

bio sun

Pure water, everywhere for everyone



A REVOLUTION IN THE DRINKING WATER FIELD

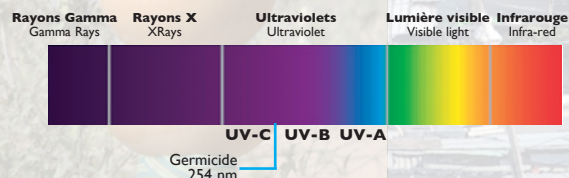
Drinking water everywhere and for everyone

Access to drinking water, everywhere and for everyone throughout the world, is now a reality thanks to BIO-SUN, the easy-to-use patented concept, which purifies drinking water using a combination of UV disinfection and solar energy. A solution that the international development organisations have been impatiently waiting for!

Bio UV
Ultraviolet Solutions

Designed by BIO-UV, leading French manufacturer of ultraviolet equipment and water treatment, in partnership with Phaesun, BIO-SUN ensures access to safe water for rural populations in developing countries and also supplies drinking water to isolated sites everywhere in the world.

THE PRINCIPLE



At 254 nanometres, the optimum wavelength to eradicate micro-organisms (viruses, bacteria, algae, yeasts, moulds, etc.), the UV-C radiation penetrates the heart of the DNA and disturbs the metabolism of the cells until they are totally destroyed. This deactivates all the germs (**including the cholera bacterium and Cryptosporidium**) and prevents them from reproducing.

THE EFFECTIVE DOSE

BIO-SUN is dimensioned according to the flow rate, in order to guarantee the dose required (expressed in mJ/cm^2) sufficient to eradicate at least 99.9% of the micro-organisms (bacteria, viruses, algae in suspension, etc.).

BIO-SUN guarantees the microbiological safety of the drinking water and enables the elimination of waterborne diseases, particularly in underprivileged peri-urban areas (townships, etc.).

You just have to fill up the tank with the water¹ to be disinfected. The water is subjected to fine filtration and is disinfected using ultraviolet light (UV-C). In a few seconds the water is safe to be consumed for vital needs.

CHARACTERISTICS

- Patented concept,
- Terminal with rugged and hard-wearing composite material housing,
 - Height: 120 cm,
 - Length: 60 cm,
 - Width: 40 cm,
 - Weight: 100 kg,
- Solar panel (for the basic version, without pump): 53 cm x 120 cm,
- Filter on a zeolite bed that can be backwashed (very effective technology due to its quality and fineness),
- Activated carbon filter in option,
- Treatment of approximately 500 litres/hour with $400 \text{ J}/\text{m}^2$ (dose required to make water drinkable),
- 3-day run time, with 4 hours of daily production,
- Supply to the tank:
 - Manual, by 20 l container. In this case, a pump inside the terminal guarantees the necessary pressure for filtration,
 - Via a connection to the mains network (between 1.5 and 3 bar),
 - On the outlet of a borehole/catchment pump with an independent power supply (between 1.5 and 3 bar),
 In the latter two cases, the BIO-SUN internal pump is not required,
- Service life of the UV lamp: 1 year.

ADVANTAGES

- Autonomous water purification station operating with photovoltaic energy,
- Water is made microbiologically safe,
- Drinking water supply for 80 to 100 persons per day (in accordance with WHO standards),
- Low-cost production of drinking water,
- **Cost of consumables less than $\square 0.27/1,000\text{L}$ of water treated,**
- The terminal can be fixed on a masonry base, or built into the wall of a building (using local materials and labour),
- Simple design, easy maintenance,
- Contribution to local economic development, making users more responsible (installation, maintenance).

¹ the water used must not be heavily polluted by large quantities of sludge nor must it contain high levels of pesticide-type residues or high concentrations of other contaminants such as heavy metals and/or organic matter.