

EMERALD®

PROFESSIONAL WATER PURIFICATION
AND ACTIVATION DEVICES

EMERALD PRO DEVICES

ELECTROCHEMICALLY ACTIVATED
ANOLYTE AND CATHOLYTE



ENGINEERED IN
COOPERATION WITH
VITOLD BAKHIR
INSTITUTE



EMERALD PRO devices are professional systems for production of electrochemically activated anolyte and catholyte of various concentrations in everyday life from ordinary fresh or slightly salted water.

EMERALD PRO devices have been engineered in cooperation with Vitold Bakhir Institute and represent a new generation of compact STEL-type devices producing anolyte and catholyte of the highest quality.

ANOLYTE – ANTIMICROBIAL WATER

It is an environmentally friendly and completely safe for humans and animals universal disinfectant with a wide range of action (against bacteria, mycobacteria, viruses, fungi and spores of any species and forms), to which microflora is not able to develop resistance.

Anolyte is an all-purpose disinfectant which could be used for any application (irrigation, immersion, wiping, soaking, aerosol, foam, ice) and represents, in fact, antimicrobial water.

The efficacy and safety of anolyte is confirmed by studies in more than 50 countries.

It has been proven that anolyte destroys any harmful microorganisms in seconds, and then turns into ordinary water and evaporates without a trace. For example, antimicrobial water with a concentration of active agents of 350 mg/l kills anthrax spores in 1 second. This has been tested in practice and reflected in the scientific report of the Battelle Military Institute (USA).

Anolyte is the only disinfectant solution in the world that is officially approved in countries such as Japan and Switzerland, not only for disinfection of any level, but also for oral administration as a medicinal product.



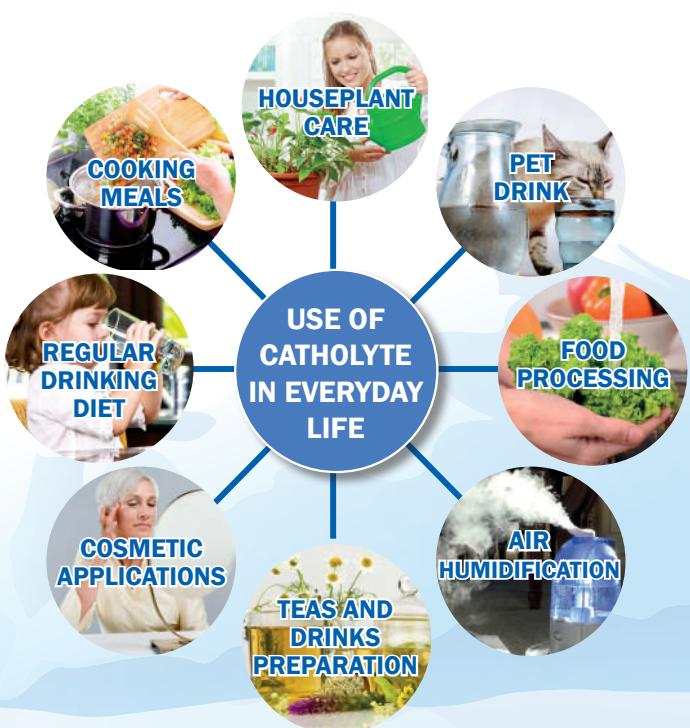
ANOLYTE IS RECOMMENDED BY THE GOVERNMENT OF THE RUSSIAN FEDERATION TO FIGHT COVID-19*

* Report of the Government of the Russian Federation and ICC dated April 4, 2020
«Preparing a Hospital for COVID-19: 10 Clauses for the Head Physician»

There are also appropriate certificates which enable the use of various types of anolyte in medicine, food industry, veterinary medicine, agriculture and other areas in Russia and a number of other countries (USA, Germany, Italy, Bulgaria, UAE, Vietnam).

CATHOLYTE – ANTIOXIDANT WATER

Catholyte is the world's best antioxidant similar by its useful properties to mountain glacial water! Antioxidants found in vitamins or dietary supplements do not give the desired effect. Due to the large size of the molecules, they are not able to penetrate into cells and neutralize toxic oxidants, including free radicals. Only molecules of antioxidant water (catholyte) are capable of this.



- Restoring the energy balance of the body, protecting against stress and overwork.
- Strengthening the immune system, improving memory and performance.
- Protecting against negative environmental influences, including UV and radiation.
- Reducing allergic and inflammatory reactions, and also relieving weather sensitivity.
- Increasing resistance to physical activity and accelerating the recovery of muscle tissue.
- Normalizing metabolism and the work of internal organs.
- Enhancing the effect of drugs.
- Strengthening bones and joints, relieving bone and joint pain, reducing oedematization (swelling).
- Good for fighting diseases of the gastrointestinal tract and urinary system.
- Removing slags and toxins, as well as heavy metals and radioactive elements.
- Normalizing blood pressure and improving blood composition; reducing sugar and cholesterol content.
- Improving skin condition, reducing hair loss and strengthening nails.
- Enhancing the effect of cosmetic preparations.
- Reducing wrinkles and overweight.

EMERALD PRO 20

FOR APARTMENTS, OFFICES AND COUNTRY HOUSES



- Maximum ORP of anolyte, mV: + 950
- Maximum ORP of catholyte, mV: - 850
- Dimensions, WxHxD, mm: 200 x 360 x 150

The EMERALD PRO 20 device is highly efficient, it operates on ordinary fresh or slightly salted water, yielding up to 20 liters per hour of anolyte or catholyte of various concentrations.

EMERALD DEVICES HAVE LONG LIFETIME AND ARE FREE FROM REPLACEABLE OR FAST-WEARING ELEMENTS.

20 LITERS
OF ANOLYTE
OR CATHOLYTE
PER HOUR

THE COST
OF 1 LITER
OF ANOLYTE /
CATHOLYTE
IS ONLY
2 CENTS

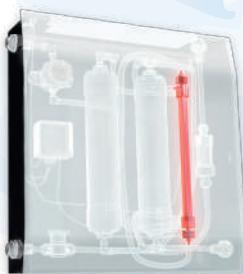
ELECTRICITY
CONSUMPTION IS
NO MORE THAN
350 W PER HOUR

MAIN ELECTROCHEMICAL MODULE MB 11-T



All the processes of water purification and activation in EMERALD devices are as close as possible to what happens with water in living nature. It is the unique electrochemical modules (MB 11-T) created by prof. V.M. Bakhir (D.Eng.), that have made it possible to reproduce natural electrochemical water activation processes. The electrochemical modules consist of two flow-through chambers: anode and cathode. It is in these chambers, under the influence of positive and negative currents at the anode and cathode, that the unique and nature-prompted processes of electrical water treatment are performed.

TECHNOLOGICAL PROCESS IN THE DEVICE **EMERALD PRO**



ANODE CHAMBER
OF THE MODULE
**ANOLYTE
MODE**

- In the anode chamber of the module oxidative reactions take place, producing oxidants (antimicrobial substances, the main ones being hypochlorous acid and hydrogen peroxide) in the initial water;
- In nature, similar processes occur in all living organisms during phagocytosis (the universal process of antimicrobial protection);
- Anolyte is additionally purified from harmful organic compounds (herbicides, pesticides, surfactants, phenols, oil products, anabolic steroids, antibiotics, etc.) due to their oxidation and subsequent removal on an electrokinetic filter;
- Iron removal is carried out with the transformation of iron ions into a 3-valent form easy for mechanical cleaning;
- Anolyte is enriched with oxygen.



CATHODE CHAMBER
OF THE MODULE
**CATHOLYTE
MODE**

- In the cathode chamber of the module reducing reactions take place, producing antioxidants in the initial water;
- In nature, similar processes occur due to the contact of water with rocks, as well as due to the phase transitions during the melting of glaciers;
- Catholyte is additionally purified from heavy metal ions, which are converted into insoluble hydroxides and removed on an electrokinetic filter;
- Catholyte is enriched with hydrogen.

EMERALD PRO DEVICES

PROFESSIONAL WATER PURIFICATION AND ACTIVATION DEVICES

Technical conditions 28.29.12–001–19313776–2018

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ENGINEERED IN COOPERATION WITH VITOLD BAKHIR INSTITUTE

EMERALD PRO devices are manufactured by EMERALD ECOTECHNOLOGIES LLC. The company has exclusive rights to manufacture EMERALD PRO devices, as well as to carry out their maintenance and warranty service. EMERALD ECOTECHNOLOGIES LLC has the exclusive right to transfer to its official trading partners all the necessary powers to sell EMERALD PRO devices, as well as to carry out their maintenance and warranty service.



CERTIFICATES



CE CERTIFICATE OF CONFORMITY
OF THE EUROPEAN UNION



RoHS DECLARATION
OF CONFORMITY
OF THE EUROPEAN UNION



ISO 9001-2015 CERTIFICATE
OF CONFORMITY OF QUALITY
MANAGEMENT SYSTEM



EAC CERTIFICATE OF CONFORMITY
OF THE EURASIAN ECONOMIC UNION



HYGIENIC CERTIFICATE, EXPERTS' REPORT
FROM RUSSIAN GOVERNMENT OFFICIALS
(ROSPOTREBNADZOR)

Made in Russia