



PORTABLE WATER PURIFICATION DEVICES



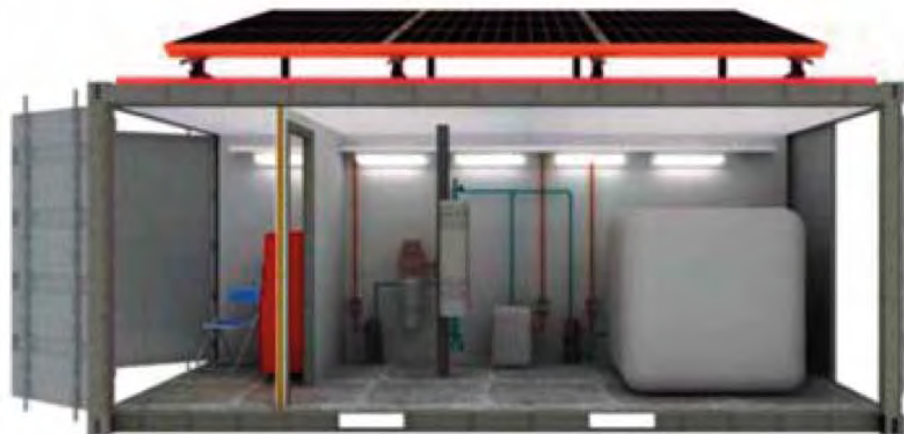


CONCEPT of POU_s

Portable Water Purification Devices (POUs) are water supply systems based on the latest technology developed by the R&D department of EULER for water purification and treatment.

The concept of this technology is to provide potable water supply off-grid anywhere in the world.

Such systems are specific for projects that cover supply of **drinking water and SHW - hot sanitary water** - autonomously to all type of applications with a social nature.



APPLICATIONS POU_s

- 1 - Rural communities
- 2 - Isolated housing
- 3 - Emergencies in case of natural disasters
- 4 - Outpatient / Healthcare centers
- 5 - Schools
- 6 - Public buildings
- 7 - Agricultural holdings and farms
- 8 - Industrial plants
- 9 - Public services (customs, fire, police)
- 10 - Petrol station



Applicable anywhere in the World



Supply independent of water infrastructures



Energy self-sufficiency



Social benefits, to provide basic resources to people



Leverage for economic and social development

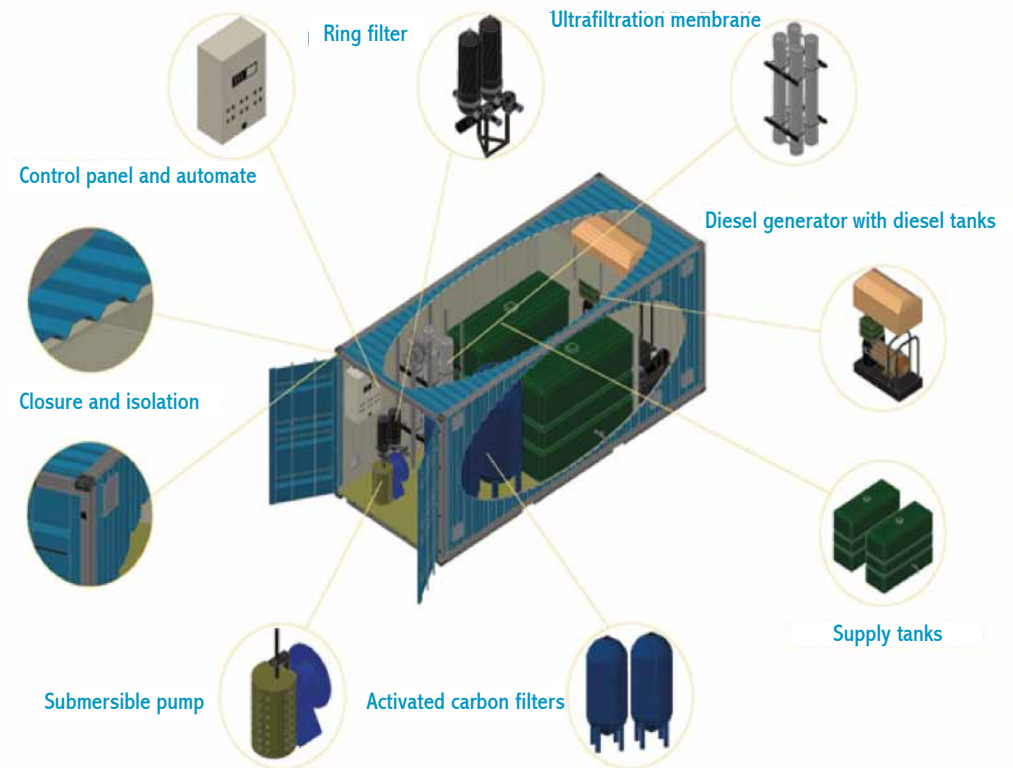
Allows to globalise water consumption

Environmental benefits



SWITCHED HYBRID SYSTEM

- System designed to supply the maximum production of water for human consumption and subsequent supply according to demand, using a photovoltaic system with a diesel support **ensuring constant supply 24 hours a day.**
- In a **switched hybrid system**, the battery bank can be charged with a diesel generator and photovoltaic panels, when available.
- During the period of low demand, the equipment sends water to a accumulator tank.
- This may be supplied, when necessary, from the tank. If the output power of the diesel generator equipment exceeds demand, excess energy is used to recharge the battery bank.
- When comparing the overall conversion efficiency, the switching systems are more efficient than other systems.





DESIGNED SOLUTION

Electric generator type	Hybrid
Project flow	50 l/inhabitant/day
Storage system	Hot water tank
Planned storage capacity	10 l/inhabitant
% consumption covered	~100%

Main parameters of the system	
System type	Autonomous
Abstraction	Submersible pump
Filtration	Double filtering process
Chlorination	Chlorination with double analyser
Programmable controller	Control and remote control
Output pressure	Constant 1,5 At
Distribution	Using a timer or personalized flow control

Equipment	Unit	System
Supply drinking water outlet	1	Timer push-button
Sanitary hot water outlet	1	With automatic volume control
Interior lighting of Module	2	Switch
Exterior lighting of Module	2	Photocell

Storage system	Unit	System
Fuel	1	Independent compartment
Additives for water	1	Separate compartment
Treated water	1 (+1 opt)	Inside the unit protected to prevent CONTAMINATION



RURAL COMMUNITIES

- ☀ Providing water to villages
- ☀ Providing services to the community

AGRICULTURAL HOLDINGS AND FARMS

- ☀ Providing safe drinking water to meet with health requirements for product development

PUBLIC SERVICES

- ☀ Outpatient centers, Educational centers
- ☀ Public buildings in general

NATURAL DISASTERS

- ☀ Provision of minimal drinking water and hot water supply in case of emergencies



WHERE IT IS NEEDED

This technology can provide water for villages, public services and business facilities in a **TOTALLY AUTONOMOUS** way without the need for energy infrastructure and distribution networks.

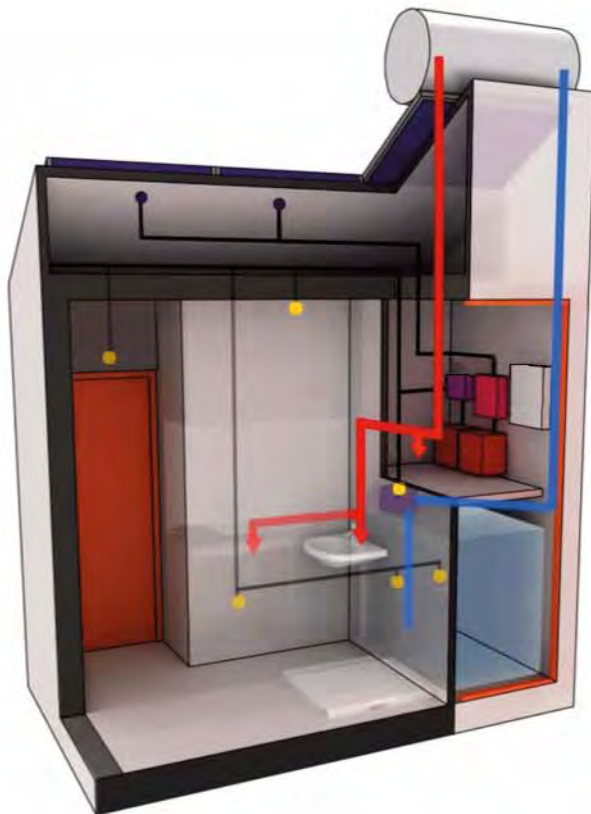
The speed and simplicity of installation, coupled to the fact that a UAP can be transported by any transport medium due to its modularity, provides a great versatility for of its implementation.



TECHNICAL FEATURES

- No external power supply is required
- Able to purify contaminated freshwater
- Designed for maritime / terrestrial transport
- Easy installation
- A design for transportation to destination and download without use of additional means is possible
- Minimum maintenance
- Self-management and intelligent regulation of the energy needed in the process
- Remote control for the control of the installation
- Completely modular system designed to increase its capacity according to the needs
- The modular design allows custom supply configurations
- Basic equipment sized for 12 m³/day and populations of 200 inhabitants





- The chosen equipment option is the thermosyphon
- The equipment will be installed in or attached to the POU
- The equipment is closed and indirect (primary and secondary) so that in the working fluid the antifreeze can be used
- **Abstraction.** Potable water is fed into the POU supplying hot water for domestic use.
- **Generation.** It consists of modules responsible for taking advantage of solar energy to heat the water
- **Adjustment.** Option of an additional resistance to ensure 24-hour hot water
- **Accumulator:** Different capacities according to the needs



STANDARD MODELS

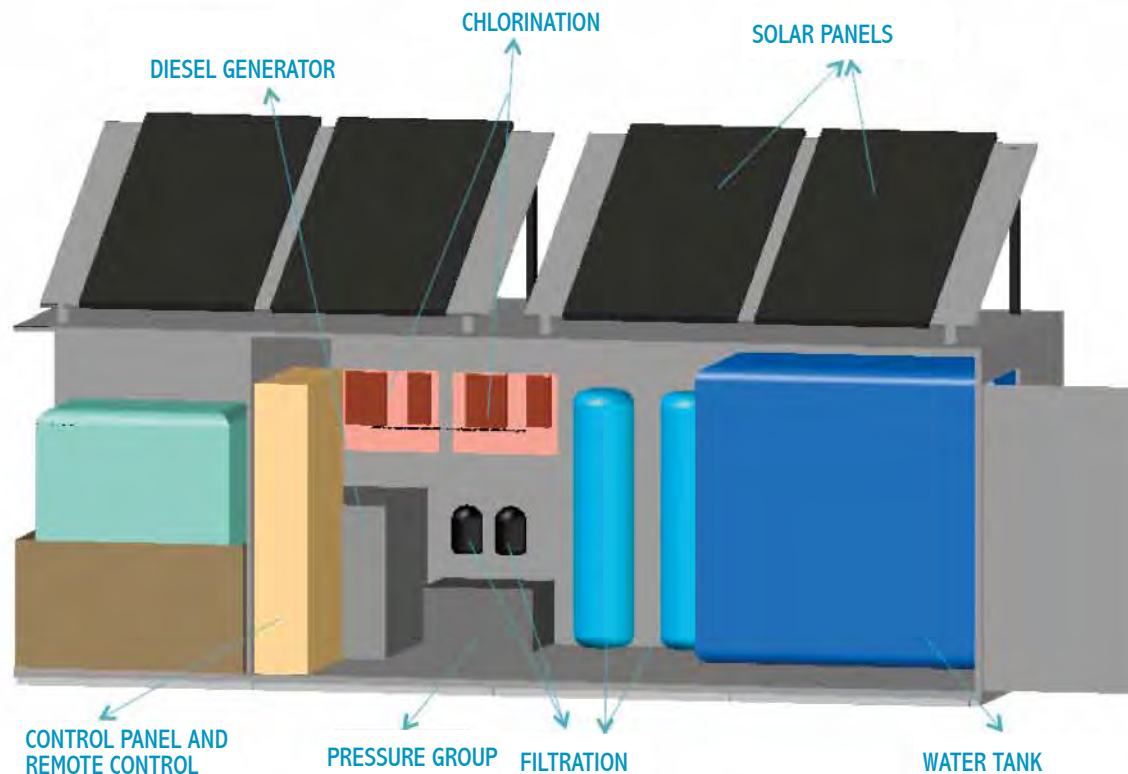
Model	No of inhabitants	SHW
Class A	Up to 200 inhabitants	Optional
Class B	Between 200 - 500 inhabitants	Optional
Class C	Between 500 - 700 inhabitants	Optional
Class D	Between 700-1000 inhabitants	Optional
Other models	To be studied by our engineering department	

OPTIONAL

- Treated water storage tank of high capacity.
- Tank for additives and fuel of high capacity.
- SHW module.

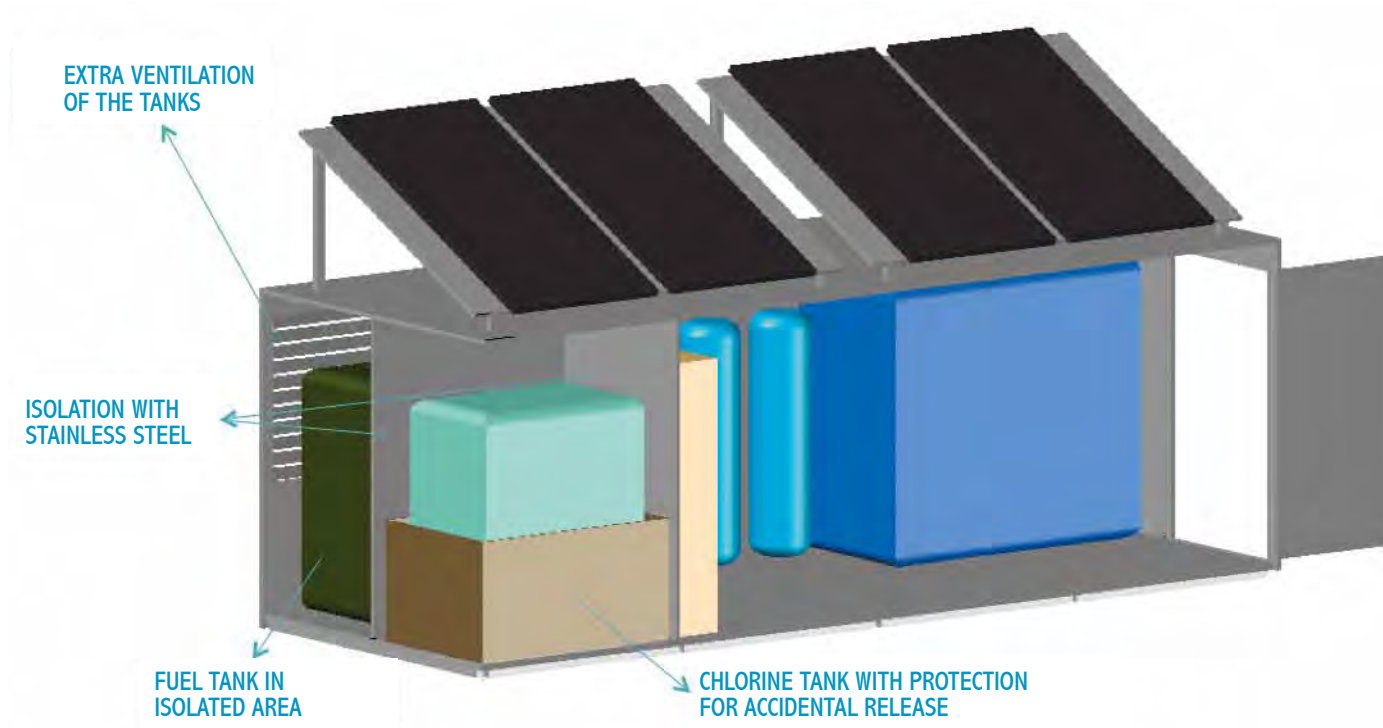


- The units dispose of **DUPLICATED EQUIPMENTS** to ensure operation in case of failure of the main equipment.
- The system allows monitoring at all times and the remote control in case intervention would be needed to keep it running smoothly.





- Possibility to supply a "maintenance KIT" for replacement of filtration consumables for filtration, chlorination, pumping, etc.
- Technical Assistance Service and after-sales according to customer demands.





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