



MOBILE
WATER PURIFICATION UNIT
HYDROSOR

ADGEX
Advanced Green Expertise

Clean water - is the most precious and drained resource on Earth!

Today 1/5 of the Planet's population is living in the regions suffering from water scarcity. Every single year 2 million people die due to a lack of clean drinking water. Morbidity and death rates increase continuously as water contamination and global pollution intensify.



Humanity is on the verge of Global Water Crisis

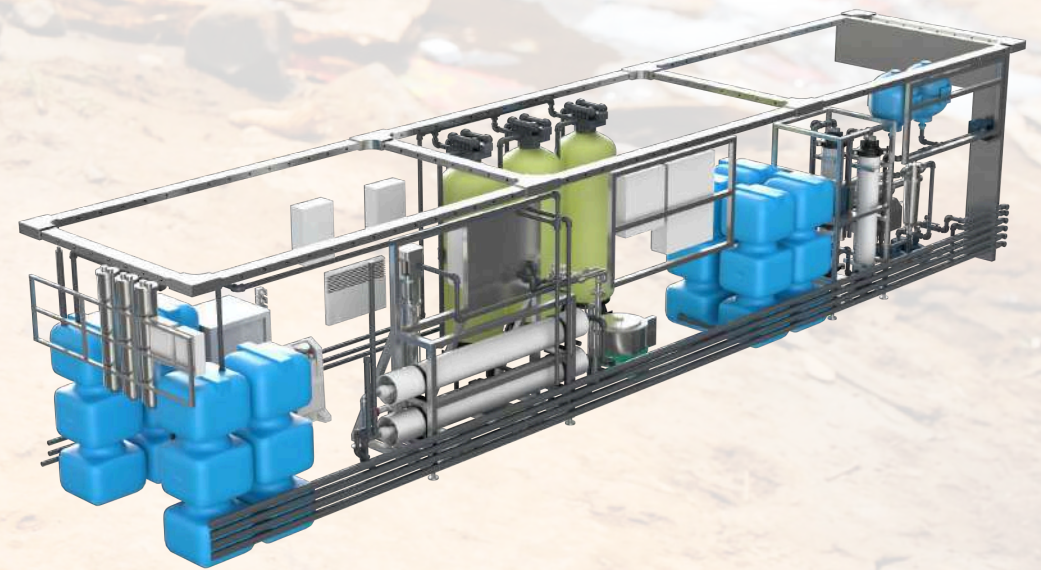
Consequences of ever-increasing clean water shortage:

- Every 90 seconds a child dies from a water-related illness
- The rate of infectious and oncological diseases skyrocketed in the last 10 years
- Mutation rates hugely increased
- Viruses strain are always acquiring mutations causing origination of new previously unknown infectious diseases

THE TIME TO SOLVE THE PROBLEM IS NOW!



HYDROSOR – is a signature mobile water purification unit, representing a fully-customized universal kit, assembled exclusively for customer needs from different standardized modules.



APPLICABILITY:

- Purification of severely polluted brackish wastewater from organic compounds, decontamination from natural and man-made pollutants, including toxic substances, herbicides, defoliants, dissolved oil products, spores of pathogenic bacteria and viruses.
- Supply of high-quality drinking water to remote and hard-to-reach areas of temporary and permanent residence without centralized water supply, as well as to communities exposed to natural and man-made disasters.
- Water treatment to make it acceptable for specific end-use, such as industrial water supply, irrigation, water recreation and others.

HYDROSOR HIGHLIGHTS

- ✓ **Mobile container-type design**
HYDROSOR is delivered worldwide in isothermal 40-foot container and can be easily relocated if needed
- ✓ **Movable configuration**
The unit can be implemented on the basis of movable truck, rail or vessel
- ✓ **Eco-friendly operation**
HYDROSOR discharges NO toxic emissions into the atmosphere. Safety level of residual by-products comply with 4th toxicity class
- ✓ **Self-sufficiency**
The HYDROSOR unit can be used without reagents and consumables. It requires NO periodic maintenance; operation process can be controlled and monitored remotely
- ✓ **High purification quality**
Purification from heavy metals and salts, organic compounds, including PCB and petroleum & oil lubricants, from pharmacological and hormonal drugs, antibiotics, from pathogenic flora, including fungal and viral infections



TECHNICAL FEATURES:

- ✓ **Product water performance:**
 - hourly average **5.0 m³/hour**
 - hourly max **10.0 m³/hour**
- ✓ **Power network:**
 - Single-phase **50Hz, 220V** or three-phases **380V**
 - Power consumption - **max 6.2 kVA**

Purification system output provides two main water lines for high-quality drinking water and technical water (available for drinking too).

AVAILABLE CONFIGURATIONS



Mobile water purification units HYDROSOR are designed on the basis of a freight container with all necessary utilities (heating, lighting, air conditioning).



All component parts of the HYDROSOR units are pre-manufactured and ready-to-go immediately after delivery. Stationary and movable configurations are available for customer's choice.

HYDROSOR
movable
configuration

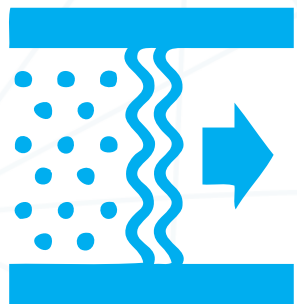


Stationary container-type wastewater purification system mounted at MSW landfill «Barsukovka» (city of Sovetsk, Kalinigrad Oblast, Russian Federation)

The system in a fully automated mode has been uninterruptedly operating for 4 years.



All modifications of the HYDROSOR unit are fitted with product water quality and equipment diagnostic systems. Optionally remote operation system can be also installed.



UNIVERSAL PURIFICATION MODULES

1 Preliminary Mechanical Treatment Module

designed for water treatment from mechanical impurities and coarse dispersions.



2 Thermal Vortex Destruction Module (Unparalleled «Know-How» Technology)

designed for fractional separation of water.

Treatment process is based on simultaneous vortex and thermal effect on liquids in chambers with curved channels and further condensation.



3 Hydrodynamic reactor (Unparalleled «Know-How» Technology)

The present treatment technology is relied on destructive method, based on making chemical modifications in the molecular structure and composition of impurities.

Use of the present module makes it possible to decontaminate water runoff from:

- dissolved iron salts and heavy metals;
- inorganic substances and petroleum products;
- fats and oil;
- bacteria and viruses;
- surface-acting agents (SAA).

In addition to this, the module softens the treated water, removes radionuclides, reduces water turbidity and unpleasant smell.



4 Sedimentation Module

designed for removal of contaminants, which formed coagulating agents in vortex reactor.



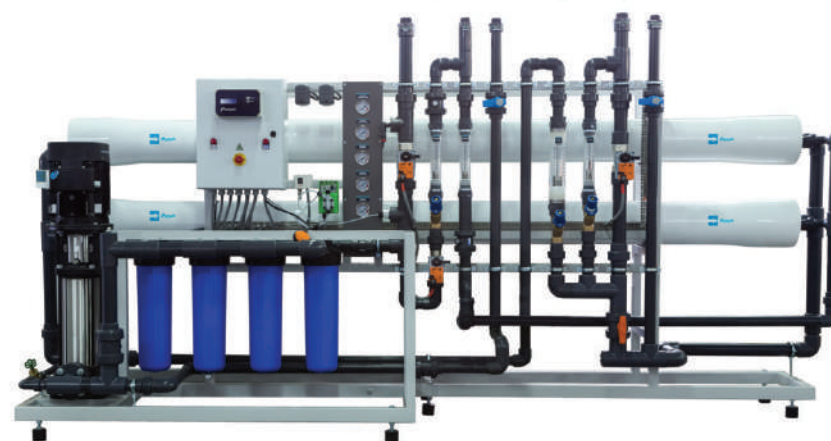
5 Ultrafiltration Module (Unparalleled «Know-How» Technology)

designed for removal of particles (up to 1 micron), coupled by vortex reactor, from water as well as for treatment of heavily polluted water.

6 Reversed Osmose Module

designed for removal of salts from water by fractional separation.

The module is used to reduce salt content in water and purify extremely toxic water with organic substances.



7 Photochemical Treatment Module (Unparalleled «Know-How» Technology)

designed for destructive treatment of all organic compounds.

A signature purification system making it possible to remove such hypertoxic stable compounds as poly-chlorinated biphenyls (PCBs), hazardous concentration values of which equal to as little as several nanograms.



8 Adsorption Treatment Module

designed for removal of excess oxidizer, formed at the previous photochemical treatment stage.

Adsorption treatment is carried out in single-flow adsorption ion exchangers filled with activated carbon. Number of filters (exchangers) are chosen based on required production capacity of the unit.





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