



## APPLICATION: DETECTION OF MICRO AIR BUBBLES IN REAGENT LIQUIDS



<b>Task</b>	:	Detection of micro air bubbles < 1 $\mu$ l
<b>Method</b>	:	Ultrasonic measurement
<b>Tubing OD</b>	:	3/16" / 4.76 mm
<b>Tubing ID</b>	:	1/16" / 1.59 mm
<b>Tubing Type</b>	:	PTFE
<b>Solution</b>	:	SONOCHECK ABD06.50

### Application

A world-leading life science technology company located in the United States that is developing protein biology products was looking for a solution to monitor the filling process within their reagent production. During the distribution process, the reagents have the tendency to develop bubbles. While bubbles will not harm the reagent itself, they cause an inaccurate amount of product per fill. Variations are accepted by the customer but only to a certain extent.

In order to prevent or limit those variations, the customer decided to implement a tool which is able to detect air bubbles. They believed that applying a sensor which detects air bubbles and hence limits the filling variations would increase customer satisfaction. This way the manufacturer would also create a unique selling proposition for their life science products and maintain their reputation for high quality in the industry.





## Solution

The tubing in this application has a relatively small outer diameter, which makes it hard to find a sensor that fits. After several tests SONOTEC determined the Air Bubble Sensor SONOCHECK ABD06.50 as the most suitable non-invasive solution. The sensor is able to show bubbles smaller than 1  $\mu\text{l}$  in PTFE tubing. The customer appreciates SONOTEC's product due to the advanced software which allows for easy parameterization and monitoring of the sensor performance. They utilize the serial communication protocol to monitor the amplitude of the bubble and track the approximate loss of the reagent liquids.

## Example

These pictures show the effect of different customer settings. The thresholds can be adapted according to the requested sensor sensitivity.



## Additional Information

[www.sonotec.eu](http://www.sonotec.eu)

Revision: 1; Date: 2014-08-20

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