

Заказать и купить электроактиватор воды АР-1 (исполнение ЗМТ) Вы можете на сайте workaut.by или по телефонам +375-29-612-93-03 или +375-17-304-20-99

Republic of Belarus

**Domestic electroactivator of water
АР-1**

*Instruction manual
AGFT 2940001 PE*

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Dear buyer!

We thank you very much and accept any your offers on modernizing of our product and also reclamations on its operation.

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1. Generalities

1.1 Domestic electro [activator of water AP-1](#) (then “electro activator”) is used for preparation of water of two types: anolyte (acid-based or «dead water») and catalyte (alkaline or «aqua vitae») in household conditions.

1.2 Electro activator meets the requirements of II class of protection of State standards MEK 60335 –1– 2001 on electric safety.

Hygienic safety is confirmed by Conclusion №32.BO.21.346.P.001972.10.09 28.10.2009 of Federal Agency of supervision in sphere of protection of the consumerrights and human welfare of Russian Federation.

Electro activator has conformity certificate №ROSS BY.ME20.B07371 of the body on certification of Gosstandard of Russia on 31.12.2012.

1.3 Catalyteis used for wetting of seeds, stimulation of growth of plants, intensification of properties of substances dissolved in it.

1.4 Electro activator is applied at ambient air temperature from +5till +40°C and relative humidity no more than 80%.

2. Specifications

2.1. Supply voltage.....	220/50
2.2. Electrolyses current	0,2-0,7
2.3. Activation time min no more.....	40
2.4. Activated water volume:	
Anolyte, l	
Ceramic glass AGFT 8.634.001.....	0.3
Ceramic glass AGFT 8.634.002.....	0.7
Catalyte (depending on a ceramic glass), l.....	1,5-1,7
2.5. Power, BA no more.....	70
2.6. Weight (without activated water) kg no more.....	1,5

3. Completeness

3.1. Electro activator AP-1 piece	1
3.2. Instruction manual piece.....	1
3.3. Packing piece	1
3.4. Fuse block VP1-2A piece.....	1
3.5. Measuring unit for 1 gram of sodium salt piece.....	1
3.6. Laboratory ceramic glass AGFT 8.634.001 piece.....	1
3.7. Laboratory ceramic glass AGFT 8.634.002 piece.....	1

Note: During electrochemical activation there is some decrease of volume of anolyte in a ceramic glass more than 1/3 due to overflowing of water ions from the anode to the cathode and proper increase of catalyte volume in it.

4. Description and principle of operation

4.1. Electro activator consists of four basic parts (image 1):

- power supply integrated into removable top cover (1);
- basic reservoir(2);
- ceramic glass put into basic reservoir(3);
- removable top cover with electrodes (4).

4.2. Power supply integrated into removable top cover (1) is the transformer of constant current source with protection against overcharging on primary and secondary chains. Also there is a fuse block in the top part of removable cover (5) 2A (safety-lock).

4.3. Basic reservoir (2) is made of food plastic. During electrolysis catalyze or “aqua vitae” is generated there.

4.4. Ceramic glass (3) serves as a diaphragm between the cathode and anode. Anolyte or “dead water” is generated in it.

4.5. There are electrodes and the anodes with special chemical resistant covering (black) and two stainless steel cathodes (light) in the bottom part of the cover. During operation the electrode (anode) does not collapse due to special materials.

4.6. There are the pointer detector of electro activation current (7) and the light indicator of voltage on electrodes in the top part of removable cover.

4.7. Switch(8) is used for turning on or off the device.



Image 1 - Electro activator general view

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Image 2 - Ceramic glasses:

1. Laboratory ceramic glass AGFT 8.634.001
2. Laboratory ceramic glass AGFT 8.634.002

4.8. Operating of electro activator of water AP-1 is based on membrane electrolysis. The porous ceramic glass is used as diaphragm. Electrolyses of water is a chemical reaction of decomposition of water into positive and negative ions at current passage through it from constant voltage source.

4.9. During electrolysis water gets acid properties at the anode but it gets alkaline properties at the cathode. Since 1985 activated water began to name in the following way officially:

- acid «dead» water as anolyte (from a word “anode”) preparation A possessing bactericidal properties:
- alkaline «aqua vitae» as catalyte (from a word “cathode”) preparation K possessing stimulating properties.

5. Safety

5.1. Before starting the electro activator make sure of cord, plug and socket accuracy and integrity of a ceramic glass.

5.2. All manipulations with electro activator (to remove top cover, to pour water, to merge ready solutions, to pull out and to install the ceramic glass) can be developed if the electro activator is switched off. It means that there is no plug in the socket.

5.3. It is forbidden to rearrange the electro activator from place to place while processing.

5.4. It is forbidden to leave the working activator without supervision.

5.5. It is forbidden to use open flame near working electro activator.

5.7. In order to avoid danger replacement of the damaged power cord should be performed by the manufacturer or service centre or qualified personnel only.

Warning: *this appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliances be a person responsible for their safety.*

Children should be supervised to ensure that they do not play with the appliance.

6. Operating

6.1. Remove the top cover with electrodes.

6.2. Place the ceramic glass in the center of a basic reservoir.

6.3. Pour water into the ceramic glass till it is full

6.4. Pour water into the basic reservoir so that its level was 10-15 mm below the upper edge of the ceramic glass.

6.5. Place the top cover on the basic reservoir so that the black anode was into the ceramic glass but light cathodes were outside.

Carefully take the top cover down on the basic reservoir up to the stop.

6.6. Plug cord into the wall socket ~220 В. Set the switch in position 1. Remember switch on time. The light of voltage indicator gives a signal of processing. Be sure visually that allocation of gas bubbles is observed on both cathodes.

6.7. Control electro activation process according to the indications:

– green zone signals of normal current of electro activation.

– yellow zone signals that current of electro activation is less than necessary for normal processing.

It is necessary to establish and eliminate the reason. As a rule it is necessary to wash the ceramic glass. If after washing of the ceramic glass the pointer of the indicator is in the yellow zone it will be necessary to change the ceramic glass. In case of distilled water use the low current of electro activation can be observed. It indicates low degree of a mineralization of the water in the unit. It is necessary to use water from another source.

– red zone-It is a big current of electro activation. In this case you need some electro activation cycles for optimization of the ceramic glass functioning or it is necessary to use water from another source.

Do not pour mineral water into the units, do not add any salto water.

6.8. To have necessary concentration of anolyte and catholyte it is enough 30 minutes of electro activator work. Control appliance AP-1 functioning to know how much time the electro activator needs for preparation «aqua vitae» and «dead water».

6.9. After necessary time of electro activation set the switch in position “0» Unplug the appliance, then carefully remove the top cover with electrodes and do not turn it over. Pull the ceramic glass out and merge the anolyte (“dead water”) into prepared unit. After that pour the catholyte («aqua vitae») into another unit. When using ceramic glass AGFT 8.634.001 (see image 2, 1) you have 0,3l of “dead water» and 1,7 l of «aqua vitae». When using ceramic glass AGFT 8.634.002 (see image 2, 2) you have 0,7 l of “dead water» and 1,5 l of «aqua vitae».

7. Notes

1. Do not run electro activator for longer than 30 minutes because pH of ready solutions then is not changed but there is an unnecessary heating of both solutions and power unit. After that time be sure to switch of the electro activator

2. Before next cycle of electro activation be sure to make pause of $\frac{1}{2}$ of the previous cycle period.

3. The main causes of low current of electro activation are: salt deposits in pores of a ceramic glass or slight mineralization of water pored into the reservoir. In this case it is necessary to wash the ceramic glass (see note 7) or it is necessary to use water from another source with higher degree of mineralization.

4. It is supposed to pour into the ceramic glass weak (no more than 1g. for 1 l of water) solution of table salt NaCl(it is used measuring unit for 1 gram of table salt) received by dissolution of 1 gr of salt in 1 liter jar. In that case time of electro activation decreases twice. (see table 2).

5. The main causes of big current of electro activation are unnecessary high degree of mineralization of water pored into the reservoir. Because of that it is forbidden to use (to pour into both reservoirs) water with salt or mineral water. In this case you should use pure potable water but if it is of bad quality you are to use boiled water cooled to room temperature for electro activation. If there is a big current you should have some cycles of AP-1 functioning. If the glass has no cracks reading of pointer indicator is decreasing much in 2-3 minutes, pointer is getting to green zone.

6. There is no voltage indicator light on the top cover in case of wrong position of switch (8) and it is stopped in case of blowing of a fuse. It is necessary to set the switch in right position or change a fuse block (it is a part of supply).

7. After 40-60 minutes of setting during electro activation there can be seen white deposit of salt from a tap water. After catalyte use a deposit is removed (to merge into sewer system).

8. During processing within cathodes (light electrodes) there is a white deposit of salt that need to be cleaned with vinegar (it is supposed to use 10% solution of hydrochloric acid after 300-400 minutes of general operating time in the following way:

9. Electrodes are cleaned with solution of vinegar poured into the basic reservoir. Hard-to-reach places are cleaned with soft brush wetted in vinegar

10. The ceramic glass is sunk into the reservoir with vinegar for 10-15 minutes. After washing rest of vinegar is to wash off warm water from the tap.

11. West vinegar is used repeatedly. Do not forget to make proper notice: "For electro activator».

12. Anode (black electrode) self purifies during operation. It is forbidden any mechanic effect on a surface of the anode to avoid its damage.

13. On completion of electro activation cycle it is forbidden long time storage of electrodes in prepared solutions.

14. On completion of operation it is necessary to dry electrode block, plastic reservoir, ceramic glass. Store the appliance in a dry place.

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8. Using of electro activated water

8.1. The quantitative characteristic of acidity of water is pH value which is determined by activity of hydrogen ions. Distilled water is neutral, it has pH=7. The less pH is the more acidic water is, the more pH is the more alkaline water is. Recommended pH is from 3,0 to 5,5 units for anolyte and from 8,5 to 10 units for catholyte.

Approximate data that indicate pH variation of received solutions depending on electro activation of water period are showed in the following:

- initial water has pH 7,9 and it is poured into both reservoirs (table 1);
- initial water has pH 7,9 pH and it is poured into basic reservoir but weak solution of table salt NaCl is poured into ceramic glass (table 2). Depending on ceramic glass, water source and a degree of mineralization pH of anolyte and catholyte can extremely differ from above mentioned. Contaminations of pores of the ceramic glass with salt deposits has an effect on the result.

Table 1 - Approximate data when using ceramic glass AGFT 8.634.001

Time of activation min	pH value	
	Anolyte	Catholyte
10	3,4	10,0
20	3,0	10,8
30	2,9	11,2

Table 1.1 - Approximate data when using ceramic glass AGFT 8.634.002

Time of activation min	pH value	
	Anolyte	Catholyte
10	6,4	10,5
20	6,0	11,4
30	3,5	11,6

Table 2 - Approximate data when using ceramic glass AGFT 8.634.001

Time of activation min	pH value	
	Anolyte	Catholyte
5	6,2	9,5
10	3,5	10,0
15	2,7	10,5
20	2,4	11,0

Table 2.1. Approximate data when using ceramic glass AGFT 8.634.002

Time of activation min	pH value	
	Anolyte	Catholyte
5	6,2	9,5
10	3,5	10,0
15	2,7	10,5
20	2,4	11,0

*It has been used laboratory pH-meter manufactured by Gomel Factory of meters, Belarus.

8.2. Recommendations about electro activated water use in a life are resulted in appendix 1 in the given instruction manual.

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9. Service life and recycling

9.1. Electro activator service life on correct operation makes 5 years. It does not required special recycling of electro activator, it is spent by its smashing to small pieces.

10. Warranty

10.1. Electro activator warranty period makes 12 month from the date of sale if the user meets the condition of the instruction manual.

10.2. The factory undertakes to repair for free the electro activator which has fallen out because of the manufacturer during a warranty period or to change its separate parts or exchange for a new product.

10.3. Warranties of the manufacturer are not extended of electro appliances with mechanical defects, sours of thermal affecting and also for a ceramic glass.

11. Production and sale certificate

10.1. Domestic electro [activator of water AP-1](#) meet specifications TU RB 490085159.001-2001 and it is found to be serviceable,

It is sold

Sale date _____

12. Information about availability of precious and non-ferrous metals

11.1. Precious and non-ferrous metals are absent.

11.2. Total weight of non-ferrous metals and alloys in the appliance is showed in Table 3

Table 3 - Information about availability of precious and non-ferrous metals

Metal name	Weight of non-ferrous metal , alloys, grammes	Note
Copper, copper alloys	35	Transformer , assembly wires, cable with plug
Titan BT1-0	20	Anodes

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Appendix 1
to domestic electro activator of water AP-1 instruction manual

Electro activated water use in household conditions

Object of use	Methods of use	Results, Notes
Preparation of seeds for planting Stimulation of plants	<p>General recommendations.</p> <p>1.Preplant processing: - dip seeds into “dead water” (concentration of anolyte 2,9-3,0 pH), mix, in a few minutes and gather and move off poor floating seeds but the rest of seeds to mature 2-4 hours (disinfection process); - merge dead water, wash seeds with tap water; - put seeds into <i>aqua vitae</i> (concentration of catholyte is 9,2-10 pH) and mature in it 5-15 hours (exact time depends on kind of seeds and local conditions; it is determined experimentally); - merge <i>aqua vitae</i>, dry seeds for two - three hours outdoors and start planting.</p> <p>2.Stimulation of growth – watering: - sprinkle with <i>aqua vitae</i> once (pH=9,7-10), then two-three times use tap water, then use <i>aqua vitae</i> again and so on. Within a week it is necessary to water seeds with <i>aqua vitae</i> no more than 1-2 times. If it is noticed the soil is contaminated the plants (in comparison with others (wither, ill)), then it is necessary to sprinkle with dead water and after that it is necessary to water as mentioned above.</p>	<p>Seeds are purified, disinfected, come up faster and 3-4 days earlier.</p> <p>When sprinkling with <i>aqua vitae</i> seeds grow 20-30 % faster Increase illness stability. Harvesting is 10-14 days earlier and 20-40 % more.</p>
Reviving of marcescent flowers, green vegetables.	<p>Marcescent flowers and green vegetables dip into <i>aqua vitae</i> after cutting dried roots and stalks, (recommended concentration of catholyte is 9,2-10 pH).</p>	<p>Flowers, vegetables revive quickly.</p>
Control of minor pests.	<p>Places of gathering of pests (cabbage whitefly, aphid, and etc.) to irrigate dead water. If it is necessary wash soil. (Concentration of anolyte is 2,9-3,0pH.) Procedure should be repeated.</p>	<p>Pests are lost or leave their favorite places.</p>
Disinfection of soil.	<p>Sprinkle soil (spotted flowers) with dead water (concentration of anolyte is 2,8-3,0pH). Soil should be wet completely.</p>	<p>Two or three watering are enough for disinfection.</p>
Preparation syrup for bees	<p>Syrup for bees should be prepared with <i>aqua vitae</i> instead of tap water (concentration of catholyte is 9,2-10pH).</p>	<p>Bees become more active.</p>
Disinfection of bee hives .	<p>Disinfect bee hives with dead water (concentration of anolyte is 2,8-2,9pH).</p>	<p>Disinfection of bee hives is achieved</p>

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