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KLC Operating Overview

The KLC is a device which uses plant air to function as a bubbler sensor and controller within a single enclosure. It does not need another converter and provides direct-acting, modulating pressure to the system's proportional control valve.

Its single module design and air conversion process is simple and there are specific advantages over direct contact pressure transducers, ultrasonics, lasers, probes, ball floats, or load cells. Some of which are:

- It needs no electrical connections nor external sensors.
- There are no moving parts.
- The sensing tube is not vulnerable to fouling like typical ball floats or probes.
- The tube just needs a small opening, therefore it can fit almost anywhere.
- There is no need for clearance to accommodate linkage movement as required by ball floats.
- The output is a direct acting pressure at either, 0 to 35 psi or 0 to 100 psi.
- It can serve almost any diaphragm or cylinder actuator.

Its main application is to monitor liquid levels in reservoirs where fluids are continuously flowing in and out to satisfy a process. It will constantly maintain a liquid level and when inlet liquid flows change, the KLC will adjust the output flow accordingly. In effect it performs a flow control function as well.

The units are factory-fitted with a full open to full closed operating range of three inches. A one-inch wide range is also available. The set up of the device requires the sensor tube to be submerged in the fluid at least 6 inches below the surface of liquid it is to maintain.
A center line scale (which is provided) is used to position the tube so its mid-range is at the desired level.

The concept is that the mid-range point will be where the flow leaving the reservoir will match the flow entering the reservoir. This will give the KLC the flexibility to adjust for the variables since the three-inch range has a full open to full close band.

When it is necessary to change the set point for the maintained level, it is accomplished by merely moving the tube up or down. The centerline scale will show the amount of movement needed to establish the new level.

The KLC has two standard models; Low pressure model, 0-35 psi output, and High pressure model 0 to 100 psi output. The output pressure from the KLC is connected to the appropriate actuator. It can be a direct connection if the pressure required by the actuator matches the pressure range of the KLC. If the actuator needs a higher pressure or more air flow than that produced by the particular KLC model, a positioner can be used. In some cases where the actuator needs a pressure range which is higher than the KLC model of 35 psi, it may be more economical to use it with a positioner than to install the High pressure KLC model, 0 to 100 psi.

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