



# QGA

## Innovative Technology

### Rapid Microbial Detection in minutes

#### APPLICATIONS

- Potable water
- Sanitary water
- Ultrapure water
- Surface water
- Industrial process water
- Cooling circuit
- Recycled water
- Ground water

#### MEASUREMENT OF TOTAL FLORA BY ATP 2G<sup>®</sup>



#### RECOMMENDATIONS

Video demonstration and more information about applications of the QGA kit are available on [www.aqua-tools.com](http://www.aqua-tools.com)

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## What does ATP 2G<sup>®</sup>?

**Quantitative ATP-metry** is recommended for **microbial risk monitoring** as a biological tool of water quality assessment.

It's a **biological indicator tool**. It accounts for all living organisms present, isn't influenced by inorganic particulates, provides accurate bacteria counts, and detects bacteria considered to be unculturable. Adenosine triphosphate (ATP) is the energy source of any living organisms. ATP 2G<sup>®</sup> analysis is an **effective tool in monitoring microorganisms in water** and detects **all metabolically active cells** in the sample. This kit is new alternative method from culture plate counting, for more reactivity.

## Key benefits

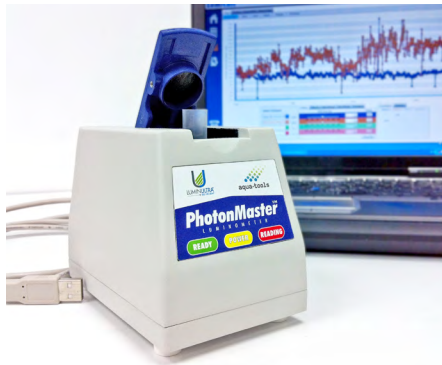
Microbial monitoring enables to :

- Monitor **critical control points**
- Take **control and tracking** microbes
- Ensure **industrial products quality**
- **Early warning** and **rapid adjustment**
- **Optimize and verify** disinfection procedures
- **Reduce biocides** and waste water **treatments costs**
- **Reduce environmental impacts** by monitoring microorganisms in effluents and reducing biocides use

## Investigation approach

1. Use quantitative ATP 2G<sup>®</sup> **QGA** kit, realise a biological audit of water circuit in order to identify critical zones (uncontrolled built-up biofilm, stagnation, clogging...).
2. Determine and localize immediate corrective actions and disinfection applied. Optimize the biocide quantity.
3. Regularly check microbial contamination on critical zones while processing to a complete biological audit using the **QGA** kit in order to ensure the microbial safety of your installation.

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## Technology

ATP (Adenosine Triphosphate) is the main energy carrier for all living organisms. Thus, in measuring the concentration of ATP in living cells microbial contamination in water can be quantified. The **QGA** kit technology – 2<sup>nd</sup> generation ATP-metry – enables measuring only intra-cellular ATP, to quantify living microorganisms in water in **3 minutes**. This value can be obtained through filtration of a sample and proceeding to lysis of the microorganisms retained on a filter to release their intracellular ATP. In contact with Luciferin and Luciferase, ATP reacts to produce photons measured by a luminometer. An external **standard calibrated ATP solution, Ultracheck1**, allows providing reliable quantitative results. Final results are delivered either in pg ATP/ml or Equivalent Microorganisms/ml.

## Create your Microbial ToolBox

**Results from reference method** as culture plate count for water/fluid microbial control are directly link to the operator appreciation and quality of culture media used - variation of CFU count are more than 30 % for the same of culture media produced by different companies.

## Strong points

- **Quick measurement** in minutes
- **Quantitative sample** transfer ensures accuracy
- **Higher volume analyzed** – More representative
- **Filtration step** to concentrate microorganisms and eliminate extracellular ATP
- **Superior chemistry of reagents** – Higher ATP extract recovery
- **Optimized protocols** ensure minimal interferences (TDS, TSS, Oil, Biocides)
- **Liquid-stable ATP standard** (UltraCheck 1) converts RLU to quantitative concentration

## Added value ATP 2G<sup>®</sup>

- **Account greatest number of microorganisms**
- **In an acceptable time frame**
- **At a reasonable cost**
- **More reliable, robust**
- **More reproducible and relevant**

This means that **you could underestimate true level of microorganisms** in your sample – Microorganisms slow growing or **injured active** cells will be missed by the operator. Underestimation of microbial contamination could lead you to unappropriated and non-efficiency action plans.

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