

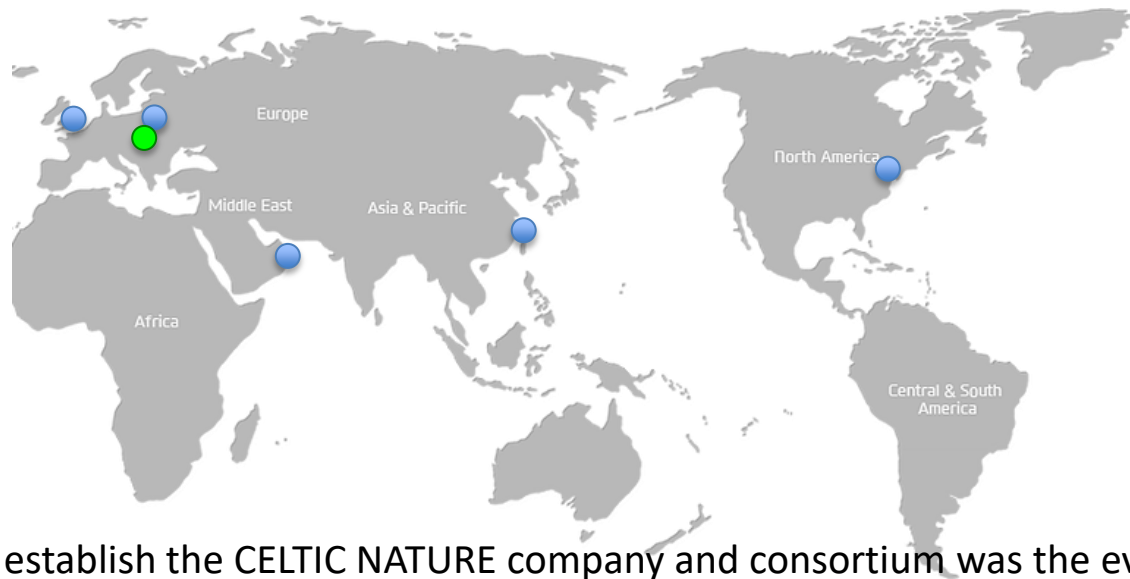


# PROGRAM CELTIC WATER

The Water Treatment System CAS WT & CAS AQR



## WATER GIVES PEOPLE LIFE. CELTIC NATURE GIVES PEOPLE WATER.



The impulse to establish the CELTIC NATURE company and consortium was the ever increasing need for living environment protection and the consequential demand for clean water, healthy air, soil that produces healthy food and friendly living environment. Our know-how is a power based on our own patented solutions and unique technologies.

The everlasting search for new ways and innovative methods is a motor of success. It begins with a project and ends with customers' satisfaction

## WHAT WE OFFER?

Our offer contains all aspects of requirements for quality water for each sector. The most demanding sector is that of potable water, however the technological water has also many applications; therefore we are able to meet any requirements as to the different quality of water, with regard to specific needs (hardness or softness, acidity, alkalinity, specific content of minerals, etc.).

Furthermore we are able to treat the water and revitalize it, in a way that 95% of it can be put back into use. The capacity of each equipment can be adjusted to specific needs, from supplies to small groups of people to whole cities.

- Potable water for inhabitants
- Softened or demineralized water for technological purposes
- Water enriched with micro and macro elements for agriculture



## CHARACTERISTIC FEATURES OF OUR TECHNOLOGY

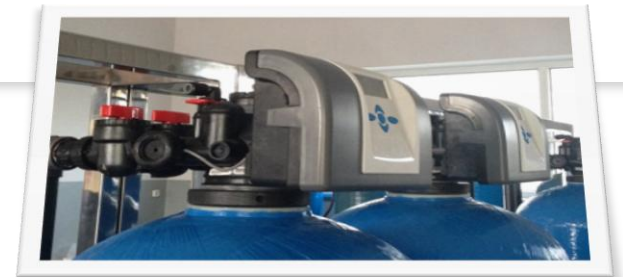
In the field of water treatment the CELTIC NATURE Consortium represents absolute world top. The technology is patented and is completely different from the reverse osmosis technology. Operational costs are many times smaller and the quality of product is much higher. Quality, healthy water is the basis of health of the whole population regardless either the infrastructure or the density of population.

The quality of water influences the health of people and therefore their ability to work. The need for quality water is not limited to the drinking water only. Not only the drinking water, but also technological water, and the water used in agriculture. Utilization of contaminated water in agriculture means that toxic matters are being transferred in the food chain.



## CHARACTERISTIC FEATURES OF OUR TECHNOLOGY

- very high efficiency of pollution reduction up to 98%,
- selective capturing of impurities, which helps to solve specific problems in a particular area.(dedicated systems),
- a very small amount of individual sewage (often only a few liters per one m3 of treated water) which can be processed into liquid mineral fertilizer,
- non-chemical method of water treatment,
- competitively small dimensions of equipment allowing for the use of existing infrastructure,
- Small size and high capacity
- Manual or fully automatic versions
- Highest quality of water and a simple manipulation
- Long operation cycles



## DRINKING WATER SUPPLY FOR INHABITANTS

It is a sophisticated solution for water treatment to the level of potable water. CAS system is able to supply quality potable water from local sources, i.e. rivers, lakes, wells, no matter what the contamination of soluble substances is. The equipment works on electricity, from the network or a diesel aggregate. It can operate the whole day, with a necessary break for regeneration, eventually cyclically according to actual needs. It is produced as a variety of stationary containers or mobile with an undercarriage.

Capacity of each model varies from supplying of 50 to 10,000 persons from one module (CAS WT 03 and bigger). The number of modules in a row has limitation and depends only on the need and the richness of the source. Out in the open in case the water source is strongly muddied it is necessary to take into account the need of inlet filtration of insoluble mechanical elements.

The devices improve the taste and smell of water, protect against bacteriological and chemical contamination and radiation, and they provide the highest quality drinking water.



## CAS WT 02

### WATER PURIFICATION SYSTEM - ECOLOGICAL CRISIS, FLOODS, MILITARY

The proposed system is very useful as an outdoor potable water supply especially for the military and fire brigades. CAS WT-02 compact portable water treatment system is characterized by small dimensions, high performance and easy portability. It can be used for water treatment of various origins: wells, rivers, lakes, surface water and groundwater, and even extremely contaminated water. The device improves the taste and structure of water, protects against bacteriological and chemical contamination, removes radionuclides, e.g. radon, and ensures the highest quality drinking water.



## CAS WT 02

### MILITARY AND FIRE BRIGADE VERSION

The device works 20 hours a day. It is produced in several versions for different types of vehicles such as fire or military with special adjustments. The individual versions offer the capacity of potable water supply from 3000 to 5 000 people. The weight depends on the equipment and ranges from 350 kg (CAS WT 02). In case of highly polluted water it is necessary to count with input filtration of insoluble mechanical particles. Dimensions: height 115 cm, length 126 cm, width 60 cm (version for fire brigades). The size for the army purposes is different, because it depends on the structural design of the equipment. It can be made of stainless steel or carbon fiber.

The equipment is possible to be made of bulletproof Kevlar for military purposes. In terms of transportation it can be prepared in container version or truck trailer version. Energy supply is 2 kW, power consumption 1460 watts (CAS WT 02). The pressure is 6 bars. Water can be pumped from a depth of 8 m and a height of 60 m.



## CAS WT 03

### MOBILE WATER PURIFICATION –RESCUE TEAM, OUTDOOR ACTIVITY

Perfect solution for outdoor trekking, army, fire squad, and others rescue squads. The system CAS is able to produce high quality drinking water from local sources - rivers, lakes, dams and wells, regardless of how these sources may be contaminated. The device operates at 12 V power or manual pump. It is produced in a backpack version or as a module fitting into a car. The individual versions offer the capacity of potable water supply from 50 to 200 people.

The weight depends on the equipment and ranges from 15 to 25 kg. In case of highly polluted water it is necessary to count with input filtration of insoluble mechanical particles. All produced mobile units are certified in European Union.



## CAS WT 03

### TECHNICAL SPECIFICATION

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Dimensions: height 560 cm x length 325 cm x width 210 cm. Size might be different because it depends on the structural design package. It can be made of stainless steel or carbon fiber. The equipment is possible to be made of bulletproof Kevlar for military purpose.

Power	V/Hz 12/7Ah
Performance	W40
Pressure	bar 3,5
Water temperature	°C 1-40
Consumption activator 2g	10 l water



## SAFETY WATER – CLEAN WATER

### THE WORLD IS NOT ALWAYS VERY SAFE

Contemporary worldwide situation with terrorist attacks occurring everywhere may develop into more sophisticated attempts and water is an easy medium for such attempts. If we talk about a flawless and perfect safeguarding of people against such excesses, then only sophisticated technological equipment is able to secure high level of safety. The most perfect disinfecting system is just a needless expense and does not provide necessary efficiency.

CELTIC NATURE Company offers technological system, which is able to safeguard population in several levels and make an eventual deliberate contamination of water impossible (disinfectants are not an obstacle against deliberate contamination). The core of the system is a technology, which removes a whole number of contaminants from water.



## ANTI-TERROR TECHNOLOGY

**We present our offer of water treatment and purification systems based on contemporary, patented technology.**

**The system protects from bacteriological, chemical and radioactive contamination. It guarantees potable water in highest quality.**

It can protect individual buildings and housing estates too. This provides a very important opportunity to manage a security government offices, hospitals, hotels, hotel resorts and other important subjects which are connected to the water lines. The CAS AQR/AT systems do not require additional modifications to existing systems. They work automatically and use the natural pressure of water lines.



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## CAS AQR/AT

### WE DO NOT RELY ON COINCIDENCE

We have a 98% certainty of removing any kind of substances. In case of dealing with a permanent control of water quality in water supply systems it is possible to add other segments of safeguarding. All systems of CAS AQR in standard may be doubled and ensure permanent safeguard against a breakthrough of toxic substances into the system.

Additionally it is possible to connect a contamination detector ABT Bio detector, which is able to find out with 100% certainty the presence of toxic substances in the water supply network.

Thanks to patented solution it is the most exact and quickest detection system in the world. The water analysis takes place every 5 seconds.





## SELECTIVE CAPTURING OF IMPURITIES

**The range of potentially hazardous substances removed by CAS AQR/AT and other types devices is listed below as follows:**

- heavy metal cations: iron Fe, manganese Mg, copper  $\text{Cu}^{+2}$ , nickel  $\text{Ni}^{+2}$ , lead Pb + etc. Also highly toxic such as mercury Hg, cadmium  $\text{Cd}^{+2}$ , thallium  $\text{Tl}^{+2}$ , arsenic As +3 etc.
- anions: nitrate  $\text{NO}_3^-$ , nitrite  $\text{NO}_2^-$ , phosphates  $\text{PO}_4^{3-}$ , chromates  $\text{Cr}_2\text{O}_7^{2-}$ , cyanides  $\text{CN}^-$  (metal cyanide complexes), arsenite's ion  $\text{AsO}_3^{3-}$ , arsenate ion  $\text{AsO}_4^{3-}$ , sulphides  $\text{S}^{2-}$  and many other inorganics and organic anions such phenolates, anionic detergent anions  $\text{R-SO}_3^-$  etc.
- harmful and dangerous microorganisms: bacteria, fungi, viruses, algae, protozoa (as well as types of bacteria such as clostridia and Cryptosporidium)
- and many more

The devices do not require laboratory tests of the water source; no matter what the contamination of the source is, the outcome is always high quality drinking water. It is possible to extend the effectiveness of systems for special applications. If special requirements are necessary, the user should determine to contamination to be eliminated from the treated water.



## WE CAN PROTECT

Residence of the President



Parlament, Senate Buildings



Government Buildings, Embassy



Schools, Offices, Hospitals...



Hotels, Condominiums...



.... and more

## OUR OFFER CAS AQR & CAS AQR/AT

**CAS AQR/AT** stationary water treatment system can be applied in single-family home, apartment block, as well as in larger housing estates. It does not require any additional infrastructure, works automatically based on the flow.

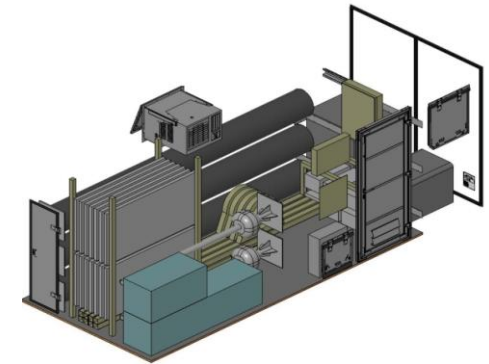
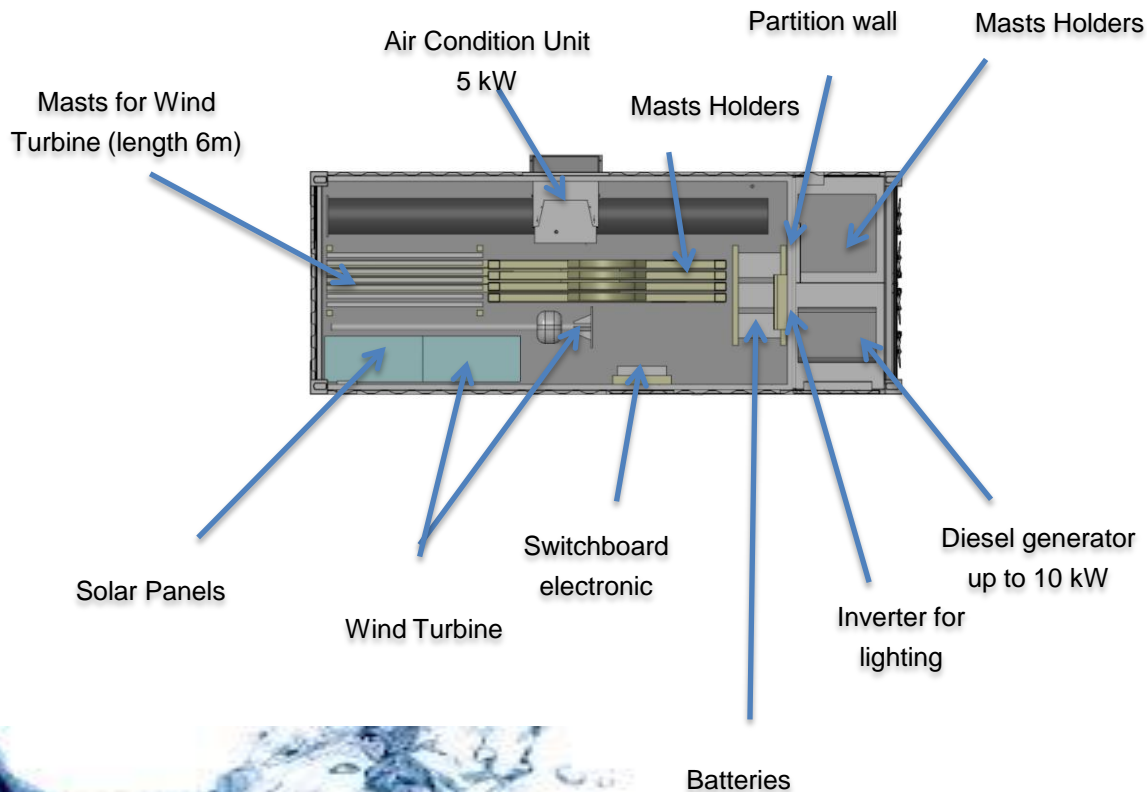
Devices of the **AQR** series are rated for nominal capacity as follows: 1.0 m<sup>3</sup>/h (maximum 1.6 m<sup>3</sup>/h), then 2.4 m<sup>3</sup>/h (max 3.6 m<sup>3</sup>/h), 4.0 m<sup>3</sup>/h (max 6.4 m<sup>3</sup>/h), 6.5 m<sup>3</sup>/h (max 8.2 m<sup>3</sup>/h), 9.0 m<sup>3</sup>/h (max 14.4 m<sup>3</sup>/h), 16.0 m<sup>3</sup>/h (max 25.6 m<sup>3</sup>/h) and 20.0 m<sup>3</sup>/h (max 32.4 m<sup>3</sup>/h) and more.



## BTS TECHNOLOGY CONTAINER POWER STATION



## CONTAINER POWER STATION INTERNAL LAYOUT



### **Container ISO 1 C (20 ft)**

- dimensions 2438 x 2438 x 6058 mm
- CSC certification – CSC plate - all the equipment (wind turbine, generator, solar panels masts etc.) transportable inside the container - air condition unit 5 kW
- maximum stack height 1+8 - backup diesel generator set 10 kW
- diesel tank 1000 l - there equipment according
- customer requests



## BTS TECHNOLOGY

### CONTAINER POWER STATION

**The Standard facility is composed of:**

Wind turbine: 5 kWp of installed output (mast - 4,5 m high included, higher due to request)

Solar panels: 9 kWp of installed output

Diesel/ Petrol generator: 11-12 kWp of installed output

Container body: standard 20' ISO 1C, CSC certified , optional 40' container with wind turbines

Electronic Management system: managing generated power to battery storage, charge and discharge of energy

Battery storage: capacity 15kWh, used only for emergency situations ( dead batteries, no sun and no wind to start up facility)



## BTS TECHNOLOGY CONTAINER POWER STATION

### Technical data:

Wind turbine: initial speed of 1,6 m/s

Peak performance at speed of 12 m/s

Noise less than 40 dBs

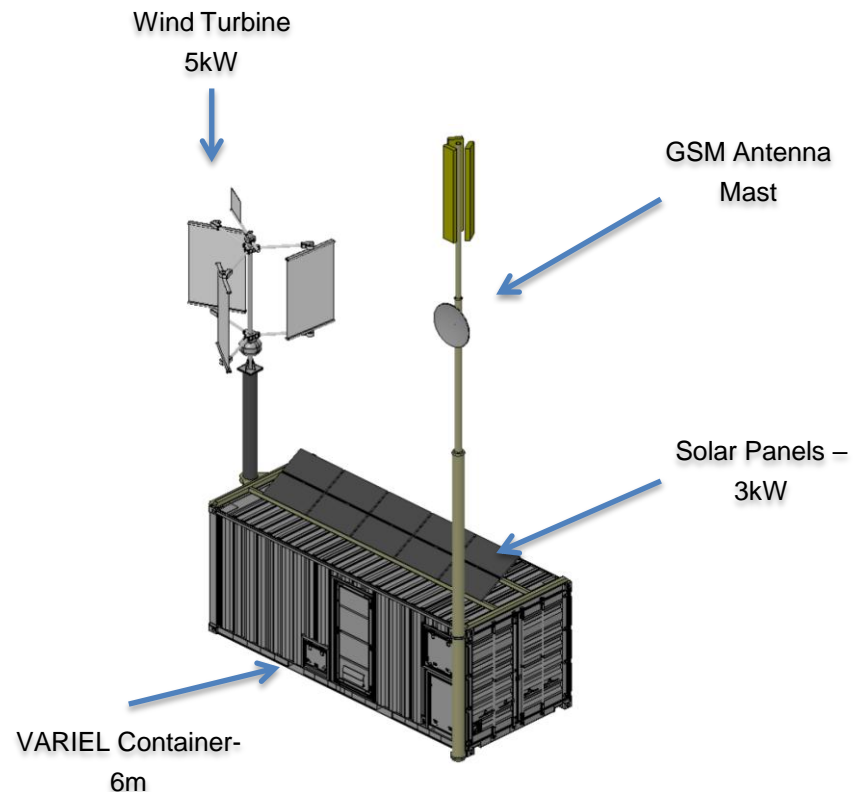
Facility is working harmless from -10 till 45 °C  
and humidity till 90%

Size: 2438 x 2438 x 6058 mm (w x h x l)

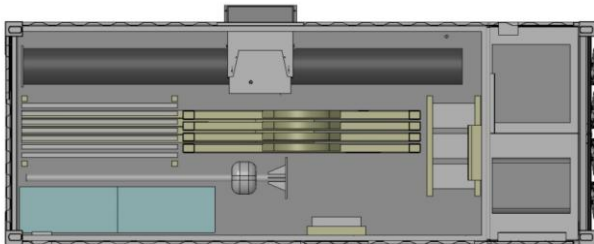
Weight: 6 000 kg

### Inside:

- backup diesel generator set 10 kW
- diesel tank 500-1000 l
- GSM technology including batteries
- air conditioning unit
- water turbine /alternative/



## BTS TECHNOLOGY + CAS AQR or CAS WT 02 CONTAINER POWER STATION AND WATER SUPPLY



DRINKING WATER SUPPLY... 1- 40m<sup>3</sup>/hour





WELCOME TO COOPERATION

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