



International Sugar Organization

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EXECUTIVE DIRECTOR

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(English only)**

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AQUA TUTA

The Executive Director would like to draw your attention to the information below from AQUA TUTA, which is a novel concept with particular relevance & potential benefits to sugar production.



The world's most cost efficient, high productive, patented effluent water processing system*

*without any chemicals, membranes or filters



Processed effluent returning into dirty lagoon

*Lowest CAPEX and
OPEX*

Smallest Footprint 2m²

*Removes COD, BOD,
Total Solids and
neutralizes pH*




Processed and unprocessed effluent


AQUA TUTA™ is a patented spin-off of Algasol, which has developed a water treatment technology based on convective reaction, with a wide range of applications for all waste water treatment, including alcohol distilleries, wine and beer, aquaculture, textile and dye, feed lots (cattle, pigs, poultry), petroleum, and crop industries. The Aqua Tuta™ technology may be applied to the African palm, coffee and sugar industries.

For further questions please contact

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 @AquaTuta

 @AquaTuta1

 @aqua-tuta

AQUA TUTA LTD.
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AQUA TUTA

ADVANTAGES

- **Lowest CAPEX**
- **Lowest OPEX**
- **Lowest annual maintenance**
- **Lowest square meter requirement/m3.**
- **High volume processing in cubic meters/module**
- **Fastest effluent processing time.**

- **Automatic separation of organic matter**
- **Easy to use**
- **Low threshold to operate.**
- **Sustainable**
- **NON CHEMICAL**
- **NO MEMBRANES**

CAPEX Cost of Processing per metric

CAPEX/metric ton:

USD 4 cents/metric ton

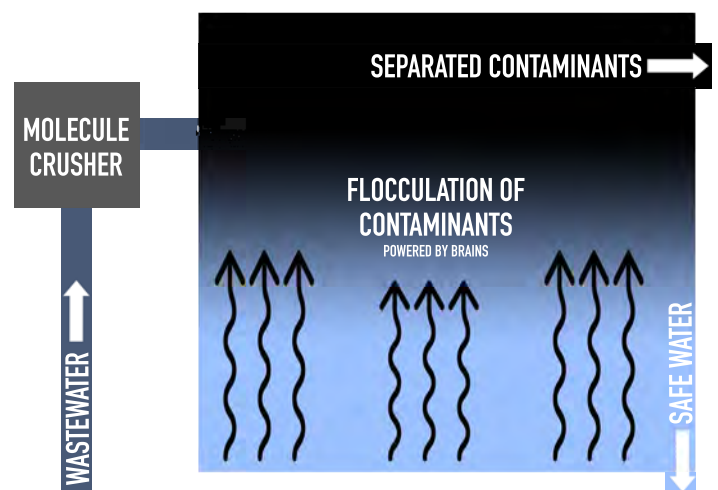


AT 10 is a sophisticated three components one-phase water processing unit with the worlds smallest foot print, 2m², treating up to 240m³ of effluents/24h, and separating organic matter automatically, for fertilizing purposes, fx.

- AQUA TUTA™'s technology has the **smallest area footprint in the industry.**
- AQUA TUTA™ is the most cost efficient (CAPEX and OPEX) technology called **convective reaction**, with wide-ranging applications in water processing.
- Convective reaction's water processing treatment removes contaminants that are generally more difficult to remove by filtration, chemical or membrane treatment systems -- contaminants such as suspended solids, high levels of COD and BOD, phosphates, nitrogen, organic acids, heavy metals etc.
- Effluent processing involves large volumes of water and wastewater
- Effluents have high COD, BOD, TS, pH, etc
- Effluents can pose significant threat to natural ecosystems if discharged without the correct treatment, effluents being rich in nutrients and other contaminants
- Remedial action for water bodies difficult to be focused from a management and conservation point
- Wastewater from effluent processing is heavily polluted with organic matter etc
- The release of high amounts of heavy metals into water bodies creates serious health and environmental problems and may lead to an upsurge in wastewater treatment cost

Schematics of Aqua Tuta's Technology

1. Effluent is pumped through a molecule crusher that facilitates the flocculation of contaminants
2. Effluent enters the treatment deposit
3. 7,200 signals/s are transmitted from the brains through the effluents, separating the contaminants upwards
4. Contaminants flocculated upwards are skimmed off by rotating paddles
5. Automatically separated organic materials, like N and P, are disposed of via the chute
6. Safe water is released through the valve at the bottom





The world's most cost efficient, high productive, patented effluent water processing system*

*without any chemicals, membranes or filters

Below are just a few examples of products processed by Aqua Tuta



Distilleries



Hydrocarbons



Algae



Hotels/Resorts



Heavy Metals



Wastewater



Beer/Soft Drinks



Coffee/Sugar

Effluents

- Effluent processing involves large volumes of water, wastewater and tracts of land
- Effluents have **high COD/BOD, pH**, etc.
- Effluents can pose significant threat to natural ecosystems if discharged without the correct treatment, effluents being rich in nutrients and other contaminants
- Remedial action for water bodies difficult to be focused from a management and conservation point
- Wastewater from effluent processing is heavily polluted with organic matter, etc.
- The release of high amounts of contaminants into water bodies creates serious health and environmental problems and may lead to an upsurge in wastewater treatment cost*
- Contaminants are being heavily restricted year upon year



Example of heavy metal effluent treated with Aqua Tuta
Left: Treated. Right: Untreated containing for example molybdenum and mercury

Limitation of conventional systems of wastewater treatment



- **High CAPEX**
- **High OPEX**
- **Chemicals**
- **Air Compressors**
- **Filters**
- **High footprint/large tracts of land required**



Aqua Tuta wastewater processing technology

- **Extremely small footprint 2m²**
- **Up to 240m³/24h**
- **Continuous processing**
- **Aqua Tuta will adapt to more restrictive regulations**
- **CAPEX USD 4 cents/metric ton**
- **Non chemicals**
- **No membranes**



Advantages of Aqua Tuta Technology

The Aqua Tuta process recycles the effluents to clean water and as a by-product automatically separates organic matter that can be used as natural, sustainable fertilizer.

Aqua Tuta advantages:

- **Lowest CAPEX**
- **Lowest OPEX**
- **Lowest annual maintenance**
- **Lowest square meter requirement/m³.**
- **High volume processing in cubic meters/module**
- **Fastest effluent processing time.**
- **Automatic separation of organic matter**
- **Easy to use**
- **Low threshold to operate.**
- **Sustainable**
- **NON CHEMICAL**
- **NO MEMBRANES**



Aqua Tuta™ Patented Technology

- AQUA TUTA™'s technology, though extremely powerful, has the **smallest area footprint in the industry.**
- AQUA TUTA™ is the most cost efficient (CAPEX and OPEX) technology called **convective reaction**, with wide-ranging applications in water processing.
- Convective reaction's water processing treatment removes contaminants that are generally more difficult to remove by filtration, chemical or membrane treatment systems -- contaminants such as suspended solids, high levels of COD and BOD, phosphates, nitrogen, organic acids, heavy metals etc.
- AQUA TUTA™'s groundbreaking advancement in cost efficiency (CAPEX and OPEX) dramatically reduces the cost.



Installation USA

AT-10 molecule crusher

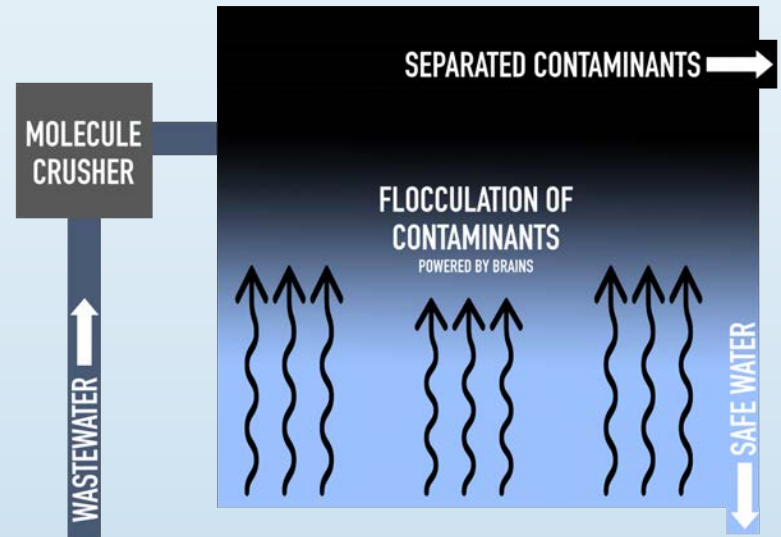


AT-10 brains



How Aqua Tuta works

1. Effluent is pumped through a molecule crusher that facilitates the flocculation of contaminants
2. Effluent enters the treatment deposit
3. 7,200 signals/s are transmitted from the brains through the effluents, separating the contaminants upwards
4. Contaminants flocculated upwards are skimmed off by rotating paddles
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6. Safe water is released through the valve at the bottom



Coffee and sugar effluent lagoons

Aqua Tuta treated coffee and sugar effluents recycled to lagoons



One example of an effluent treated by the Aqua Tuta waste water processing.

Heavy metal effluents treated in the USA by Aqua Tuta



Coffee Effluents Colombia



AT-10 at work with the smallest m² footprint, even in a jungle environment



International Spanish Hotel Installation in Mallorca





Thank you!

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