

QG21 Industrial

Innovative Technology

Rapid Microbial Detection in minutes

APPLICATIONS

- Process water
- Cataphoresis baths
- Slurries
- White waters from pulp and paper industry
- Biocides efficiency assessment
- Washing process waters

RECOMMENDATIONS

Video demonstration and more information about applications of the QG21 kit are available on www.aqua-tools.com

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MEASUREMENT OF TOTAL FLORA BY ATP 2G®





What does ATP 2G[®]?

The **QG211 G2 refill kit** – 2nd generation ATP-metry – is the only one allowing **interference-free** quantification of all living microorganisms in samples as complex as **chemical products heavily loaded in total suspended solids (TSS)** such as industrial process water. **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 microorganisms

counts, and detects bacteria considered to be unculturable. Adenosine triphosphate (ATP) is the energy source of any living organisms. ATP 2G[®] analysis is an **effective tool in monitoring microorganisms** and detects **all metabolically active cells** in the sample. This kit is new alternative method.

Technology

Adenosine Triphosphate (ATP) is the main energy carrier for all living cells. Its concentration is measured by the **QG211** kit via a reaction of bioluminescence: ATP, in contact with a complex of luciferin/ luciferase, reacts to produce light measured by a luminometer. Results delivered in RLU are converted in pg ATP/ mL or in Equivalent Microorganisms/ mL using a **standard ATP solution, UltraCheck™ 1**, in order to provide reliable quantitative results over time.

The QG211 kit measures the following parameters in complex chemical samples:

- **Total ATP (tATP™)** which is the sum of intracellular and extracellular ATP.
- **Extracellular ATP or dissolved ATP (dATP™)** which is ATP present outside living cells and rejected by dead microorganisms.

From these two analyses, two following parameters can be calculated:

- **Intracellular ATP (cATP™)** which is ATP contained within living microorganisms, directly linked to their concentration: $cATP = tATP - dATP$.
- **Biomass stress index (BSI™)** which represents the microorganisms stress or mortality $BSI (\%) = dATP/tATP$.

Key benefits

Monitoring microbial contamination in industrial water loaded in suspended solids enables to:

- control and handle microbial contamination in real-time from raw material to finished product,
- early detect and prevent related damages such as degradation of finished products,
- verify, optimize, validate and monitor cleaning, rinsing and disinfection procedures effectiveness,
- carry out in real time quality controls,
- localize critical zones for bacteria proliferation and identify the origins of microbial contamination,
- reduce the number of time consuming culture analyses.

Strong points

- **Quick measurement** in minutes
- **Quantitative sample** transfer ensures accuracy
- **Higher volume analyzed** – More representative
- **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[®]

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

Create your Microbial Toolbox

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.

This means that **you can 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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