

BIOLUM Instrument

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The automated sampling and bioluminescence reader (« BIO-LUM ») incorporates lyophilized bacterial bioreporters within biochip cassettes that can be reconstituted by adding sterile media and subsequently are exposed to the sample. The picture shows the carousel with four biochips inserted (in white). Each biochip has 10 wells that hold 50 μl volume and lyophilized bioreporter cells. The cells are rewetted with help of the two syringe pumps in the instrument, that can further inject the sample and a calibration solution. A micro photomultiplier detector is mounted below the platform, which reads the bioluminescence coming from the bioreporter cells in the biochip wells. The detector reads continuously during 2-3 hours in order to obtain a kinetic sample measurement. The light response of the cells is compared to that from a clean water sample and to the reaction of the cells to the calibration solution. The complete instrument is incorporated in a black waterproof “Peli-case” to be mounted on board of a buoy or vessel.

