



Quantification of total flora in ultra-pure water by ATP-metry (from sampling valve)



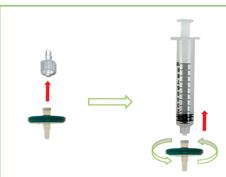
Thaw a dropper bottle of each reagent (DENDRIDIAG® & STANDARD 1000) and bring them to room temperature (>18°C). Prepare the plastic consumables (connector, syringe, filter and test tube). Turn on the luminometer and select the «Standard mode» on the main menu. A video tutorial is available on GL BIOCONTROL website: www.gl-biocontrol.com.



1. Open the cap of the filter packaging (do not discard the plastic packaging). Connect a luer-lock connector to the filter being careful not to touch the components' tips.



2. After flushing the sampling point, connect the filter-connector to the PEMS II valve. Filter one liter of water (measure the volume filtered by filling a waste container).



3. Disconnect the luer-lock connector without touching the end parts of the filter. Prepare a syringe. Suck up 4 ml of air by pulling the piston and connect the filter to the synringe.



4. Put 4 drops of DENDRIDIAG® reagent in the bottom of the plastic packaging. Place the filter tip in the plastic packaging. Suck up all the reagent and maintain the depression in the syringe.



5. Push the liquid out of the syringe into a test tube until a white foam comes out. Stop the pressure as soon as the foam comes out to avoid creating a « stopper » in the upper part.



6. Open the luminometer and place the test tube inside the measurement chamber. Start the analysis by pressing the ENTER button. Write down the R1 result (in RLU).



7. Immediately after the first measurement, get the test tube out of the luminometer and add one drop of **STANDARD 1000** in the middle of the test tube.



8. Open the luminometer and place the test tube inside the measurement chamber. Start the analysis by pressing the ENTER button. Write down the R2 result (in RLU).

9. Calculation (automatically done by the Excel table):

To perform a blank test, filter 10ml of sterile water and perform step 4, 5 and 6 (cf. handbook p.13). Write down the Rbm result (in RLU).

$$[ATP] = \frac{(R1 - Rbm)}{(R2 - R1)} \times \frac{1000}{V}$$

With:

R1 (in RLU): result of the sample, R2 (in RLU): result after standardization, Rbm (in RLU): result of the blank, V (in I): volume filtered.



ATP concentration is given in picogram of ATP per liter (pgATP/l). It can be expressed in equivalent bacteria per liter (eq.bact./l) based on the following scientific consensus: **1 picogram ATP** ≈ **1 000 bacteria**. The result of these calculations can be automatically obtained by filling in the Excel table supplied.

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