

WATER EFFICIENCY

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ProCleanse Next-Gen Home Water Filtration Unit Ready for Global Use

Solves Limitations of Other Devices, Exceeds WHO Specifications for Providing Clean Drinking Water for Families in the Developing World

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BUFFALO GROVE, IL – ProCleanse LLC, a subsidiary of environmentally focused soil, water and vegetation management solutions company Profile Products LLC, has developed a next-generation home water filtration device that produces safe drinking water on the first day of use without the need for frequent maintenance, chemical additions, component replacement or other drawbacks associated with alternative products. The patent-pending ProCleanse-filtration process exceeds the World Health Organization (WHO) “protected” classification for household water treatment and offers a practical solution for the more than 1 billion people around the world who are vulnerable to diarrhea, cholera and other life-threatening illnesses because they lack access to clean drinking water.

Utilizing a proprietary blend of porous ceramic particles that trap and neutralize contaminants through an ion exchange process, the cylindrical ProCleanse unit processes enough water to support a family of six, includes built-in safe storage for up to 18 liters of clean water, and lasts more than 10 years at a cost of less than \$0.001 cents per liter of water over the life of the system. That is more than twice as long and a fraction of the lifetime cost of most other point-of-use (POU) water filtration options.

All-in-One Disinfection & Storage

Users simply pour dirty water into the device’s filtration chamber. Gravity moves the water through a strainer that filters out large debris and then through proprietary cleansing material that deactivates harmful microorganisms. Clean water is stored in a separate chamber within the unit for ready access. No electricity or other power is required, and stored water needs no chlorine or other additional treatment because it contains active ions that continue the disinfection process.

The ProCleanse system has gained support from some of the largest charitable organizations doing work in the water sector, and was recently recognized as one of today’s most innovative water technologies by an independent review panel convened by the U.S. Water Partnership and the U.S. State Department. It is currently in use at select sites in Latin America and is undergoing a 600-unit field test in Ghana under the

auspices of World Vision, International Water and Sanitation Centre (IRC) and other agencies.

“The challenges in creating point-of-use water filtration systems for the developing world range from bacteriological performance and limiting weight, maintenance frequency and power requirements to providing clean water storage, avoiding consumables, and ensuring ease of use. Until now, no single solution has been able to address all of these factors satisfactorily,” said John A. Schoch, Jr., President and CEO, ProCleanse LLC and its parent company Profile Products LLC. “Our system is the first to meet all of these needs in one product.”

Unique Filtration Process

ProCleanse’s proprietary filtering process grew out of ceramic particle technology that has been used in the parent company’s core business for more than six decades. Applying that knowledge to water treatment, the ProCleanse filter features porous ceramic particles produced from clay soil with unique cation (positively charged ion) exchange capacity and blended with silver, zinc and copper in a specific ratio and manner determined after extensive R&D including both internal and third-party evaluations.

The ceramic particles are 10 times more effective at trapping larger microorganisms than sand-based systems and also more effective at reducing turbidity. This prevents larger contaminants from passing to the user as well as helping produce clear water that aids both the purification process and user acceptance. Metal ions released into the water then attach to the cell walls of smaller pathogens like bacteria and viruses, causing them to die while at the same time exponentially increasing overall system effectiveness.

This combination of porous granular media filtration and biocidal ion exchange is a first in household water filtration systems, promoting maximum pathogen removal and producing up to 8 liters of clean water per hour. The clean water can be easily accessed for drinking and cooking at any time through a safe water delivery hose attached to the unit’s storage reservoir.

Exceeds WHO Specifications

The ProCleanse system has successfully passed extensive water quality tests in both laboratory and field environments, and is among the first to undergo testing for compliance with WHO Household Water Treatment (HWT) specifications published in 2011. Independent laboratory testing validated the system’s ability to produce clean water meeting WHO’s “highly protective” specification for removal of bacteria and protozoa – achieving >99.999% reduction in E.Coli and >99.9999% reduction in protozoa – as well as meeting the “protective” specification for viruses with a >99.9% reduction.

Both global consultant CH2M Hill and a panel of university, government and private water experts have validated the conformance of the independent laboratory’s testing process with WHO guidelines, and provided suggestions for additional testing to further advance the goal of providing practical solutions to the global drinking water crisis.

Deployment and Usability Benefits

Each ProCleanse unit weighs less than 40 pounds for easy transport, comes in a durable high density polyethylene container, requires no assembly, and never needs

replacement of filter media or additions of any biocidal materials so there is no incremental cost over the life of the filter. It is ready for use on day one of operation after an initial water charging and rinsing process that takes just a few hours. The filter design eliminates the need for several weeks of biological layer growth required by some other solutions.

Sediment removal to maintain a good water flow rate is generally required only three to four times a year and involves a simple 15-minute skimming process, avoiding daily, weekly, semi-monthly or monthly maintenance required by other point-of-use water filtration systems.

About ProCleanse LLC

ProCleanse LLC manufactures a point-of-use water filtration system designed to provide clean household water to people in the developing world and prevent water-borne diseases that cause 2.2 million deaths from water contamination every year, including more than 1 million children under the age of six. The company is a subsidiary of Profile Products LLC, a leading provider of soil modification, erosion and sediment control, and water management solutions for six decades. More information is available at www.procleansefilters.com.