



SAFE DRINKING WATER FOR  
BETTER HEALTH AND A BETTER LIFE

# PAULA

POTABLE AQUA UNIT - LASTING & AFFORDABLE

> VIRUS AND BACTERIA FREE

> LOW COSTS

> EASY TO INSTALL

## PAULA MAKES WATER CLEAN



The United Nations has declared clean drinking water a fundamental human right, but the reality is often quite different. Around 1.5 billion people, most of them in remote rural areas, have no access to hygienically safe drinking water. They are forced to live with unclean water and the risk of illness due to bacteria and other causes of life-threatening waterborne diseases. PAULA

can change this reality and help prevent these illnesses.

## WHAT IS PAULA?

PAULA stands for Potable Aqua Unit – Lasting and Affordable. PAULA is a stationary system that is capable of supplying drinking water around the clock. The system is easy to operate, consumes little power, and can be installed in remote, difficult-to-access areas. Regular monitoring ensures that the water PAULA provides meets World Health Organization (WHO) quality standards.

## WHO NEEDS PAULA?

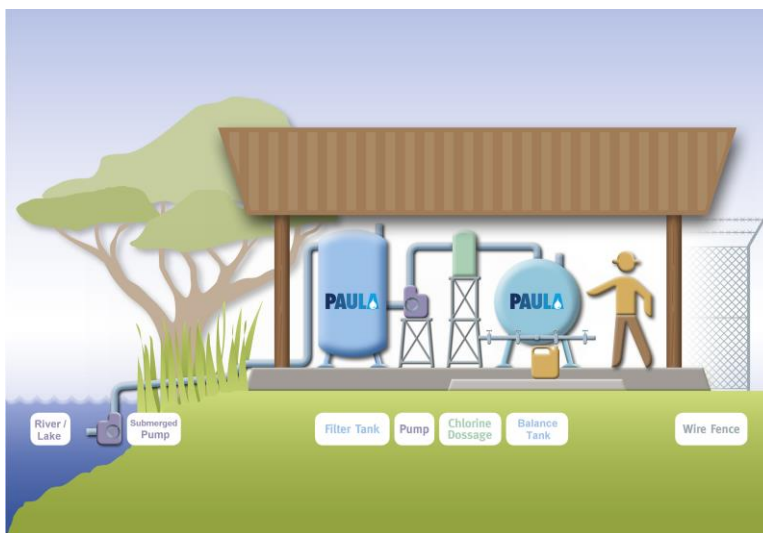
PAULA's primary benefit is for villages in rural areas that are not connected by conduits to national, regional, or local water systems. Residents actually draw water of questionable quality from rivers, lakes, canals or occasionally unclean wells – with all the concomitant detriments. Such areas are often impoverished, with residents lacking the financial resources for safe drinking water supplied in bottles or canisters. PAULA is also the optimal solution for companies, hospitals, schools, kindergartens, refugee camps and public institutions looking for an economical, independent drinking-water supply. PAULA is also ideal for the post-purification of tap water pumped in damaged supply pipes. The system has been developed toward the aim of providing people in threshold and developing countries with clean drinking water. PAULA provides a quick, safe, affordable and sustainable water treatment process.

## WHAT ADVANTAGES DOES PAULA OFFER?

PAULA is available in a variety of sizes, making it adaptable to the local drinking water requirements. The smallest model can clean 2,000 litres of water per day for storage in a separate tank. Currently, the largest operating model can handle 24,000 litres of water per day; its storage tank has a volume of 84,000 litres. Depending on the capacity chosen, PAULA can provide the vital daily water supply to between 300 and 8,000 people. Transport and construction of the treatment plant are simple: The individual components are light in weight and can therefore easily be transported to the desired location. The system is installed on a concrete plate – or similar material - that serves as a foundation. A roof or brick house and a fence protects it from sun, rain and other impacts. Once the roofing is finished, PAULA can deliver its clean drinking water after an installation time of two to three days.

## HOW DOES PAULA WORK?

Untreated surface water from rivers, lakes, and ponds is transported into the system by an



electrically operated pump. In the first step organic and anorganic solids are to be separated. The water is then passed at low pressure through a special ultrafiltration membrane that holds back contaminants that are invisible to the naked eye: pathogenic and coliform bacteria are filtered out completely, and 99.9999% of viruses are removed. This corresponds to a "logarithmic removal value"

(LRV) of 6. These results were determined by the University of Kassel and the laboratory of the Federal Environment Agency, Dessau, Germany. Scientific researches by Professor Martin Exner, Director of the Institute for Hygiene and Public Health at the University of Bonn, Germany also prove the high efficacy of the membrane used in PAULA against pathogenic germs. After the membrane cleaning process, a precise quantity of chlorine could be added to the water if specified by the local drinking water ordinance. The chlorination prevents bacteria and viruses from re-contaminating the water. There are no other chemical additives. The chlorinated water is collected in a tank. Extensive field tests in Germany, Vietnam and Tanzania have shown that the treatment process provides permanent safe drinking water.

## WHO DEVELOPED PAULA?

PAULA was developed by German engineers on the basis of Prof. Dr.-Ing. Franz-Bernd Frechen, head of the Department of Sanitary and Environmental Engineering at the University of Kassel, Germany. 2010 a first prototype was already implemented at a hospital near Ho Chi Minh City, Vietnam by Prof. Dipl.-Ing. Max Preussner, consulting engineer in Hamburg. The membrane used there is still working reliably today - after ten years.

## HOW CAN YOU ACQUIRE PAULA?

Based on the local requirements and conditions at the desired site, a new PAULA-plant is configured by the engineers of PAULA Water GmbH. The customer can either order a pre-installed, ready-to-use container plant or a kit plant, which is assembled on site by local craftsmen under the supervision of a PAULA technician. During commissioning and, if desired, immediately afterwards, the local operating personnel is trained by the PAULA technician in the simple operation of the plant.

After installation, laboratory testing of the purified water is carried out in an authorized local laboratory in the destination country. Examinations of the treated water by the local operator ensure the proper functioning of the system, substantiating and guaranteeing the quality of the water. The employees of PAULA Water GmbH can be asked for advice and information by the customer at any time.

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