

# Activated water for disinfection in food industry

## The safest technology ever for microbial control on food plants

### SAFE FOR PEOPLE AND FOOD PRODUCTS

The solution contains microdosis of dozens of active agents, which are safe for human beings, but are able to quickly eliminate any microorganism

### VERY LOW COST

Water and small amounts of common salt and electricity are enough to produce any quantity of safe antimicrobial solution

### EFFICIENCY

Due to the unstable structure of super active agents the solution is able to eliminate any microorganism (bacteria, virus, fungi, fungi spores)



Russia-based Scientific and Production Company Izumrud presents Aquaeca – a new low-cost technology for disinfection and sterilization of any object, premise, surface or product on a food plant. Just from common salt and water on-site without any type of chemical additives Aquaeca machine produces an antimicrobial solution, which is safe for human beings and food products and is able to eliminate any known microorganisms, thereby providing for perfect sanitary conditions and improved quality of products.

AQUAECA is a technology for production and application of a special **antimicrobial solution**, which is absolutely safe, low-cost and very efficient

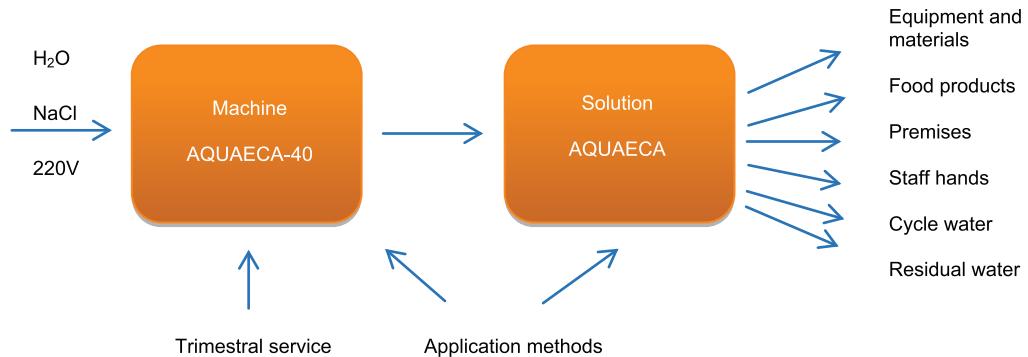
- The solution is an electroactivated water with small amount of common salt
- 100% efficiency against all the microorganisms (including fungi spores)
- Overall cost of working solution is always less than 0,1 Euros per litre
- Very low toxicity, safe for the contact with eyes and mouth. May be applied directly to the products without rinsing..
- Unique solution for all the objects of food plants – equipment, premises, products, staff, etc.
- During 20 years of research of the technology there has not been detected any immunity of any of the microorganisms
- More than 20 food plants in Russia, Asia, and Latin America have been appreciating the technology since several years

One of the main advantages of the technology is high efficiency of Aquaeca, which provides for cost reduction on product loss, and water and energy savings. Some of other clients report 82% cost reduction on washing and disinfection due to the use of the technology.

Non-toxicity of this low-cost biocide guarantees no risk for consumers and the environment. Biocide-producing machine is installed at a food plant (may be any premise, e.g. ship), and produces unlimited quantity of Aquaeca solution.

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## Technology



## Food industry experience

	Meat factory KronshtadtskySaint Petersburg Meat factory Atria, Saint Petersburg	Treatment of smoked foods for better conservation, cleaning and sanitization of the equipment
	Fish factory Okean, Saint Petersburg +3 caviar factories Murmansk, Kamchatka Far East, shrimps factory in Malaysia, Tuna fish plant in Colombia	Disinfection of caviar, washing of fish products, production of disinfected ice for better conservation of fish products disinfection of water for live shrimps disinfection of river water
	Frozen products factory Talosto, Saint Petersburg	Disinfection of the equipment
	~20 softdrinks factories + milk products factory in Mexico 3 milk products factories in Moscow region	Cleaning and disinfection of the equipment and pipes, disinfection of residual waters



### INTEGRAL SERVICE

- Instalation
- Provision of instructions
- Staff training
- Technical support 24/7
- Trimestral maintenance
- Solution of any technical problem in 72 hours
- Updates of the information and new applications of the technology

All the industries above report rapid reduction of cleaning and disinfection costs, improvement of products quality. E.g. some soft drink factories were able to reduce these costs at 82%.

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## Aquaeca machines

The antimicrobial solution is produced on-site with a portable machine for electrochemical activation. The machine is installed in any premise of the factory or plant (may be a premise on a ship). For its operation the machine requires only tap water, salt and small amount of electricity, and is able to produce unlimited quantity of Aquaeca disinfectant. Basic parts of the machines are protected by international patents.

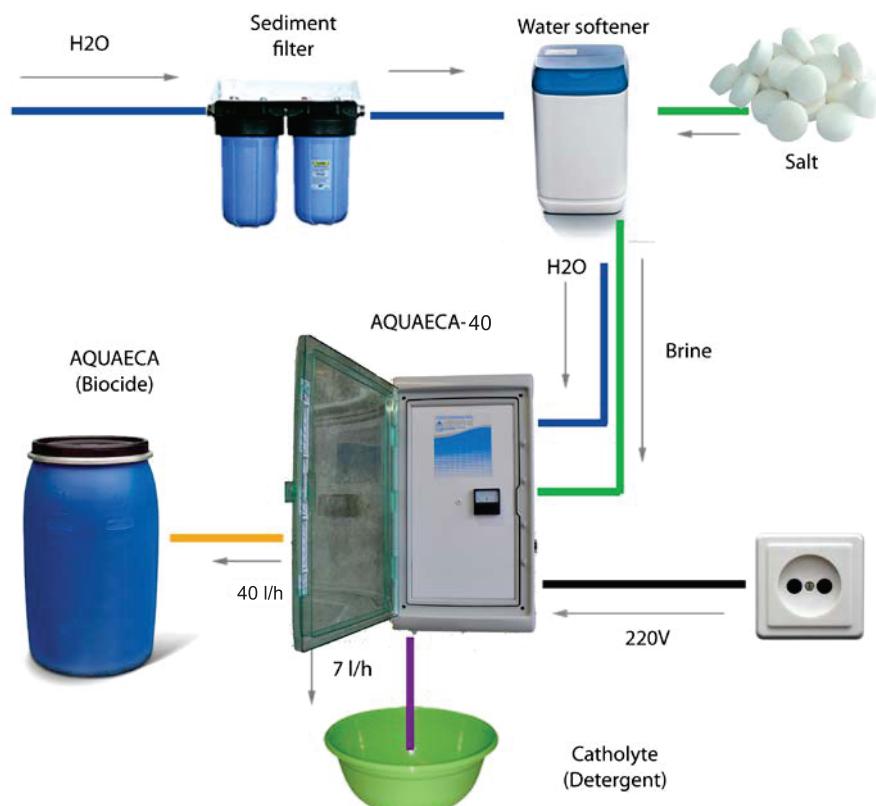
Productivity of the machine	40 liters/hour
Consumption of salt	Max 9 g/liter
Consumption of energy	1,2 kWh
Operating hours	9 a day
Supply list	Water softener, machine AQUAEC-40, tanks, filters, hoses

### SPE IZUMRUD

#### Scientific and Production

Enterprise Izumrud is one of the first players on the market of activated solutions technology.

The team has been working in this field since 1998. SPE Izumrud has its own production base of Aquaeca machines, the company conducts its own research projects. In 2010 SPE Izumrud opened an office in Technology Park of Girona, Spain, to develop the electrochemical activation technology in Europe.



The system is very easy to use: to open a water tap, switch on the machine and set the needed concentration of the solution. Every four months maintenance and supervision service is executed.



## Technical Specifications

Productivity, l/hour.....	40
Power supply.....	220 V, 50 Hz
Power, Wt.....	400
Consumption of NaCl for 1 liter of ECAS solution, g/l.....	max. 5
Concentration of initial NaCl solution, % ... .....	10
pH value.....	7,7± 0,5
Concentration of active chlorine compounds, Ca.x.,% .....	001± 0,05
Dimensions, mm .....	350 x 160 x 400
Weight,kg.....	4,8
Technical resort, hours.....	17000



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