HOW TO SELECT THE CORRECT FLOW SENSOR

A flow switch is a device that is used to monitor the flow of a liquid, air or other gaseous media. A flow switch can send a signal to a circuit, device or system indicating that a predetermined flow condition has occurred. Flow switches are available in many different types and configurations, each suited to different applications. For example, a flow switch may be used as an alarm, as an indicator, to control a pump, or to provide a signal to another device.

Considerations

When considering what type of flow switch to employ, it is vital to understand the application into which the switch is to be introduced. Important factors are:

- The fluid flow rate that will require a signal from the flow switch. ('Must operate' and 'must release' flow rates).
- Electrical load to be switched: Voltage, Current, Power, resistive, capacitive or inductive.
- Electrical earth continuity requirement (IEE regulations).
- The fluid type (to ensure chemical compatibility with the switch wetted parts).
- Working temperature and pressure.
- Flow direction.
- Position in the flow circuit, e.g. before or after a pump. Straight pipe length before or after switch.
- Mounting type: In-line or externally mounted, horizontal or vertical, pipe thread.
- Delay required.
- Space envelope available.
- Connection and Cable: Junction box, Flying lead, cable length and type.
- Approvals required: WRAS, UL, NSF, etc.
- Likelihood of deposit build up. Probability of (and size of) solid particles in the fluid flow.

Types

In-line flow switches are designed to be incorporated into pipework, forming part of that pipework. Externally mounted flow switches are designed to be fitted onto pipework, mounted through a boss, socket or upstand process connection. In-line switches are hence sometimes more difficult to replace as they require pipework to be broken down. Some flow switches are fitted with on-board electronics allowing them to control equipment such as a pump directly through the use of an inbuilt relay.