

SONOCHECK ABD06 AIR BUBBLE SENSORS

The perfect tool to detect micro bubbles non-invasively

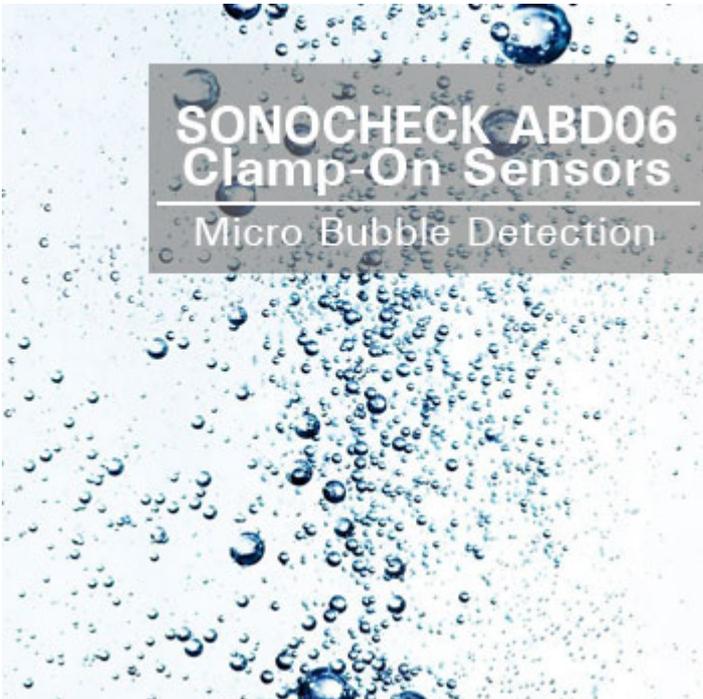
AT A GLANCE

Non-invasive
SONOCHECK
ABD06 air bubble
detectors for micro
bubble detection

Numerous
applications within
the field of
bioprocessing
(such as in in DNA-
Analysis Machines
| to monitor filling
processes in
reagent
production)

Detection of micro
bubbles smaller
than 1 μ l

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SONOCHECK ABD06
Clamp-On Sensors

Micro Bubble Detection



SONOCHECK ABD06.85
Clamp-On Sensors

Micro Bubble Detection in DNA Analysis

SONOCHECK ABD06.50 Clamp-On Sensors

Micro Bubble Detection in Filling Processes



I. Micro Bubble Detection in DNA-Analysis Machines

SUMMARY

TASK	Detection of micro air bubbles < 1 µl
TUBING OD	1/16" / 1.59 mm
TUBING ID	1/32" / 0.79 mm
TUBING TYPE	PEEK and PTFE
SOLUTION	Ultrasonic Air Bubble Detector SONOCHECK ABD06.85

APPLICATION | DNA-ANALYSIS MACHINE

A well-known biomedical device manufacturer located in the United States is in the development of a new DNA analysis machine. This instrument is used to determine the order of the four bases - adenine, cytosine, guanine and thymine - given from a DNA sample. The machine would be a cost effective solution for rapid analysis in hospitals and other laboratories or treatment facilities.

The customer utilizes two proprietary liquids to assist in DNA analysis. The liquids are introduced in an automated process. During this process, a chance of air bubbles smaller than 1 µl can develop. A 1 µl bubble can completely destroy a sample set or give false results.

SOLUTION | SONOCHECK ABD06.85

After several tests, SONOTEC was able to determine that the **SONOCHECK ABD06.85** Air Bubble Sensor was the best non-invasive solution. Sensitivity was optimal and SONOTEC's engineering department showed bubbles of < 1 µl in PEEK and PTFE tubing. The customer selected SONOTEC's product due to the advanced software and the reliability of using ultrasound for non-invasive air-in-line detection.

II. Micro Bubble Detection to Monitor Filling Processes in Reagent Production

SUMMARY

TASK	Detection of micro air bubbles < 1 µl
TUBING OD	3/16" / 4.76 mm
TUBING ID	1/16" / 1.59 mm
TUBING TYPE	PTFE
SOLUTION	Ultrasonic Air Bubble Detector SONOCHECK ABD06.50

APPLICATION | FILLING PROCESS

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 | SONOCHECK ABD06.50

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 μl 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 Software Parameterization

These pictures show the effect of different customer settings.

The thresholds can be adapted according to the requested sensor sensitivity.



FURTHER PRODUCT INFORMATION



SONOCHECK ABD06 Air Bubble Sensor | Industrial Applications

...for deployment in hard industrial environments

APPLICATION NOTES & WHITE PAPER



WORLDWIDE



Do you have any questions?

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