

ANALISYS / GUARANTEED TESTING ***E-C Water Systems®****ELCE® Protocols**

Due to the three electric reactions occurring naturally as the water flows in the **ECWS®** The molecular clusters present in the water structure are compacted in to smaller packets of hexagonal shape (six molecules), comparably, natural water is set up of 12 molecules clusters on average and regular tap water average 40 to 50 molecules per cluster. The reactions produced by the **ECWS®** cut the hydrogen bonds, thus the clusters remain smaller and smaller and the natural water characteristics become enhanced to its maximum potential allowing production systems to **EXTEND** the properties of aqueous media. Cluster : The molecular group in water that is united with a hydrogen molecule

The principal effects Activated Water possesses :
Permeability, Disolubility, Disenfectant, Purification...

Characteristics & Properties.-**New Applications: Multiple Associated Variables**

E-C Water Systems® is the only unit available today that compile a machanical, physical, quantum-biological synergic action in bodies or fluxes of water; at the same time naturally promotes life-enhanced environments for (oysters, algae, shell fish or fish). It provides and incorporates the more suitable and appropriate water molecular structures for EACH metabolic purpose and process. This is partly based on the fact that water has a “memory” of three days to retain and withhold the new array of molecules, both typically and non-typically, complex or simply with in a time / flow frame. Its extraordinary efficiency is carefully tabulated in our efficiency charts for fresh and salt water uses.

To promote healthy systems and enhance in general life processes, or general metabolic processes, **E-C Water Systems®** facilitates the breaking, upload, download, transport, polarity, assimilation, of molecules in the nutritional processes and cell regeneration systems with various combination ranges of electrically active charged particles and even inert ones. It has unsurpassed ability to “reprogram” water in all its structures to optimize to the best possible degree its permeability, conductivity, and penetration, thus saving energy, and component degradation and fatigue in the equipments.

Additionally, **ECWS®** helps strengthening the imune system of many organisms protecting the cells from “oxidizing” processes and the desoxiribonucleic acid structure. It combats naturally pathogens, by inhibition (less water surface tension, - variable polarity) the flourishing of fungi, bacteria and viruses interfering in biofilm formation, fixation, constituting a fantastic preventive treatment of naturo pathic and electro physical bio barriers; acting as a **DIS-EASE** regulator in the system. Moreover, its perfectly balanced ceramic load comes with a 10 year full warranty, and when they finally wear down due to chinetic friction and collision they are easy to replace and re-load in the reactor. **ALL THIS** with no environmental impact.

As **ECWS™** promotes a healthier water environment permanently, the need to feed in excess due to natural “fouling”, or even worse due to “floating” and adherence of feeds in tanks or raceways to promote optimal growth curves is lessened and longer lasting feed offerings are achieved due to its bacteriostatic capabilities. Therefore, promoting substancial savings in feed offerings of nearly 13-16% . It then becomes obvious that by

lowering the water's surface tension considerably, feeds will no longer float and adhere to the walls, hence limiting pathogen development, water exchange, nutrient build up in the system.

E-C Water Systems® Is a true synergic, eco-empathic polifunctional tool indispensable in any productive system today. It does not contain toxic components or parts, it yields to the environment regenerative elements as it promotes important re-utilization of water resources and non fouling of the media.

COMPOSITION AND DESIGNS.-

The advanced proprietary technology to produce the spheres, its high quality materials with a formidable 4-6 bar resistance and tolerance, the concept and models of the reactors, their applications all come from our many years of networking and engineering developments for the industrial incrustations sector of industry due to compositional management of water for said purposes.

For the aquaculture and mariculture industries we have dedicated several years to study and deploy this technology in the Americas covering important testing grounds in three countries and two oceans.

THE INDUSTRIAL PROCESSES BEHIND OUR PRODUCT.-

E-C Water Systems® is produced in our own factories in Europe, Brasil and shortly in Mèxico. Each raw material carefully chosen and tested in our testing department to guarantee an absolute quality product. All materials are approved by the EU and FDA of United States for food grade applications.

A modern computerized system controls the exact composition of our ceramics securing uniformity, homogeneity, dimensions and weight of our 1-5 mm domes thus guarantying the units to achieve maximum water surface tension reduction in three (3) passes through the reactor.

APPLICATIONS.-

To calculate correctly the right unit to choose **E-C Water Systems®** we have conceived a simple table to the end user along with our full support from our engineering department. The equipment for proper assessment of the degree of activation of water is the Aqua Pi®. This equipment can be purchased separate. The summary of all the advantages of using ECWS™ is:

Eliminates all detention in the productive line / process

Eliminates completely the need and purchase of anti rust agents

Saves energy consumption in economic terms and equipment dimension, up to 30% in fuels and / or Energy bills

Return of Investment (ROI) form 6 to 10 months, with uninterrupted capitalization and value gain

STOPS Loss of products / materials / equipment (by contamination of harsh chemical and other anti-rusting agents – material fatigue)

Guarantees food security by proposing the NON use of toxic chemicals and environmentally hazardous products.

Warranty: 10 years.

General Diagram of the ECWS™



The efficiency of the ECWS™ can be "evaluated" by:

- * Differential Ph
- * Size & weight of the AW drops.
- * Aqua Pi™
- * Activity of the cultured organism
- * cell multiplication (algae)
- * Bacteriostatic action

EVALUATION / TESTS & RESULTS .-

- The following summarized results were obtained in different penaeids hatchery facilities in Ecuador, Panama and Brasil over several years of R&D and field observations

Tabla A 1. Culture systems in several countries evaluating ECWS® performances in multi-environments

ELCE WATER ACTIVATING SYSTEMS				
<i>TEST F-C Water Systems® - International</i>				
<i>Brasil : Aquatec, Natal, RN</i>		<i>Ecuador : Sularva S.A.</i>		
<i>Panama : Pacific Larval Centre Inc</i>				
SUMMARY / RESULTS :				
TEST COPULA - DAY :				
* TM equivalents e/p	Brasil	Ecuador	Panama	Others
Control	6%	9%	na	
Activated Water AW	10.80%	12%	na	
TEST Nuplii x female				
* (1000)				
Control	155	140	nd	
Activated Water AW	201	190	nd	
TEST Micro algae :				
* 35 lts	thalassiosira spp.			
Control	214%	198%	205%	
Activated Water AW	314%	297%	320%	
TEST Micro algae :				
* 550 lts	thalassiosira spp.			
Control	350%	375%	320%	
Activated Water AW	411%	400%	405%	
TEST de Uniformity:				
* Range 2 clases	Porcentual / Tamanho (mm)			
Control	81%	78%	70%	
Activated Water AW	98%	95%	93%	
TEST de Desarrollo Branquial:				
* 4 p pl 8	% 4 pares - pl 8			
Control	36%	41%	60%	
Activated Water AW	52%	55%	80%	
* L. vannamei				
Activated Water AW	info contact : producao@aquatec.com.br			
* NA = Non Activated Water	Gerónimo Nufiez - PLC - Panama			
* LRT F -1 & 2 showed 12% & 16% respectively less offer feeds				
* LRT's F- 2 Showed 22% better performance to stress tests & increased activity				

COMPETITIVE ADVANTAGES WHEN USING ECWS®

- **Better reproduction (mating and fertilization)**
- * **Lower water exchange rates**
- * **Lower feeding offerings**
- * **Better artemia hatching rates and egg eclosion**
- * **Better micro algae multiplication**
- * **Enhances the nutritional profiles in diets**
- * **Improved tolerance to stress factors**
- * **Improved DISEASE resistance**
- * **Lesser proliferation of pathogens (bacteriostatic)**
- * **Better survival rates**
- * **Lower cost of production**
- * **Food Safety**
- * **Technological updates and actualizations**

Tabla A 2. Conductivity & Turbidity tests / Normal Water vs Activated Water AW with ECWS® :

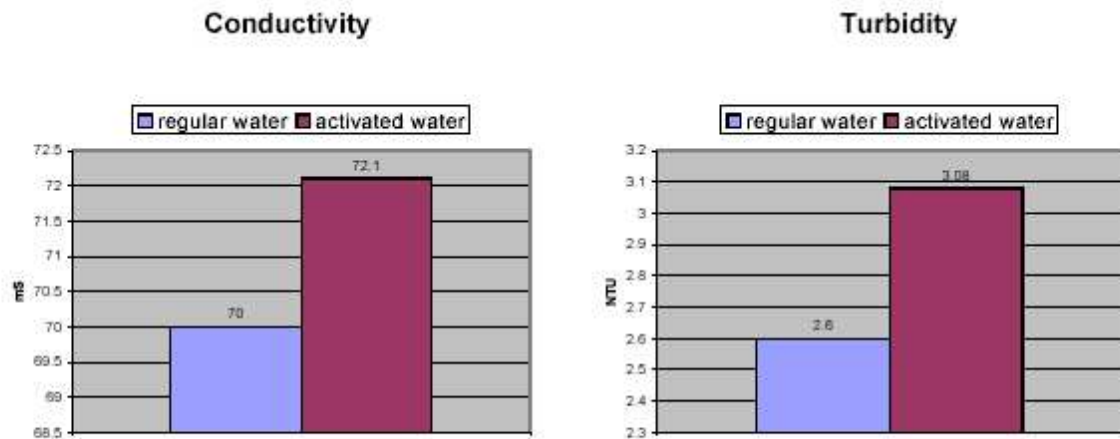


Figure 5. The process of activation increased conductivity and turbidity of water. These results confirm the idea that the process of activation creates long-range molecular structures in water. The increase of turbidity confirms the idea that free radicals are bonding with long-range molecular structures in Activated Water and form sediment. The water sample was activated for 30 minutes.

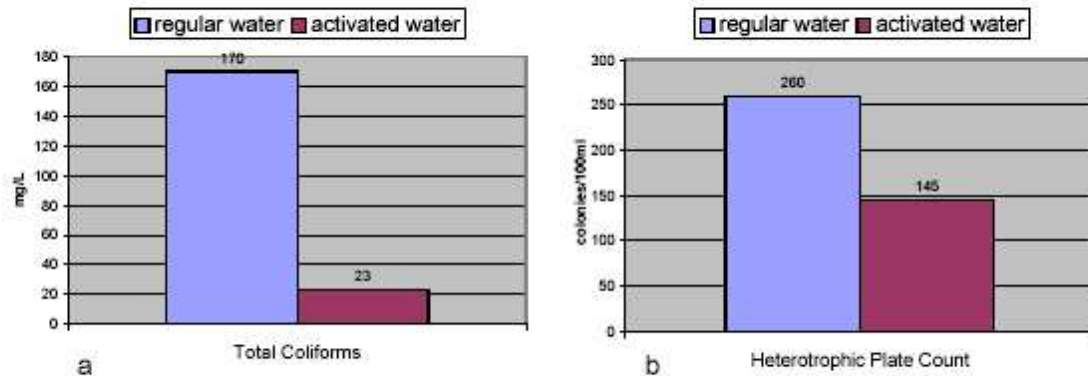


Figure 6. Microbiology tests. The amount of total coliforms and bacterial colonies significantly decreased after the process of water activation. Both tests prove the sterilization effect of the process of water activation.

- a) Test was conducted on samples of rainwater. The water sample was activated for 30 min.
- b) Test was conducted on samples of water from the lake. The water sample was activated for 15 min.

STORAGE AND HOLDING.-

E-C Water Systems® is highly durable. However it is important to keep the unit clean and dry if not in use. When in use, it is important to clean the units at least once a week for optimal performance. If the operation is continuous a 1-5 µ filter unit is recommended. **E-C Water Systems® comes with a SUPER warranty of 10 years, the highest in the market for this type of equipments**

EQUIPMENT CAPACITY AND PERFORMANCE

E-C Water Systems® has various models for each application and comes with an unsurpassed customer service. Our customer service department has many engeneers speaking different languages.



• EQUIPMENT LIST By ELCE®

MODEL	Flow of Water (lits / min)			Weight Kg
	MIN	AVE	MAX	
S-1	11	13	15	3.7
S-2	17	20	24	5.4
S-3	29	34	40	22
S-4	42	50	58	29
S-5	60	72	84	42.5
S-6	83	99	116	64
S-7	104	125	145	65
S-8	159	191	223	86
S-9	226	272	317	121
S-10	282	334	386	152
S-11	373	447	522	191
S-12	584	701	818	290
S-13	848	1017	1187	440
S-14	1187	1425	1662	574
S-15	2355	2826	3297	734

** Other available on special factory order*



** The inside story Part II:*

Inside our ceramics, hornfels carefully selected and cooked at 1200 C°

GENERAL APPLICATIONS IN MARICULTURE / AQUACULTURE :

E-C Water Systems® has many applications....

- **E-C / Maduration & reproduction of fish, moluscs, crustacean**
- **E-C / Aquariums and aqua pet**
- **E-C / Pumping Systems (saline or fresh)**
- **E-C / Micro & macro algae cultures**
- **E-C / Freezing Systems**
- **E-C / Fedd Mill operations – Boilers and Texturizers**
- **E-C / Agriculture and Pecuary in General**
- **E-C / Variuos Industrial Applications (cooling towers, chemical, etc)**
- **E-C / Medical Applications**
- **E-C / Integral Health Systems**

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