find that the [FLT93C Flow Switch](#) from [Fluid Components International \(FCI\)](#) provides accurate liquid flow rate measurement for clean in place (CIP) system operational integrity.

The sanitary FLT93C Thermal Flow Switch, with its stainless steel wetted materials and standard 20Ra finish, available in either mechanical polish or electro-polish finishing, supports

both skid-mount and stationary clean-in-place (CIP) systems. The purpose of these important systems is to ensure all the process piping and equipment is thoroughly cleaned per ASME BPE standards to avoid contamination.

Monitoring the process cleaning solution's minimum liquid flow rate with the FLT93C Thermal Flow Switch ensures the flow of liquid fluid is maintained during the entire cleaning process runtime. This switch operates over a wide flow range of 0.01 to 3.0 fps (0.003 to 0.9 mps), and it also offers excellent accuracy of $\pm 0.5\%$ reading or ± 0.04 fps (± 0.012 mps).

Relying on its unique temperature compensation technology, the FLT93C Flow Switch is the industry's only thermal switch that ensures set point accuracy for process temperatures that can vary up to $\pm 100^{\circ}\text{F}$ (37.8°C). The FLT93C is easily field-configured or factory preset, providing unparalleled flexibility, accuracy and stability for all multiple process sensing and switching requirements.

Suitable for 0.7 to 4-inch (19.05 to 101.6 mm) sanitary tubing process lines, the FLT93C Flow Switch connects with a secure tri-clamp fitting for easy removal for inspection and servicing. The 316L stainless steel wetted materials are available in both mechanical polish (SF0 to SF3) and electro-polish (SF5 and SF6) surface finishes with 20 Ra maximum (μin) finish; 10 Ra maximum (μin) electro-polish finish (SF 4) is available upon request. The FLT93C construction complies with ASME BPE requirements.

Beyond its application in CIP systems, other pharmaceutical uses of the FLT93C Flow Switch include compendial water systems (WFI, PW and HPW) and solution preparation systems (buffer solution).

Special options are available for applications requiring more corrosion resistant, wetted materials such as Hastelloy C and Class 1, Div 1 and 2 hazardous areas.



The FLT93 Series Switch is a dual-function instrument that indicates both flow and temperature, and/or level sensing in a single device. Dual 6A relay outputs are standard and are independently configurable to flow, level or temperature.

Based on FCI's thermal dispersion expertise, the unique sensor technology of the FLT93C Series Switches, combined with FlexSwitch™ temperature-compensation circuitry, introduces unparalleled performance measurement capabilities:

- Liquid level resolution of ± 0.1 inch (± 2.5 mm); repeatability of ± 0.05 inch (± 1.3 mm)
- Standard temperature accuracy $\pm 2.0^{\circ}\text{F}$ ($\pm 1^{\circ}\text{C}$); repeatability is $\pm 1.0^{\circ}\text{F}$ ($\pm 0.6^{\circ}\text{C}$); improved temperature accuracy is available with factory calibration

One standardized, field-configurable FLT93 FlexSwitch control circuit satisfies virtually any combination of application requirements. FCI's advanced FlexSwitch technology can be packaged in integral or remote configurations for installation flexibility.

The FLT93C Switch beats the heat, too. It is available with a choice of sensors including one that is suitable for process temperatures up to 350°F (176.67°C) and one that is suitable for temperatures up to 500°F (260°C). Hazardous approvals available for the FLT93C Switch include ATEX and EAC/TRCU. Fluid Components International is a global company committed to meeting the needs of its customers through innovative solutions for the most challenging requirements for sensing, and measuring flow, level, and temperature.