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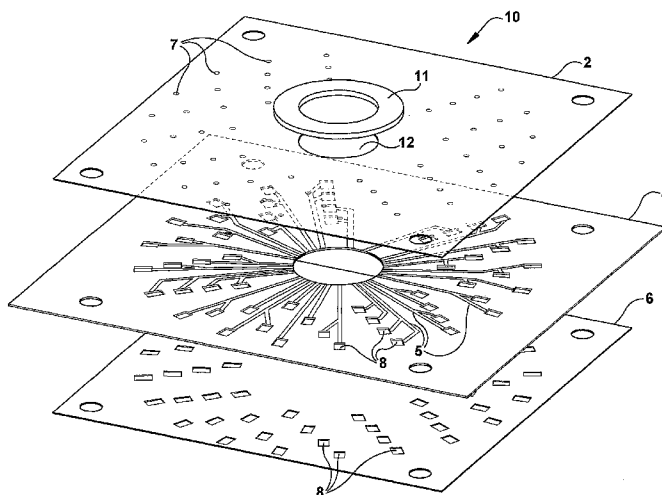
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(54) Title: METHODS AND SYSTEMS FOR DELIVERY OF FLUIDIC SAMPLES TO SENSOR ARRAYS



(57) Abstract: Total analysis systems and methods for simultaneously monitoring a suite of biological and/or chemical species in water and/or other process systems are disclosed. The system provides a sample- volume controlled sensor array comprising a fluid delivery device and a plurality of optical sensor elements for determining the presence and total concentrations of multiple analytes in the process system simultaneously. Delivery means are provided to deliver a metered quantity of sample fluid to the sensor array. Image identification algorithms are provided for identifying the analytes based on image intensity, color pattern, positional arrangement, and the like. The methods incorporate multivariate optimization algorithms to analyze multiple sensor responses. This produces analytical results that are typically difficult to obtain without full system or variable compensation. The improved array response may then be utilized to measure, monitor, and control the concentration of analytes in the chemical or biological sample or water system.



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