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You've got choices.

Improving accuracy and minimizing costs of bubbler systems

Do you use air bubbler systems to measure level?

An air bubbler system uses a tube with an opening below the surface of the liquid level. A fixed flow of air is passed through the tube. Pressure in the tube is proportional to the depth (and density) of the liquid over the outlet of the tube. Air bubbler systems are a good choice for open tanks at atmospheric pressure and can be built so that high-pressure air is routed through a bypass valve to dislodge solids that may clog the bubble tube. The technique is inherently "self-cleaning". It is highly recommended for liquid level

measurement applications where ultrasonic, float or microwave techniques have proved undependable.

Hopefully, your bubbler systems are providing you the greatest benefit at the lowest cost. But technology offers us alternatives. Siemens Process Instrumentation, with a full portfolio, including pressure transmitters, pneumatic regulators, and ultrasonic level instruments, can help you with a variety of systems. Let us help you determine your needs and fulfill them.

Answers for industry.

Bubbler Systems: Your choice

Air bubbler systems contain no moving parts, making them suitable for measuring the level of sewage, drainage water, sewage sludge, night soil, or water with large quantities of suspended solids. The only part of the sensor that contacts the liquid is a bubble tube which is chemically compatible with the material whose level is to be measured. Since the point of measurement has no electrical components, the technique is a good choice for classified Hazardous Areas. The control portion of the system can be located safely away, with the pneumatic plumbing isolating the hazardous from the safe area.

But there are some challenges, too. Bubbler systems require periodic maintenance to maintain level accuracy. They include compressors, which can result in a greater energy cost. To meet your budget, you want to minimize repair costs, repair time and energy costs, while meeting environmental regulations.

Improve your bubbler system

If you have an existing bubbler infrastructure in place, the easiest choice is to upgrade your instruments to improve your performance and lower your maintenance costs with minimal investment. Siemens instruments, such as the P300 pressure transmitters, the 91F60 Combination Filter-Regulator, and the Series 62 Constant-Differential Relay provide high accuracy to help you maximize the productivity of your bubbler system. Still, you will need to build in some ongoing maintenance for this system.

Eliminate the maintenance

You can eliminate maintenance costs by changing to another system. The LUT400 ultrasonic level controller can eliminate many of the costs associated with a bubbler system. The LUT400 is a non-contacting Ultrasonic Level system. Since the system does not come in contact with the process or material, there are no real on-going maintenance issue to deal with such as cleaning the rag build-up, clogs, and scale build-up from the air tube. Since the Ultrasonic Level sensor does not need a compressor to work, there is an immediate energy cost savings. This does require an initial upgrade and some investment, but here's what you can expect:

- Higher accuracy, with less degradation of accuracy
- Far less maintenance
- No compressor, or the associated energy cost or maintenance

So what will you do?

Your solution really depends on the frequency and cost of maintenance of your bubblers, as well as the number of units. Contact your local Siemens provider for a free consultation.

SITRANS P300

The SITRANS P 300 pressure transmitter offers the measuring precision and ruggedness already known from the SITRANS P DSIII.

SITRANS LUT400

SITRANS LUT400 series ultrasonic controllers with one-millimeter (0.04-inch) measuring accuracy offer the highest accuracy available on the market with consistently precise measurements. The compact, single point ultrasonic controllers continuously monitor and control level in liquids, solids, or slurry applications.



SITRANS P300



SITRANS LUT400

Partnering for success: Service and Support

Siemens backs up every instrument with top-of-the-line service and support, including:

- 24/7 technical support
- Field Service personnel with years of experience.
- A Quick Ship program for fast replacement of instruments
- State of the art training facilities and CEU credits

Siemens offers a comprehensive range of process instrumentation for pressure, temperature, flow and level measurement. Pneumatic valve positioners, process recorders, and process protection devices – in addition to weighing technology – complete the package. Whether you need a single transmitter or a complete instrumentation package, Siemens has the technical expertise for your project.

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