

Breaking new ground in

Sterilisation



Disinfecting



Water purification



On-site production of solutions for cleaning, disinfecting and sterilizing

Safe, Effective and Non-toxic, Excellent Return on Investment

Envirolyte ELA units are designed to generate, on-site, cleaning, disinfecting and sterilizing solutions out of 0.05% - 1.0% salt brine (NaCl or KCl).



ELA-6000

The units electrolyze the salt water and, using polymer or ceramic membranes, separate the positive and negative ions. As a result of these electrochemical reactions various types of activated solutions are produced. The purpose is to control and/or eliminate pathogens such as bacteria, viruses, spores, mold and fungi, as well as cleaning and removing heavy metals.

The merits of chlorination as a means of destroying pathogens is firmly and universally established. In recent years, however, the appearance of resistant strains of bacteria, the discovery of Legionella, plus other problems associated with chlorine compounds have promoted an interest in alternative water disinfection technologies. Envirolyte fs technologies produce chlorine based compounds but with significant reduction in cost, danger and ecological impact.

Key Features



ELA-6000

- Easy and safe to use
- Efficient: reduced sterilization contact time
- Self-cleaning
- Biodegradable fluids
- Some automation and easy operating procedures give the added benefits to rapid delivery of safe and fast acting disinfectant - Neutral Anolyte.
- The strength of Neutral Anolyte in terms of active chlorine concentration can be adjusted by current setting.
- The control system of ELA units is simple and easy to operate. It can be altered to suit different applications and conditions.

- A flow controller is installed in the Hydraulic part to shut the Envirolyte unit if there is interruption of water supply and to start the unit as soon as water flow resumes.
- A simple on/off switch with power indicator starts and stops the ELA units manually.
- Level switches enable to start and stop ELA units automatically.
- Capacity depends on the model and varies between 40 LPH and 4000 LPH



ELA-6000

Technical characteristics and requirements

Output capacity	600 LPH of ANK-Neutral Anolyte ONLY with possibility for Catholyte isolation for Ph correction of ANK or Acidic Anolyte (50%-80%) and Catholyte (50%-20%) ONLY
FAC (Minimum)	500 ppm
Water supply	2-3 bar
Salt consumption per 1 liter of Anolyte	~5-7 g depending on the source water * ELA-6000 generators with lower salt consumption are available upon request
Power source	380 - 415V 50 hZ/3 phase
Power consumption	7,2 KW/H (3 x 2,4 KW/H)
Special note	Specially designed ELA-6000 units are available with ~1,75 - 2,0 g per 1 L of anolyte or 3,5 - 4,0 g per 1,0 g of FAC salt consumption and ~3,5 kW/H power consumption. Specially designed units with lower parameters of salt and energy consumption are available upon request.
Flushing mode	Semi automated
Brine pump	+
Acid pump	+
Type of cell	R-600
Piping & fittings	Genova piping system. NSF certified. Compatible with ASTM D1785, ASTM D2241 and ASTM D2846 standards for cold drinking and hot water & Kynar.
PLC control	Unitronics/Vision 130
Cabinet(s) size & material	1700X800x450 (Electrical) 1700x800x450 (Hydraulic) 1700x1600x450 (Combined) Polyester
Weight	~ 120 kg.

The Enviolyte Solutions

ANK-Neutral Anolyte solution is used wherever pH is important (e.g. corrosion) and where possible evaporation of active chlorine cannot be avoided. Neutral Anolyte is highly effective against a broad range of pathogens including bacteria, viruses, spores, mold and fungi.

Active Ingridient	pH	ORP/REDOX
500 - 700 ppm of active chlorine	5.0 to 8.5	700 to 900

Acidic Anolyte solution can be used wherever there is a need to disinfect or sterilize in applications where the pH is unimportant and where there is no danger of corrosion. Acidic Anolyte is a very powerful and fast acting disinfectant against all bacteria, viruses, spores, mold, fungi and algae even when it is diluted in water or sprayed in the air.

Active Ingridient	pH	ORP/REDOX
500 - 700 ppm of active chlorine	2.0 to 3.5	1000 to 1200

Catholyte Solution is alkaline and serves as an excellent washing liquid, plus it removes heavy metals from water through precipitation.

Active Ingridient	pH	ORP/REDOX
Sodium Hydroxide	10.0 to 13.0	-900 to -950

Every Enviolyte unit can be set to generate either ANK- Neutral Anolyte only with isolation of a certain volume of Catholyte for Ph correction of ANK or Acidic Anolyte and Catholyte only. Setting of the unit for production of specific fluids is done at the Enviolyte factory

Producing Solutions

Typically, Anolyte produced by an Enviolyte unit is collected in a container and then dosed into the incoming water. The dosing regime depends on the water flow and quality (properties) of the water and is controlled by a flow meter connected with a dosing pump. The units can stand alone (e.g. for spraying, hand cleaning, CIP disinfection, etc.) or they can be used as part of a continuous process in more complex systems. Design facilities are available for customized units.

Based on extensive research, both anolyte and catholyte solutions:

- Are environmentally friendly
- Are non-toxic to both humans and animals
- Do not require special handling;
- Are powerful biocides

- Can be safely disposed of in sewage systems
- Are fast-acting;
- Can be used in all stages of disinfection and cleaning;
- At recommended concentrations, do not bleach surfaces or materials;
- Can be applied in liquid, ice or aerosol (fog) form;
- Are hypoallergenic;
- Yield by-products that are non-toxic, environmentally friendly and leave no synthetic chemical residue;
- Can be generated on-site, thus eliminating handling and storage of chemicals;
- Can be produced on-site from tap water and salt in required quantities and concentrations of active ingredients, pH and salinity (mineralization).

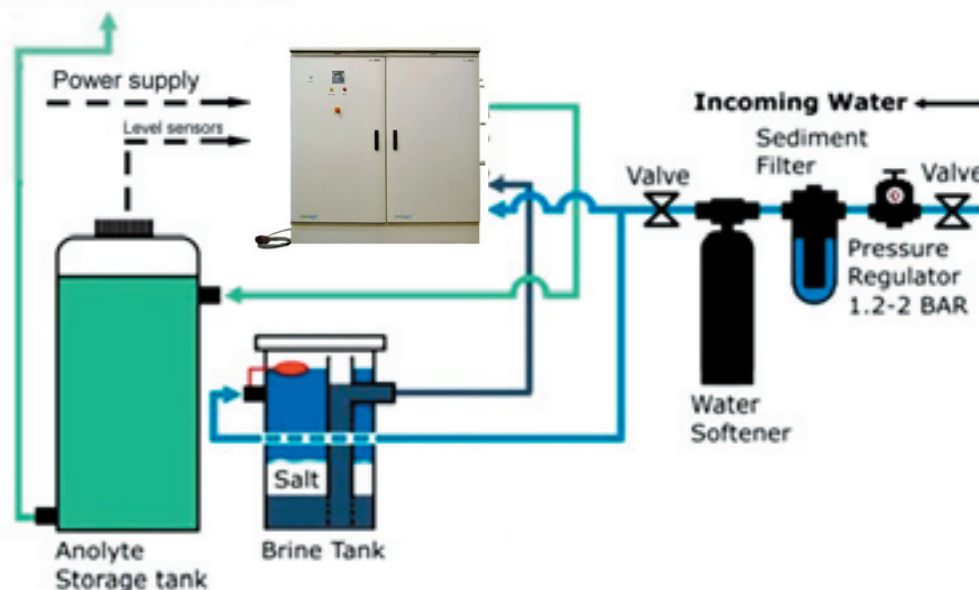
In addition, anolyte application, as a hard-surface disinfectant on a daily basis for more than ten years, demonstrated that microorganisms do not develop resistance against anolyte over time.

The characteristics described above position Envirolyte equipment for potential applications in a number of areas directly related to personal health and safety.

Separate Anolyte and Catholyte Layout

This layout would be used when the disinfectant fluid (Anolyte) and the cleaning fluid (Catholyte) are required as separate liquids. This configuration is often used in applications such as surface cleaning where the Catholyte is added to warm water to facilitate its degrease action. The generator is connected to a level sensor in the first buffer tank and it will start or stop depending on the levels set at installation. Pumps can be connected to the tanks to move the fluids either into a water system or to connect to high pressure sprayers or fogging equipment for surface cleaning. In addition in the waste water industry Catholyte and Anolyte are often required as separate fluids.

Anolyte for multitude applications and different markets



Water Systems

- Effective biocide at low dosage, including Legionella
- Removes bio-film and algae
- Neutralizes odor compounds
- Less formation of toxic by-products

Industrial Cleaning and Disinfection

- Cleans and disinfects surfaces
- Effective biocide, including Legionella
- Removes bio-film and algae
- Clean-in-place (CIP) cleaning and disinfection

Health Care/Medical

- Cold sterilization of medical instruments
- Cleans surfaces, including walls, furniture and floors
- Produces sterile water
- Used in the laundry, it disinfects linen
- Disinfects air through misting
- Eliminates/reduces chemical usage

Veterinary

- Increases vitality and resistance
- Improves fertility
- Residue free treatment of mastitis, diarrhea and infection
- Better feed stuff utilization
- Reduces tension
- Enhances growth and yields.
- Effectively controls and cures the most serious diseases

Poultry Industry

- General disinfection
- Surface cleaning and misting medium for aerobic and anaerobic bacteria
- Fodder assimilation
- Promotion of general health as a drinking water additive (reduced mortality)
- Pest control on feathers (lice)
- De feathering, aerobic and anaerobic bacteria control through misting
- Equipment cleaning without further additives.
- Disease control and cure



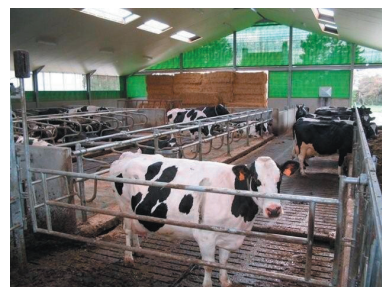
Pig Farming

- General disinfection
- Surface cleaning and misting medium for aerobic and anaerobic bacteria
- Fodder assimilation
- Promotion of general health as a drinking water additive (reduced mortality)
- Pest control on the skin.
- Aerobic and anaerobic bacteria control through misting
- Equipment cleaning without further additives
- Disease control and cure



Dairy Farming

- General disinfection
- Surface cleaning and misting medium for aerobic and anaerobic bacteria
- Fodder assimilation
- Promotion of general health as a drinking water additive (reduced mortality)
- Pest control on the skin.
- Aerobic and anaerobic bacteria control through misting
- Equipment cleaning without further additives
- Disease control and cure



Horticulture/Agriculture

- Disinfect grain for storage
- Preserves fodder/silage
- Suppresses pathogenic fungi on plants
- Prolongs the shelf life of vegetables, fruit and cut flowers
- Disinfects irrigation water and decreases the effluent toxicity
- Disinfects seeds, accelerating the growth of the plants, increasing the number of flowers and yield



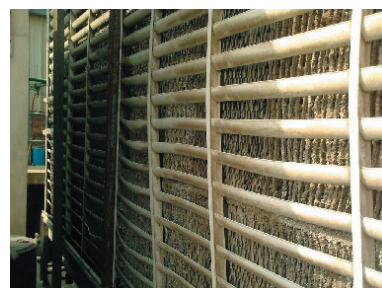
Waste Water

- Disinfects municipal effluent
- Disinfects livestock manure
- Neutralization and flocculates heavy metals



Cooling Towers

- Prevents formation of insoluble calcium and magnesium salts (scale and calcification).
- Prevents the growth of algae, bio-film and anaerobic bacteria such as Legionella



Breweries

- Treatment of incoming water and brewing water.
- Disinfection of all surfaces in the production process.
- Bottle washing.
- Filling plants, pumps, filters, reservoirs, water tanks, wells.
- Rinsing of installations.
- Disinfection of all installations, pipelines, working cloths etc.
- Pipeline protection.
- Cooling installations, air cleaning systems

Food Processing

- Disinfection of incoming and rinse water.
- Prolongs the shelf life of vegetables, fruit and cut flowers.
- Disinfection of all surfaces in the production process.
- Equipment cleaning without further additives.
- General disinfection, control of fungi growth in the premises.
- Clean-in-place (CIP) cleaning and disinfection.
- Disinfection of various produce before packaging.

Swimming Pools

- Effective biocide
- Does not irritate eyes and skin
- Does not have such sharp chlorine smell as other chemical products
- Does not irritate airway
- Does not cause allergy
- Easy to use and handle - it is prepared on site and on demand
- Cheap (1m³ of ANK Anolyte cost about €1.9)



Envirolyte Industries International Ltd.

Narva str. 1-330
10111 Tallinn
Estonia

Phone +372 6626 630
Fax +372 6626 631

envirolyte@envirolyte.com
www.envirolyte.com

© 2009. The written and pictorial material in this document is the property of Envirolyte Industries International Ltd and its partners and may not be copied, disseminated or reproduced in any form without the written permission of Envirolyte Industries International Ltd.