

WE CLAIM:

1. Apparatus useful in determining presence of microorganisms in a water sample comprising a biosensor connected via a first valve means to a means for providing a water sample to said biosensor, said biosensor further comprising a pressure regulator means and a restrictor means which regulate flow of water to a sample chamber, said sample chamber having a first transport means for transport of a volume of sample to a mixing chamber, an indicator reservoir having a second means for transport of indicator to said mixing chamber, wherein said first and second means for transport have connected thereto an injection valve means for controlling volume of sample and indicator; said mixing chamber having a syringe means connected thereto, said syringe means operating to mix said sample and indicator, means for containing an analysis sample in fluid connection with said mixing chamber, and a means for determining said indicator in said means for containing said analysis sample.
2. The apparatus of claim 1, wherein said means for determining said indicator is a spectrofluorometer.
3. The apparatus of claim 1, further comprising a first reservoir means connected to said biosensor for delivery a quantity of a cleansing agent.
4. The apparatus of claim 3, further comprising a second reservoir means for delivering cleaning water to said biosensor.
5. The apparatus of claim 1, further comprising a waste disposal means connected to said mixing chamber.
6. A method for determining presence of microorganisms in a liquid sample comprising transporting a liquid sample to the mixing chamber of the apparatus of claim 1 together with an indicator sample to form a mixture, incubating said mixture, and determining uptake of said indicator has taken place as an indicator of presence of microorganisms.

7. The method of claim 6, wherein said liquid sample is seawater.
8. The method of claim 6, wherein said indicator is SYBR[®] green I.

CLAIMS

1. Apparatus useful in continuous, automated, real time determination of presence of microorganisms in a water sample comprising a biosensor connected via a first valve means to a means for providing a water sample to said biosensor, said biosensor further comprising a pressure regulator means and a restrictor means which regulate flow of water to a sample chamber, said sample chamber having a first transport means for transport of a volume of sample to a mixing chamber, an indicator reservoir having a second means for transport of an indicator which is a DNA stain to said mixing chamber, wherein said first and second means for transport have connected thereto an injection valve means for controlling volume of sample and indicator; said mixing chamber having a syringe means connected thereto, said syringe means operating to mix said sample and indicator, means for containing an analysis sample in fluid connection with said mixing chamber, and a means for determining said indicator in said means for containing said analysis sample.
2. The apparatus of claim 1, wherein said means for determining said indicator is a spectrofluorometer.
3. The apparatus of claim 1, further comprising a first reservoir means connected to said biosensor for delivery a quantity of a cleansing agent.
4. The apparatus of claim 3, further comprising a second reservoir means for delivering cleaning water to said biosensor.
5. The apparatus of claim 1, further comprising a waste disposal means connected to said mixing chamber.
6. A method for continuous, automated, real time determination of presence of microorganisms in a liquid sample comprising transporting a liquid sample to the mixing chamber of the apparatus of claim 1 together with an DNA stain indicator sample to form a mixture, incubating said mixture, and determining uptake of said DNA stain indicator has taken place as an indicator of presence of microorganisms.
7. The method of claim 6, wherein said liquid sample is seawater.
8. The method of claim 6, wherein said indicator is SYBR[®] green I.