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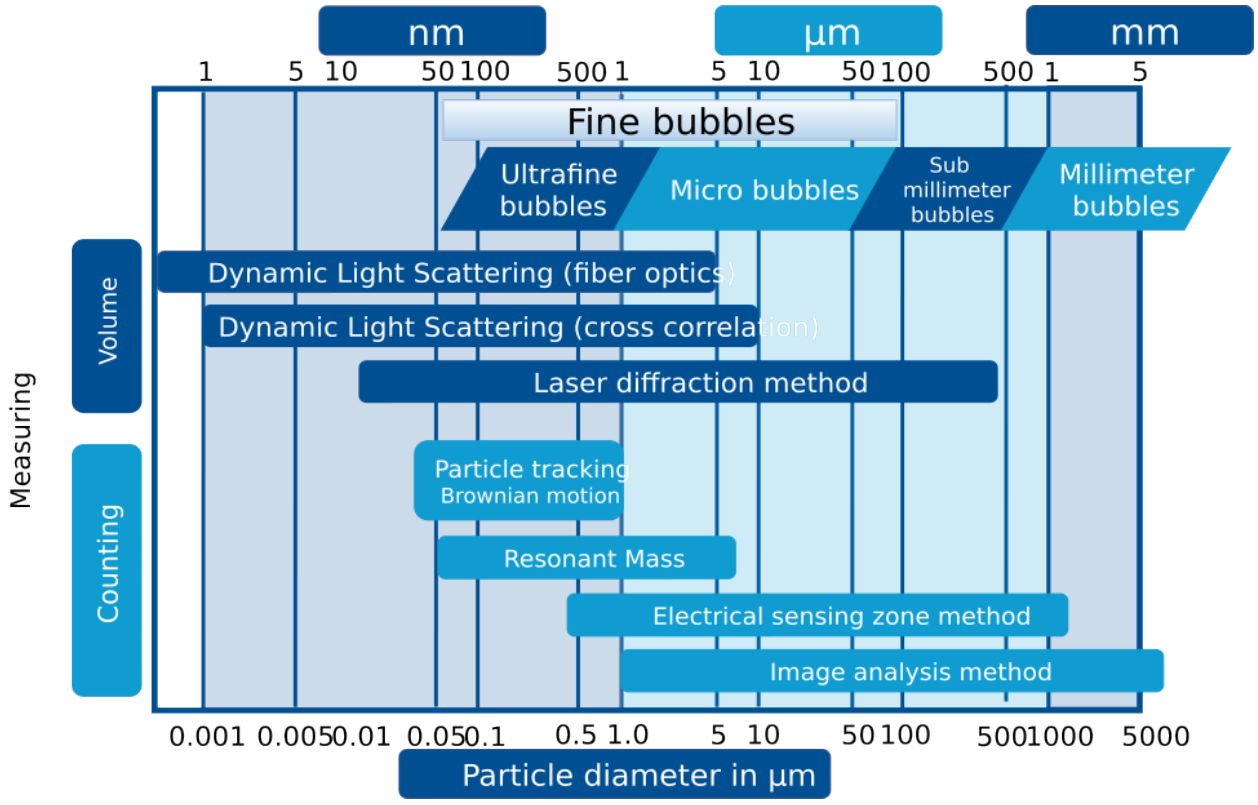
alt affordable nanobubble sensor | real-time ufb monitoring | acniti

Ensure optimum performance of your ultrafine bubble generator with the ALT-9F17—an advanced nanobubble sensor that provides accurate, real-time monitoring using the scattered laser method. Discover how this compact and user-friendly solution helps you control water quality, reduce costs, and enhance operational efficiency. Explore its key specifications, features, and application benefits to unlock superior water management.



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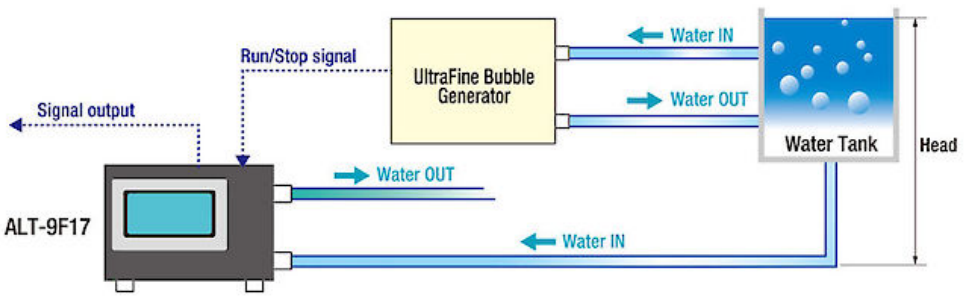
affordable nanobubble sensor for real-time ufb process monitoring

- To confirm ultrafine bubbles are continuously produced in the production process.
- To have a reference of nanobubbles concentration levels in the laboratory.
- To have alerts of too high or too low bubble concentrations to start or stop the ultrafine bubble generator.
- Operating display in English or Japanese

process

When it comes to water monitoring, we have a few sensors available for measuring water quality. The most popular are EC, pH and DO. To measure ultrafine bubbles, there is laboratory equipment available which can do a very fine and precise job. NanoSight with the particle tracking analysis method is probably the most widely used measurement instrument for ultrafine bubbles. But also, Shimadzu with the Sald7100HH and the Helos from Sympatec can measure ultrafine bubbles. The downside of this equipment is that it's relatively expensive and not suitable for process monitoring. Many clients are looking for a more economical solution to get an indication if their ultrafine bubble generator is working perfectly and to save costs and energy when high levels of ultrafine bubbles are reached, the equipment should stop automatically.

The ALT-9F17 is an ultrafine bubble monitoring system based on the scattered laser principle. The unit can be fed constantly with sample water, either by gravity or with a small pump. The laser signal gives a value between 0 - 1000, this value can be translated to the approximate bubble concentration. Optional items available with this unit, clear tubing 6 mm, filter to filter impurities, 60 ml / minute pump to feed the monitoring system.



The unit can be operated with a touch panel interface in either English or Japanese. The unit comes with an English manual.

The signal level of laser scattered light is dependent on the number concentration and the size of bubbles. Both higher concentrations and larger-sized bubbles yield higher signal levels. Particles also give a signal to the sensor, as the laser is not able to distinguish a bubble from a particle. Water color and turbidity will interfere proper measurement with high turbidity the laser will give a too strong signal to see a signal from the bubble.

instruction movies

- ALT-9F17 Nanobubble Sensor: Correlation Study

ultrafine bubble monitoring specifications

Part No.	ALT-9F17
Measurement type	Laser scattered light measurement (90 degrees)
Measuring object	Ultrafine bubbles (diameter max 1 µm)
Accuracy	± 1.0 E8/ml
Low-limit detection	1.0 to 2.0 E8/ml (depends on size of the bubbles)
Water quality	Fresh Water
Rated power	100 to 240-volt AC (50/60Hz) ac adapter
Power consumption	65-watt max.
Operating Temperature	0 to +40 °C
Water Temperature	0 to +45 °C
Storage Temperature	0 to +60 °C (no freezing)
Material (wet parts)	PTFE, PFA Quartz Glass
Tube size (in - out)	O.D. 6 mm
External Output	Relay contact (DRY): Error x 1 Pump, 1 (for water flow to this equipment) Preset signal level limit x1 Analog signal (4-10 mA): signal level x1
External Input	Source input: for Run / Stop this equipment x1
Dimensions (mm)	150Wx335Dx136H (no projections)
Weight (approx.)	6 Kg

alt-9f17 nanobubble sensor: ufb monitoring specs | acniti

	General		
1	Model name	Affordable Nanobubble Sensor for Real-Time UFB Process Monitoring	
2	Model number	sensor_alt-9f17	
	Liquid	**Metric**	**Imperial**
3	Strainer availability and size	No strainer on the unit. Recommended a filter of 2-7 micron to remove micro bubbles	
	Ambient	**Metric**	**Imperial**
4	Ambient temperature maximum	40 °C	104 °F
	Gas	**Metric**	**Imperial**
5	Gas quality		
6	Gas remark		
	Connections		
7	Water inlet		
8	Water outlet		
9	Gas inlet		
	Dimensions & weight	**Metric**	**Imperial**
10	Dim. (w) x (d) x (h)	150 x 335 x 136 mm	5.9 x 13.2 x 5.4 inch
11	weight	6 Kg	13.2 lbs.
12	HS code	9027.1000	
13	Shipping dim. (w)x(d)x(h)	48 x 37 x 30 cm	19 x 15 x 12 inch
14	Shipping weight	7 Kg	15 lbs.