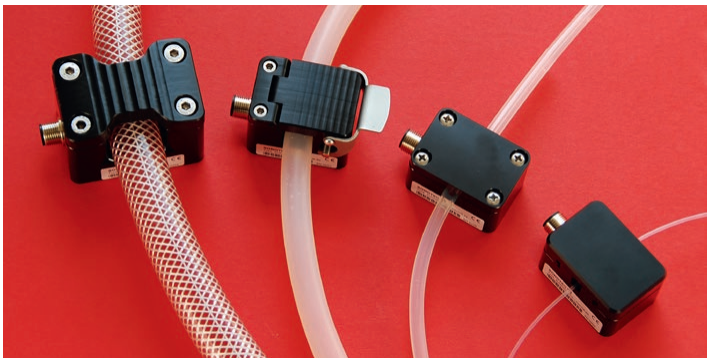
SONOCHECK® ABD06

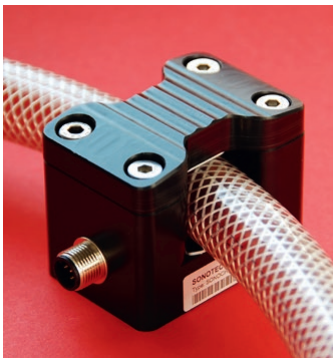
Non-contact Bubble Detectors | Bioprocessing

SONOTEC

Process monitoring of liquids in biopharma lab and production environments enables continuous control and optimization of critical process parameters. Hence, the early detection of air bubbles is an effective instrument for making processes more stable, productive and efficient, and reducing costs in the long term. Highly precise and flexible **non-contact clamp-on SONOCHECK® ABD06 bubble sensors** are perfect for continuous air bubble monitoring and full / empty detection.

SONOTEC® implemented a patented closed loop algorithm to ensure a fast detection of even smallest bubbles and to guarantee constant bubble sensitivity widely independent of the quality of the acoustic coupling. SONOCHECK® ABD06 bubble sensors can spot bubbles down to 1 / 3 of the inner diameter of the tubing. Thus, the bubble detectors profit from SONOTEC's long-term experience in developing medical grade bubble detectors for hemodialysis and ECMO machines.





KEY FEATURES

- High grade sensors for air bubble monitoring and full / empty detection
- Compact sensor design with integrated electronics for data processing
- Non-contact clamp-on mechanism enabling direct measurement through the tubing wall
- For a wide range of bioprocessing-specific plastic tubing, such as platinum cured silicone, TPE, reinforced tubing, PVC, PE, PFA, FEP
- No contamination and no shear stress on cells due to contact-free sensor
- Suitable for WFI, cell culture media, buffer solutions, and most aqueous solutions
- Stable sensor reliability to changing acoustic conditions, such as moderate changes in buffer solution concentration, fluid density as well as viscosity
- Optional sensor version with ATEX certification for use in hazardous areas

APPLICATIONS

BIOREACTORS / FERMENTATORS	Detection of excessive foaming in feed / harvest lines
CHROMATOGRAPHY	Prevention of air being pumped into columns & diversion of air infused liquids around the columns
TANGENTIAL FLOW FILTRATION	Prevention of air entry into filter cassettes
FEED STREAM	Continuous monitoring for air bubbles in the feed to prevent from air entry into the filter
PUMP PROTECTION	Detection of air bubbles caused by cavitation and protection from dry running
TRANSFER LINES	Notification, when transfer reservoirs run dry
FILL & FINISH	Detection of undesired air entering vessels to be filled

SONOCHECK® ABD06 | TUBING SIZE CHART

Tube OD inch	Soft / Flexible Tubing		Hard Tubing PE, PTFE, FEP, PFA, Teflon		Braided Tubing		RS485	UART	4-20 mA	PNP
	SONOCHECK® Sensor	Lid Order No.	SONOCHECK® Sensor	Lid Order No.	SONOCHECK® Sensor	Lid Order No.				
0.0625			ABD06.85	Integrated				✓		✓
0.125			ABD06.100	Integrated				✓		✓
0.250	ABD06.115*	200 03 0009	ABD06.115*	200 03 0010			✓		✓	✓
0.375	ABD06.120	200 03 0055	ABD06.114*	200 03 0035			✓		✓	✓
0.438	ABD06.120	200 03 0060					✓		✓	✓
0.500	ABD06.117	200 03 0054	ABD06.117	200 03 0049	ABD06.117	200 03 0054	✓		✓	✓
0.563	ABD06.117	200 03 0052					✓		✓	✓
0.625	ABD06.117	200 03 0060	ABD06.121	200 03 0054	ABD06.117	200 03 0057	✓		✓	✓
0.750	ABD06.121	200 03 0058	ABD06.121	200 03 0057			✓		✓	✓
0.875	ABD06.121	200 03 0061			ABD06.121	200 03 0061	✓		✓	✓
1.000	ABD06.102	Integrated	ABD06.102	Integrated	ABD06.102	Integrated	✓		✓	✓
1.125	ABD06.116	Integrated			ABD06.116	Integrated	✓		✓	✓
1.375	ABD06.123	Integrated					✓		✓	✓
1.405					ABD06.123	Integrated	✓		✓	✓

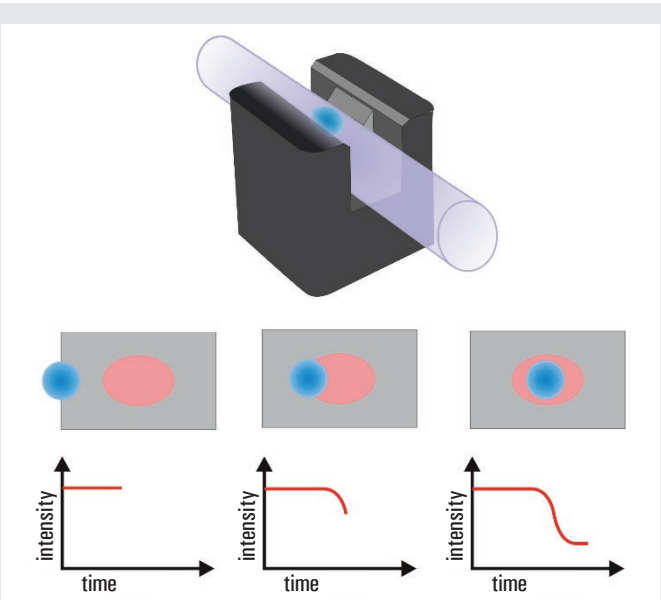
* Sensors have a screw lid

MEASUREMENT PRINCIPLE

SONOCHECK® ABD06 non-contact clamp-on bubble sensors incorporate intelligent ultrasonic transmission technology. The presence of air bubbles and obstructions is detected by means of dynamic amplitude monitoring.

Ultrasound waves are mechanical waves and are thus subject to the laws of their physics. Depending on the sound impedance of the adjacent media, reflection and transmission take place at the interfaces. If the impedance differences of the adjacent media are small, a transition takes place. At larger differences the sound wave is reflected and does not penetrate the adjacent media.

When an air bubble passes the sensor channel, the signal level drops. Hence, the higher the drop of the signal level, the larger the bubble size.



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Certified according to ISO 9001 & EN ISO 13485