Smart Eco Water

www.smartecowater.com

Over 50 years

Offering ecological solutions for water supply

Us

- We develop projects for economical, efficient and sustainable water management, offering comprehensive solutions.
- We improve investment, saving on land and infrastructure costs.
- We optimize production costs by providing economical operating solutions.
- We offer solutions adapted to the client's needs.
- Our team of engineers and technicians advises and guides the client in the adaptation and design of the previous installations, and installs our machinery, delivering the turnkey system.
- Our technical staff trains the client's personnel for the proper use of the machinery..

Factory






Smart Eco Water

"Drinking water within everyone's reach"

***Smart Eco Water Group, S.L.**., Smart Eco Water Group, S.L. is a company with extensive experience accumulated by its engineers and scientists for more than 50 years in the design and construction of equipment for the treatment of salt water, brackish water, waste water and other systems for the use of minerals and salt contained in water.*

Our factory is in Russia, where we have been manufacturing our equipment for more than 50 years.

***Smart Eco Water Group, S.L.** has branches in Spain, Turkey and Bulgaria.*

Commercial management for the national and international markets in Spain is carried out directly from Alicante, Spain.

The development of our technology is constantly advancing, carrying out research that places us as one of the companies with the most technological development in the world.

Our research is based on providing innovative and definitive solutions to the problems presented by equipment from other operators in the market, developing fully automated and computerized systems that can be operated by means of a remote telephone device, keeping a constant record of the operation of the equipment that allows us to control any incident that may arise and provide immediate solutions, without the need for long waits that affect the production of drinking or technical water; this being an exclusive characteristic of our equipment with a technology that no other manufacturer has been able to copy to date.

*The equipment designed by **Smart Eco Water Group, S.L**. offers great additional advantages that differentiate us from any other operator in the market..*

Our Proposal

1. Cost optimization

We significantly reduce the cost of obtaining 100% potable water and technical water.
We optimize energy consumption, minimize waste water, facilitate automation with minimal maintenance, save large investments in land and infrastructure through our compact system, and avoid spending on chemical reagents, producing totally natural and ecological water.

2. Regulatory compliance

We comply with all the requirements of WHO, EPA, CE, SNR, ISO, Energy Efficiency Directive 2014/36/EU, Electromagnetic Compatibility Directive 2014/30/EU, Machinery Directive 2006/42/EC, EN IEC 61000-6-1:2010, EN IEC 61000-6-3:2021, EN IEC 6024-1:2018, EN ISO 12100:2010, adjusting the operation of our machines and the process to obtain purified water, to current standards, limitations and restrictions, due to the water stress situation, avoiding it having a negative impact on the environment.

3. Strategic legal positioning

The use of our machinery allows the commitment to position itself within the laws and regulations that regulate water activity, contributing to maintaining the commitment to the environment at a low cost, offering a practical and economic solution to the user.

Eco-friendly solutions for water use

Environmental impact

ANALYSIS

Black Sea surface	Kg2	413 000
Black Sea water volume	Kg3	545 000
m3 in 1 km3		1 000 000 000
Black Sea water volume	m3	545 000 000 000 000
Salts in 1 m3 of Black Sea water	kg	18
Salts in the Black Sea	kg	9 810 000 000 000 000
The salt will increase by 1m3	kg	20
Will turn to salt in the Black Sea	kg	10 900 000 000 000 000
The difference between was and is		1 090 000 000 000 000
The volume of desalinated water	m3 /day	140 000
Water consumption	m3 /day	350 000
Brine	m3 /day	210 000
Pickles per year	m3 /year	76 650 000
Salts in 1 m3 of brine	kg	30
Salt poured into the sea in the form of brine	kg	2 299 500 000
How long will that take	Years	474 016

Studies carried out by our company with our desalination machinery with the capacity to process 140,000 meters3/day, in the Black Sea (the sea with the highest proportion of salt in the world), have shown that for the waste returned to the sea to be likely to produce an environmental impact on marine fauna and flora, 474,016 years would have to pass, that is, a minimal impact on the ecosystem.

Automated and intelligent solutions for optimal and sustainable management in the use of water and waste

a)- Desalination plants with reverse osmosis system, to obtain 100% potable water for human consumption, from sea water, or brackish water from wells, rivers, reservoirs, lakes, tributaries.
b)- Desalination plants with reverse osmosis system, to obtain technical water, from sea water, or brackish water from wells, rivers, reservoirs, lakes, tributaries, for irrigation of agricultural plantations, industrial uses, filling swimming pools, extinguishing fires, general cleaning in municipalities, complexes and homes.
c)- Equipment for purifying wastewater or dirty water from the public or private network, tanks, ponds, to obtain technical water for irrigation of agricultural plantations, industrial uses, filling swimming pools, extinguishing fires, general cleaning in municipalities, complexes and homes.
d)- Equipment for purifying wastewater or dirty water from the public or private network, tanks, ponds, to obtain 100% drinkable water.
e)- Equipment to process water contaminated with toxic elements caused by chemical spills, inks, oil, fuel, remains of industrial production and the pharmaceutical sector, to obtain technical water for irrigation of agricultural plantations, industrial uses, filling swimming pools, extinguishing fires, general cleaning in municipalities.
f)- Equipment capable of obtaining lithium from seawater, and for the use of other minerals useful in industry.
g- Equipment to process 100% potable water to obtain green hydrogen.
h)- System for processing wastewater obtained from the desalination of seawater, to obtain 100% ecological salt for use in food industries, snowy roads, pharmaceutical and cosmetic industries, etc., thus avoiding returning waste to the sea.
i)- Equipment for processing and using residual sludge, obtained from water purification, to obtain raw material that can be transformed to be used in:
ii)- Construction materials manufacturing: solid waste can be used to make bricks, tiles, concrete blocks and other construction materials.
iii)- Fertilizer manufacturing: solid waste can be used to produce organic fertilizers.
vi)- Landfilling: solid waste can be used to fill landfills and other empty spaces.
v)- Biogas production: solid waste can be used to produce biogas, a gaseous fuel that can be used to generate electrical or thermal energy.
vi)- Biomass production: solid waste can be used to produce biomass, a renewable energy source that can be used to generate electrical or thermal energy.
vii)- Glass manufacturing: solid waste can be used to make recycled glass.
viii)- Ceramic manufacturing: solid waste can be used to make recycled ceramics.
ix)- Paper manufacturing: solid waste can be used to make recycled paper.

Uses of our reverse osmosis desalination modules to obtain 100% potable water or technical water

***Our equipment is necessary in**:*

- *Areas where drinking water is scarce.*
- *Populations with difficulties for water supply, municipalities and suburban populations.*
- *Housing developments and houses, tourist and hotel complexes, golf courses, parks, camps, camping, water parks.*
- *Sports complexes and facilities.*
- *Green areas, gardens, fields of cultivation, greenhouses.*
- *Food industries or for industry in general, processing plants and industrial facilities.*
- *Ice factories and bottling of drinking water.*
- *Farms and industries for processing agricultural products.*
- *Industries for processing and preparing fish and seafood.*
- *Lake ports, sea or sports ports.*
- *Supply of drinking water for maritime vessels, both in port and on the high seas, merchant ships, fishing, passengers, yachts or army.*
- *Provision of clean drinking water on oil platforms and remote mining sites that do not have quality drinking water.*
- *Military installations, troop movements, field hospitals, etc.*
- *Communities, shelters and individuals.*
- *Hospitals, clinics, medical assistance services.*
- *Decontamination of rivers, lakes or reservoirs contaminated with chemical elements.*
- *Production of water (sea or lake) to cool generating equipment of any kind, nuclear power plant*

Uses of our equipment

Our modular equipment can be quickly and easily installed near the sea or other brackish water source, such as wells, rivers or lakes, to obtain 100% potable water or technical water.

Uses of our treatment plants to obtain technical water

Wastewater treatment equipment for food processing plants, dairy plants, industries, service stations, farms and livestock farms, hotel complexes, sports fields and stadiums, hospitals, public and private sanitation networks.

We design, manufacture and install equipment for wastewater treatment and waste processing to supply technical or 100% potable water for human consumption.

- All technologies implemented by our company are based on many years of experience in scientific research, patents, technical know-how, design developments and experience in operating equipment in various countries.
- The company has created original and user-friendly treatment plants with various technical modifications that improve the current offer available on the market.
- The equipment we manufacture has no analogues.
- The equipment differs from others on the market due to its operating system, reliability and low operating costs.

Operating principle of our equipment

Technical water treatment equipment:
- Innovative water purification technology is based on the use of the vortex wave method, which has not been used in wastewater treatment before.
- This method uses only physical and chemical processes that take place in a closed module.
- As a result, all steps of water treatment, such as: treatment with temperature, pressure, chemical reactions, disinfection, change of chemical composition, etc., are a thousand times faster.
- Substances are destroyed and modified at the intramolecular level, mechanical impurities are crushed to nanometric sizes, which allows them to be used together with purified water for irrigation purposes, as an organic-mineral fertilizer.

VOCs make it possible to completely solve the problem of wastewater treatment in municipal centers, small towns and villages, and to bring treatment to the level of discharge into reservoirs.

Without the need to occupy large dimensions of land, our super-small and compact system can treat the same flow of water that currently occupies a hectare, in just 100 m2.

Where more than 1 hectare was previously needed To process dirty wastewater

Now only 100 m2 is needed

SAVING!

It means savings in investment for the purchase of land and spending on large infrastructures

Uses of our Salt Utilization Systems

WASTE TREATMENT SYSTEM FOR SALT USE

Waste treatment system for the use of salt, avoiding the return of water with concentrated salt residues that may affect the ecosystem.

The design and operating principle of a pool-type solar distillation plant for the use of salt allows seawater or mineralized water to evaporate under the influence of the absorbed solar energy; the resulting water vapor condenses and the distillate droplets flow into a receiving conduit, where the distillate is discharged into a container for collection.

For example, when the production of salt concentrate from the desalination plant is 100 - 120 m3/day with a salt concentration of ~ 72 g/l, 7,200 - 8,640 kg of pure salt per day and an additional 100 m3 of fresh water (at 100% evaporation) can be obtained.

The type of salt obtained through our system is organic or ecological, and can even be certified as having a designation of origin.

The salt obtained can be used in the food industry, snow-covered roads, pharmaceutical and cosmetic industries, etc.

Uses of our solid waste recycling equipment

EFFICIENT SOLUTION FOR SLUDGE DRYING AND SOLID WASTE USE TO OBTAIN USEFUL RAW MATERIALS IN VARIOUS SECTORS OF INDUSTRY AND THE COUNTRY

Sustainable industrial solutions that not only meet the technical requirements of our customers, but also support responsible environmental management.

We use an integrated drying and processing system that includes:
Sludge Dryer: Able to handle the daily volume obtained from the plant, with optimized energy efficiency and a design that facilitates the recovery and reuse of solid waste.
Solid Waste Processor: Equipped to convert solid waste into materials suitable for reuse in the manufacture of construction materials, industry, crop fields, livestock industries, etc., contributing to the circular economy and reducing environmental impact.

Technical Specifications:
The equipment will be designed to meet the following characteristics:
- High thermal efficiency.
- Low energy consumption.
- Continuous and automated operation.
- Easy integration with existing systems.
- Minimum maintenance required.
- Robust construction for long durability.
- Drum filter press.
- Dimensions: 1200 x 1400 x 900mm
- Weight -220 kg
- Power 1.2 kw
- Waste processing capacity: 400 m3/day.

Operation:
Wastewater is pumped into the reactor:
In the reactor, accelerated deep oxidation takes place (at the same time, all viruses and bacteria are destroyed, and existing heavy metals are transferred to insoluble compounds by means of precipitation).
From the reactor, the treated mixture is sent to a vessel where sedimentation of the mixture occurs (separation of the liquid with the precipitate).
The purified water is drained through the upper system for further use.
The sediment falling through a special lower drain is directed to a rotary flow filter.
In this filter, the final separation of the sediment from the liquid fraction occurs...
The purified liquid is sent for further use.
The sediment (humidity 7-10%) is discharged into the lower receiving node.

Regulatory Compliance:
All our equipment complies with the strictest international regulations regarding safety and industrial operations.

Use of processed waste:
Solid waste obtained after drying the sludge from the manufacture of processed products by means of our purification systems can be used for:
- *Construction materials manufacturing: solid waste can be used to make bricks, tiles, concrete blocks and other construction materials.*
- *Fertilizer manufacturing: solid waste can be used to produce organic fertilizers.*
- *Landfill: solid waste can be used to fill landfills and other empty spaces.*
- *Biogas production: solid waste can be used to produce biogas, a gaseous fuel that can be used to generate electrical or thermal energy.*
- *Biomass production: solid waste can be used to produce biomass, a renewable energy source that can be used to generate electrical or thermal energy.*
- *Glass manufacturing: solid waste can be used to make recycled glass.*
- *Ceramic manufacturing: solid waste can be used to make recycled ceramics.*
- *Paper manufacturing: solid waste can be used to make recycled paper.*

Our technical proposal will not only meet your operational needs, but will also support your commitment to sustainable and responsible practices..

W Valve

The technology developed in the design of our valves uses an innovative system that regulates and reduces the meter reading for water consumption, significantly reducing the amount of the municipal supply service bill.

It allows savings, offering a true reading of the flow of water consumed, the user of our valve only pays for the water consumed, not for the air that passes through the pipes.

"W Valve" is a system that prevents the waste of drinking water, respects its consumption, being a patented system for domestic and industrial use that contributes to the reduction of the cost of the drinking water supply service.

REASONS TO SAVE WATER

<u>There are countless uses for water and the need for it is irreplaceable</u>

1. Only 1% of the Earth's water is fit for human consumption. Less water available for consumption means a higher cost for it.
2. According to data collected from www.ensia.com, since 2007, the price of water in cities has increased considerably faster than the total cost of living.
3. Water is vitally important in health, industry, social and economic sectors. Without it, communities suffer from poverty, hunger, and lack electricity.

IMPORTANCE OF "W Valve"

1.- In a pressurized hydraulic system in operation 24 hours a day.

The flow chain and its pressure must be kept constant, so that there is no BACK FLOW, which refers to the backflow in the water supply pipe network.

The technology used by our valve is based on the same pressure generated by the company providing the water supply service of the municipality; therefore, by adequately measuring the pressure needed for the expanded bubbles that reach the meter or counter to be reduced to their minimum expression; and taking into account the thrust pressure, the valve, despite being installed immediately after the meter or counter in the connection, generates a resistance, which allows the same pressure that we have mentioned to reduce its size, and when passing through the meter or counter; increasing the possibilities that the meter or counter performs the water flow count more accurately, offering a real reading of the water to be billed.

Depending on the pressure, the bubble reduction columns can be from 2 to 6 meters of column, prior to the meter or counter, making it possible for the valve to have the expected positive effect and reduce the excess of undue billing.

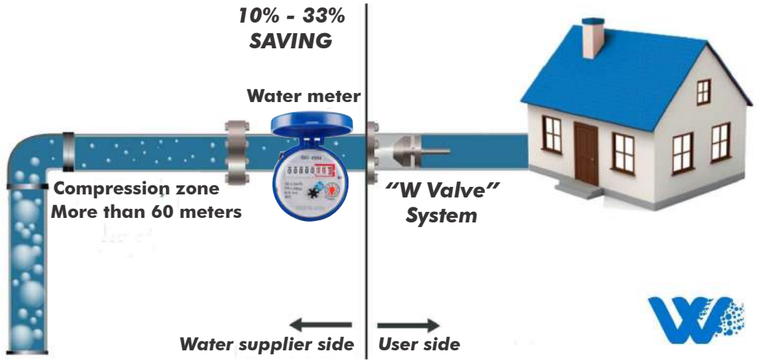
The valves' measurements range from 1 inch to 16 inches.

With a durability of up to 20 years

Benefits for the user when installing our valve: The meter measurement is used to record the flow rate that passes through the mechanism, this flow rate is the one that offers the measurements to be billed according to the drinking water rate, and at the discretion, another higher rate is charged for the water discharged into the sewer, which is more expensive than the drinking water rate because it is contaminated.

That is, if the bill for the supply of drinking water to the user is €100.00, it is possible that the user pays an additional €115 for waste water; the use of the valve allows that if the bill reduction is 10%, the savings are in both flows (Potable and Residual).

How the "W Valve" system works



USERS

Where can the "W Valve" be installed?

Supermarkets	Shopping Centers
Hotels	Tourist Complexes
Campings	Golf Courses
Stadiums	Sports Complexes
Buildings	Neighborhood Communiti
Airports	Hospitals
Schools	Universities
Car Washes	Ice Factories
Industries	Farms

FACILITY

Brick Making Machinery

We manufacture equipment to produce bricks tailored to the client, semi-automatic and automatic, robotized plants, to facilitate the production of bricks of various models and sizes, which can be manufactured with various types of materials.

With brick production from 1,000 bricks per hour, up to the capacity required by the client.

Easily adjustable to the measurements of the type of brick required, according to the desired mold.

With our machinery you can produce from standard bricks, to bricks of different types or models. Easily adjustable and with the automation option that avoids hiring personnel.

Our machinery can include an automatic stacker of bricks on pallets.

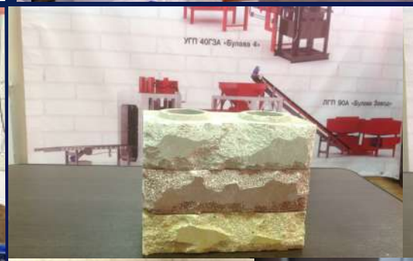
Our machinery can include a special drying oven, to leave the brick ready for shipment in 2 days, avoiding waiting for the slow drying process of 21 to 28 days, this allows you to save time and dispatch stock to your customers more quickly.

We also supply molds, adapted to the needs of the client, according to the desired model. Our machinery is delivered with a spare parts and consumables kit, to provide the customer with a guarantee of uninterrupted operation.

Request information without obligation from our sales department.









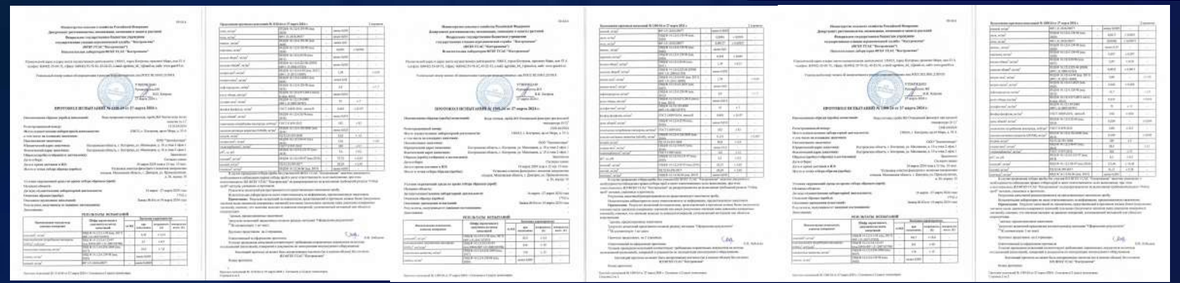









Certificates, Patents and Technical Certifications



Reverse Osmosis Desalination Plants

Some models of machinery available

15 m3

30 m3

35 m3

35 m3

40m3

40m3

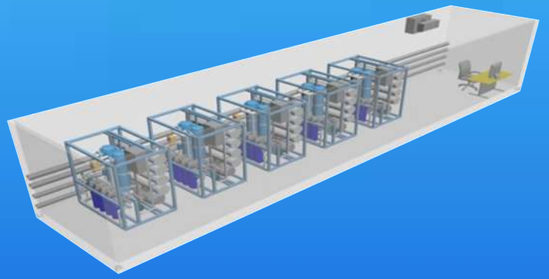
50 m3

40m3

100m3

Manual device 6 m3/h

INSTALLATION DIAGRAMS IN A 40-FOOT CONTAINERS



Wastewater treatment plants

Some installations carried out

Access link:
https://www.huffingtonpost.es/economia/el-revolucionario-sistema-adn-espanol-obtener-agua-potable-es-tecnologia-5nos-ventaja.html

huffingtonpost.es/economia/el-revolucionario-sistema-adn-espanol-obtener-agua-potable-es-tecnologia-5nos-ventaja.html

ATERRIZA EN NUESTRA PORTADA Y ENTÉRATE DE TODO — IR A PORTADA

ECONOMÍA

El "revolucionario" sistema con adn español para obtener agua potable: "Es una tecnología con 5 años de ventaja"

Publicado el 15/10/2023 a las 16:00

Equipo de desalinización de la empresa Smart Eco Water SMART ECO WATER

Una "revolución". Con este importante mensaje se presenta en sociedad la empresa desalinizadora Smart Eco Water, que busca "dar soluciones que aún no están a mano" en un mercado cada vez más complejo, el del agua.

Bajo un nombre en inglés, la compañía con origen ucraniano y capital español al 50% plantea dar el salto definitivo a España, en concreto a Alicante, donde situará su planta central desde la que atender al mundo en el aprovechamiento y envío de aguas de mar, de ríos, de pozos y otros orígenes hasta hacerlas potables.

Su director general, Julio Suárez, atiende a *El HuffPost*, a la vuelta de Bulgaria, donde temporalmente la entidad ha situado su planta ante la imposibilidad de operar en Ucrania por la invasión rusa. "Desde Bulgaria ya estamos llevando agua a muchos países, pero queremos dar un gran salto con la sede en España". Esto será "muy pronto, antes de fin de año", espera el empresario.

Como él mismo explica, "no es que no haya plantas desalinizadoras en España y el resto del mundo, porque sí hay muchas, pero su problema es que son muy costosas y dificultosas de mantener". Por ello, su entidad quiere adelantarse, "con una tecnología con unos cinco años de ventaja sobre otros sistemas".

Imagen del equipo de 100 m3 ya operativo en Bulgaria SMART ECO WATER

Report in the Huffington Post Internationally

October 15, 2023

La noticia de este proyecto 'medio' español se solapa con el anuncio de una tecnología a caballo entre el MIT estadounidense y China consistente en un mecanismo que se alimenta gracias a la energía solar. Así, el dispositivo permite que el agua circule en remolinos, algo que, unido al calor del sol, hace que el agua se evapore dejando la sal, mientras que el vapor de agua sobrante se condensa y puede utilizarse como agua potable.

Frente a equipos parecidos, Smart Eco Water plantea "tres aspectos claves": su total automatización, la ausencia de reactivos químicos en el agua y un coste reducido, detallan desde la compañía. Así, el sistema, una vez encendido, puede funcionar autónomamente todo el tiempo que sea necesario y se puede controlar remotamente o regular el caudal de agua que libera gracias al software que incluye. Pero la gran baza comercial radica en las cifras de coste.

> **No es que no haya plantas desalinizadoras en España y el resto del mundo, porque sí hay muchas, pero su problema es que son muy costosas y dificultosas de mantener**
>
> Julio Suárez, director general de Smart Eco Water

"En España hay plantas que no pueden mantenerse todo el año y registran costes de 5,6-5,8 kilovatio/hora por metro cúbico. Este proyecto rebaja las cifras a 2,4-2,8 kw/h por m3 en agua de mar o de 1,7 kw/h m3 en aguas de ríos, pozos o lagos", detalla Suárez.

Al respecto de los residuos generados, el director general asegura que son mínimos. "Las pruebas que hemos hecho en el Mar Muerto, por su altísima salinidad, nos mostraron que esos residuos no tendrían efectos nocivos en miles de años".

La empresa ya hace cuentas, porque una vez instalada en Alicante empezará un proyecto que espera emplear "a unas 20-25 personas el primer año, entre ingenieros, técnicos...". Será, si se cumplen los plazos, antes de fin de año. "Una vez estemos aquí queremos ser un baluarte nacional y un referente mundial", explican a *El HuffPost*.

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Pero incluso antes, desde ya mismo, el servicio está operativo en la sede temporal de Bulgaria. Allí ya están gestionando las "12 ofertas que hemos recibido para trabajar con diferentes lugares de España". También de fuera, detalla Suárez, citando "dos ofertas en Brasil, otras dos en Uruguay y varias en África".

Recursos con 'adn español' para adaptarse a cada necesidad y a un mercado, el del agua, que no hace sino empeorar en plena emergencia climática y sequía global.

Por Miguel Fernández Molina
Redactor de El HuffPost

Smart Eco Water
www.smartecowater.com

Televised media reports in 2024

Contact

Our clients value Samart Eco Water Group, S.L.'s ability to offer solutions to current problems in the use of water and the waste generated both in the process of obtaining it and in industrial processes.

In addition to energy, economic, maintenance savings, as well as in the use of chemical reactive products.

Combined, they allow a circular use of resources, which help sustain life and the environment on our planet.

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