

9.- Deposit monitor for fouling

Title and name of product or technology	
Nalco Deposit Monitor	
Abstract	
<p>The Nalco Deposit Monitor (NDM) is a sensor designed to monitor fouling formation in cooling water, process related, or other water applications where fouling is of concern. The device incorporates a sensitive measurement of mass buildup on a heated surface with self-cleaning and pressure compensation capabilities.</p> <p>The NDM is based on quartz crystal microbalance technology and patented by Nalco. Oversimplified the technology consists of a vibrating crystal; as mass builds up on the surface of the crystal the frequency of the vibration decreases, which provides a very sensitive way of measuring fouling build up on the surface. The possibility of heating the surface allows mimicking a heated surface (such as of a heat exchanger) and monitoring specifically these areas sensitive to scale formation.</p>	
Description including main features/advantages	
<p>Novel online monitoring of fouling in cooling systems (and other) and capability to especially monitor fouling in critical heat exchangers</p> <p>The monitoring capability and on-line data collection helps to obtain:</p> <ul style="list-style-type: none"> - Highlighting scale formation or system upsets (e.g. pH, conductivity, etc) - Diagnose and solve fouling problems, saving cost in downtime and energy and water usage - Tied to the Nalco 3D Trasar platform have data available real-time - Run at “more-ragged” edge 	
Innovative aspects	
<p>Online fouling monitor that can also mimic heat exchange surfaces and can accurately follow mass build up on surfaces. The monitor has capability for self cleaning to “reset” the measurement.</p>	
Current and potential industrial users/domains of application	
<p>Fouling monitoring in cooling water systems as well as process water systems.</p>	
Current state of development	
<p>The concept has been technically proven in several technical trials and currently the field validation of the commercial prototype is being carrying out. Demonstration sites are welcome.</p>	

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