

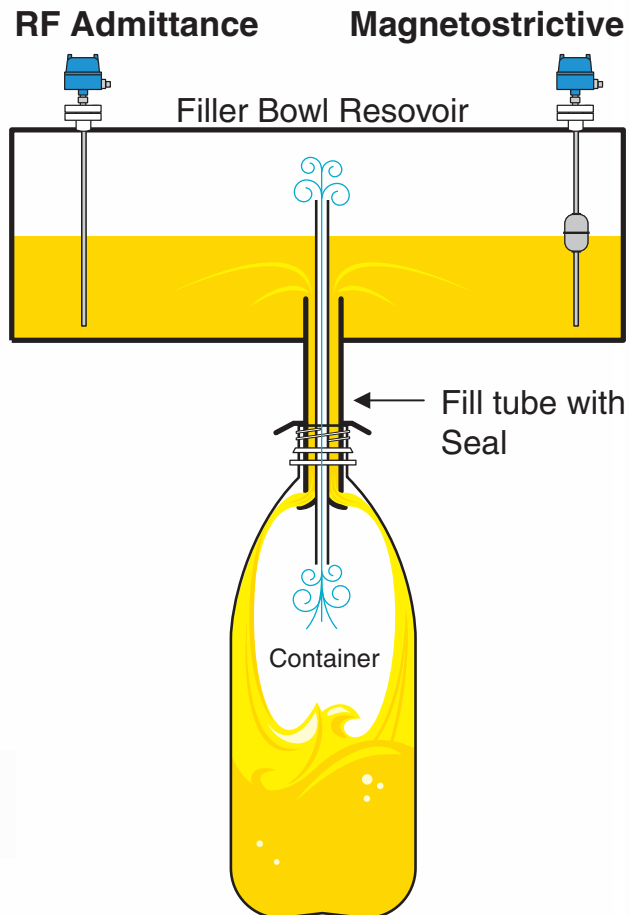
DREXELBROOK Level Measurement Technologies Provide Accurate Level Control & Ignore Foams in Filler Bowl Applications.

RF Admittance and Magnetostrictive technologies have a proven performance record in gravity feed flow control for the dispensing of liquids into bottles or containers.

In high speed bottling operations many different filling methods can be used depending on the nature of the product and type of container being filled. For many Food and Beverage, and Pharmaceutical applications the preferred filling method is by using level measurements to control the gravity flow of liquids into bottles or containers from the filler bowl. The level measurement method is very consistent with liquids and slurries to prevent over-filling or under-filling of a bottle or container by keeping a consistent product level in the filler bowl.

Level filling is the oldest filling method and is still largely favored in specific markets. This is largely due to products being sold in translucent containers. The consumer expects to see that all containers are filled to the same precise level and will reject a container with a level lower than others on the shelf.

In a gravity feed filler bowl, the natural head pressure of the liquid is used to fill each bottle. The liquid level in the filler bowl must be kept at a constant level so the pressure within the filler bowl remains constant. This permits each bottle or container to fill to the correct level in the same amount of time.



The Problem:

Hydrostatic pressure level measurement systems, which have been traditionally used for this application, are found to have errors in level measurements when changing from one process material to the next, which usually has a slightly different specific gravity. As the process fluid's specific gravity is changed, this leads to either an over-fill or under-fill condition.

The Solution:

AMETEK-Drexelbrook provides sanitary 3A approved systems in both RF Admittance and Magnetostrictive technologies for use in filler bowl measurements that remain unaffected by changes in specific gravity, changes in temperature or changes in pressure or vacuum. Both technologies can provide the accuracies that are required for reliable performance in the face of light or heavy liquid viscosities, foaming conditions, and have the ability to ignore process coatings that may develop on the sanitary sensors. The sensors are of rugged construction and will not be affected by the shock or vibration of the bottling process.

- RF Admittance systems are supplied with a Triclover fitting with a rigid Teflon coated sensor the length of the measurement range. Accuracy is $\pm 1\%$ of measured span. Systems are agency approved as intrinsically safe for Class I, Div. 1 hazardous installations. RF Admittance has the ability to measure a wide range of process materials and ignore most foam and process build-up on the sensor. Systems are powered by a two-wire, 24Vdc power source.
- Magnetostrictive systems are supplied with a Triclover fitting and use a 240 grit finished 316SS rigid sensor and float. Accuracy is 0.1% of measured span. Systems are agency approved as intrinsically safe for Class I, Div. 1 hazardous installations. Magnetostrictive systems can easily ignore foaming conditions as the float will sink through the foam and rest on the liquid surface. Systems are powered by a two-wire, 24Vdc power source.

AMETEK-Drexelbrook systems can provide analog 4-20 mA, HART, or Honeywell DE outputs. Sensor lengths can be as small as a few inches to over 10 ft. All systems are maintenance free and can be easily configured without complex calibration.

AMETEK-Drexelbrook has successfully supplied filler bowl level measurement systems to many major Food & Beverage and Pharmaceutical customers over the past 40 years and have hundreds of successful applications on products such as milk, fruit and vegetable juices, jellies, baby foods, soups, beer, spirits, ground meat, pet foods, sodas, and more.

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