

# A Growing Drinking Water Crisis Threatens American Cities and Towns



America's Clean Water Crisis Goes Far Beyond Flint

America's Clean Water Crisis Goes Far Beyond Flint. There's No Relief in Sight







# **PROBLEM**

In today's emergency management environments, operational units must be highly mobile and carry all necessary equipment and supplies. A significant limitation of mobility is the need to take fresh water. An individual must have 2 to 4 gallon of water daily in the field without re-supply. It would be far better to purify locally available water, but no technology exists to allow to purify water in every environment.







# **SOLUTION**

A portable, energy-independent water purification system that can deal with water contamination (bacteria, protozoan, cysts, viruses, organic and inorganic chemicals, pesticides, herbicides, radionuclides, etc...), including cases of water supply terror/sabotage. This system designed to be operated and supported by users with minimal technical skills in any environment, ensuring survivability.



#### **POWERFUL REVERSE OSMOSIS STATION**

Ultimately purifies not only any bacterial threat but

also chemical contamination, including the brackish

water.





#### WHAT IS IN THE BACKPACK?



#### **BUILT-IN WATER QUALITY MONITORING**

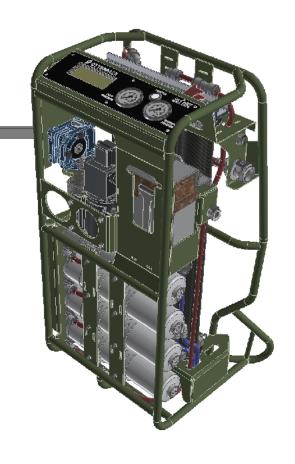
Automatically checks, verify and display input and output water quality.







#### OTTERPACK™ DESIGN



**MODULAR** 

**DURABLE** 

**LIGHTWEIGHT** 

# UNRIVALLED SYSTEM SPECIFICATION

Capacity LPH: 32 Gallon per Hour

Feed Pump Suction Lift option: 40 foot

Manual Pump: Rotary Vane

Electric Pump: Positive Displacement

Membranes: (3) e.a. TFC 2.5" x 21"

Power: Li-Ion 24V Rechargeable Battery

Operating Pressure: 6 - 8 Bar

Connections: Quick Tubing Connectors

Water Quality Monitor Inlet/Outlet: TDS

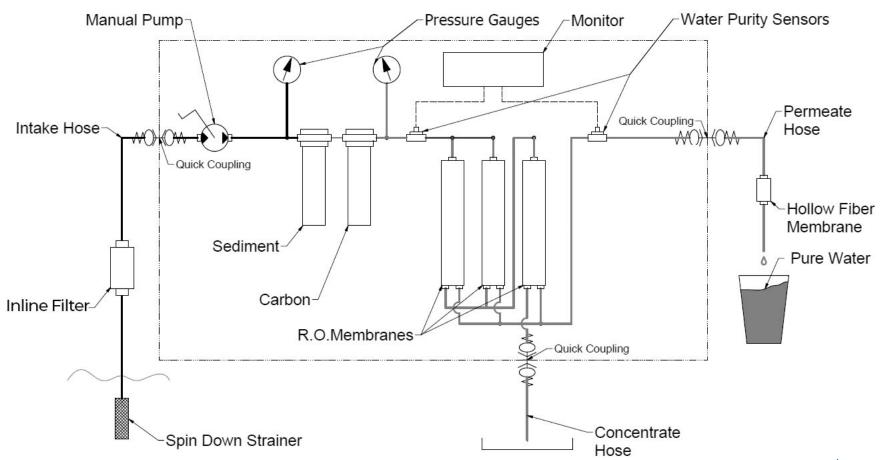
Nominal Salt Rejection: 99%

Unit Dimensions (inch): 29.5 x 13.7 x 11.8

Weight: 40 pound (without a backpack textile)



## OTTERPACK™ COMPREHENSIVE WATER TREATMENT PROCESS





#### **CONTAMINANTS**

Otterpack<sup>TM</sup> clears away virtually any impurity in the water you would want to be removed. Its ultimate Reverse Osmosis system provides a full range of treatments that assures safe and great-tasting water.



BACTERIA & VIRUSES



**INORGANIC CHEMICALS** 



**ORGANIC CHEMICALS** 



**RADIONUCLIDES** 



**PESTICIDES** 

**HERBICIDES** 

## **CERTIFIED**

Otterpack™ has been tested and certified by the following organizations:





















#### UNIQUE AND PATENTED ADVANTAGES

#### **UNCOMPROMISED FILTRATION**

The system removes not only any bacterial threat but also chemical contamination, which gives it the ability to cope with water terrorism/sabotage.



#### **ENERGY-INDEPENDENCE**

A dual system of independent pumps (manual and electrical by a standard rechargeable battery). Each can work solely or combined.



#### **UNIQUE DESIGN**

Sustainable water purification components' innovative flush and backwash processes have made the system operate with minimum filters and membrane replacements for many years.



#### HIGH PURIFICATION CAPACITY

Despite its lightweight and small dimensions, it supplies up to 2L of high-quality drinking water every minute.

#### **ERGONOMIC**

Hands-free integrated backpack design dedicatedly developed for humanitarian and defense environments.

#### WATER QUALITY CONTROL

Clear and simple water quality monitoring. Membrane replacement notification.



#### REFERENCES FROM THE FIELDS



#### Patricio Caruso

Project Manager - The Educational Water
Pact Forum

World Women's Observatory of WUCWO

"Our project in Argentina got the attention of His Holiness Pope Francis. We had the opportunity to meet the Pope and show him the Otterpack. It was an incredible experience. And the Pope drank the purified water!"



# **Gary Binstock**

Director of Technology - Tech Scouting: Strategic Innovation & Alliances at Colgate-Palmolive

"I was super excited to deploy and train the vulnerable indigenous community population on Otterpack units. It's been a wonderful journey working with ABInBev, 100+, WWF and amazing start-up OtterPack LLC to bring this to life!"



President of Survival Supplies Australia

"I like the versatility of this system. It can work manually with no energy required at all. However, if any basic infrastructure is available in the operational area, then Otterpack can be easily connected to a rechargeable battery, a vehicle accumulator or solar panels."



# Agr. Eng. Yesenia G. Valera

CCNN Flor De Ucayali community leader

"For us, Otterpack is not only a cool sustainable high-tech device. Each community member knows how to run and maintain Otterpack systems; therefore, every system user becomes a water treatment pro. That creates a boost in the community's awareness and understanding of water and sanitation challenges."





#### **REFERENCES FROM THE FIELDS**



#### **Prof. Hadas Mamane Steindel**

Head of the Environmental Engineering
Program and the Water-Technology
Laboratory, Tel Aviv University

"The Otterpack can purify a large amount of water by simply rotating a manual handle. It's energyindependent and can be used even in off-grid locations or during natural disasters when there is no access to power."



# Morenike Johnson

Feeding the Hungry Intl Co-Founder

"We do not know what is in the local natural and artificial water source – Mercury, Arsenic, or Cholera. So, Otterpack systems for us is not only about water quantity but first and foremost about water QUALITY. Otterpack gives us the maximum possible protection against waterborne diseases and unhealthy chemicals."



# Col. Michael Azulay

Commando Brigade Chief Logistics

"The system can provide pure water to an entire platoon unit while it is in the operational environment. Being commanders in the field, we must be confident that the purified water is 100% safe for drinking by our soldiers even in the case of chemical sabotage. Otterpack provides a full range of treatments that assures safe and greattasting water."



# **Jeffrey Carraux**Chief Science & Tech

Chief Science & Technology Prototype

Assessment

Sustainment Battle Lab

"Otterpack demonstrated its ability to purify water by means of a lightweight, man-portable system using reverse osmosis. The system is contained within a backpack and was easily operated and carried by one soldier."



#### **REFERENCES FROM THE FIELDS**



#### **Prof. Elhanan Bar-On**

Director of the Center for Disaster

Medicine and Humanitarian Response at

Sheba Medical Center

"In embattled Ukraine, Otterpack water purification technology was integrated within the Sheba Tel HaShomer field hospital sterilization processes, successfully supporting Emergency Medical Team Type 1 standards."

# **Env. Eng. Chai Harrari**

IsraAID WASH expert

"After Super Typhoon Odette hit the Philippines, seawater infiltrated wells and other water sources and caused the water to become undrinkable.

Since the storm, water, sanitation and hygiene experts from IsraAID have installed Otterpack energy-independent technology in communities without water access to deal with brackish water."



### **Pope Francis**





