

ISO 9001-2015



The quality management system
Certificate of Registration № 41061

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PRODUCTION COMPANY

LIVAM

134 A, B.Khmelnitsky Avenue, Belgorod, 308023, Russian Federation

EQUIPMENT FOR PRODUCING:

- distilled water
- bi-distilled water
- water for injection and medicine
- reagent grade water (type I and II)

TANKS FOR STORAGE OF PURIFIED WATER

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Founded in 1992, PF «Livam», LLC is a Russian professional manufacturer of medical electric water distillers, bi-distillers, reagent grade water (type I and II) generation system (UPVA) and tanks for purified water storage.

The company has its own intellectual property items (patents, specifications, licenses), highly skilled employees, production, administrative and storage facilities, modern equipment and motor transport.

The manufacture has been certified for compliance with international standard of Quality Management System ISO 9001:2015 «Desing, manufacture, sale and post delivery service of the equipment for cleaning liquids for Industrial, household and medical purposes».

The products are certified by the standards of the European Union



Types of equipment

▶ **Water distillers of AE series**

Performance: 5, 15, 25 liters per 1 hour
Distilled water for injection and medical purpose
Conductivity of distillate: < 2.0 $\mu\text{S}/\text{cm}$

▶ **Water distillers of AE series
(with a built-in distillate storage tank)**

Performance: 4, 10 liters per 1 hour
Distilled water for injection and medical purpose
Conductivity of distillate: < 2.0 $\mu\text{S}/\text{cm}$

▶ **Reagent grade water generation system (UPVA)**

Performance: 3, 5, 15, 23 liters per 1 hour
Reagent grade water, water for injection and medicine.
Conductivity of distilled water: type I – 0.05 $\mu\text{S}/\text{cm}$; type II – 0.8-1.0 $\mu\text{S}/\text{cm}$

▶ **Water distillers of DE series**

Performance: 40, 50, 70, 100, 140, 210 liters per 1 hour
High-quality distillate for industry
Conductivity of distillate: < 3.5 $\mu\text{S}/\text{cm}$

▶ **Water distillers of ADE series**

Performance: 40, 50 liters per 1 hour
High-quality distillate for industry and medicine
Conductivity of distillate: < 3.0 $\mu\text{S}/\text{cm}$

▶ **Water bi-distillers of BE series**

Performance: 2, 4 liters per 1 hour
Distilled / bi-distilled water for laboratory tests, injection and medical purpose.
Conductivity of bi-distillate: 1.0-1.2 $\mu\text{S}/\text{cm}$

▶ **Tanks for storage of purified water**

Capacity: 30, 60, 100, 180, 240, 300 and 500 liters



The water, produced by the equipment of PF «Livam», can be used:



- For medical purposes (injections, medicines and physiological solutions production, vaccination of humans, animals and birds, instrument cleaning, autoclave and sterilizers, etc.)

- For laboratory tests and research experiments



- For manufacturing processes in the manufacture of products or work of processing equipment

Equipment produced by PF «Livam» is used in:



Medicine and Pharmaceuticals:

- Hospitals (laboratories, sterilization departments, pharmacies)
- Military hospitals (laboratories, sterilization departments, pharmacies)
- Birth centers
- Perinatal centers
- Pharmacies
- Dental clinics
- Pharmaceutical companies
- Health and leisure institutions (Resorts, recreation and retreat centers)

Industrial enterprises:

- Companies serving the nuclear industry
- Aircraft plants and shipbuilding yards
- Metallurgical plants (filling distillate into equipment (cooling process lines))
- Urban water supply management
- Dairy plants
- Poultry farms
- Bakery plants
- Manufacture of electronic components
- Distilling plants
- Meat-processing factories
- Jewelry factories
- Manufacture of cosmetics
- Sewing workshops

Agricultural enterprises:

- Enterprises engaged in crop cultivation
- Enterprises engaged in animal breeding
- Feed factories
- Enterprises processing agricultural products

Educational and research institutions:

- Universities (academies) (in laboratories)
- Research institutions (in laboratories)
- Hygiene and epidemiology centers (in laboratories)

Transport companies:

- Motor transport enterprises (topping up batteries, antifreeze dilution)
- Railway depots
- Tram and trolleybus depots

Chemical enterprises:

- Battery factories
- Chemical companies
- Gas production enterprises
- Oil refineries

Service companies:

- Photo service (for film development)
- PVC window cleaning companies
- Companies maintaining manufacturing facilities (filling distillate into a circulation and cooling system)
- Firms engaged in battery service

Individuals:

- Cooking food
- Filling into home appliances (irons, steam generators, humidifiers)
- Filling into a heating system
- Drinking for the benefit of health

Products of PF «Livam» have a number of advantage



- ▶ Wide model range varying in:
 - performance (from 3 to 210 liters per hour),
 - quality of water produced (water of all types of purity: distillate for injection, distillate for medicine and industry, bi-distilled water, reagent grade water of type I and II),
 - capacity of tanks for purified water storage (from 30 to 500 liters).
- ▶ The highest quality of distillate and bi-distillate produced
- ▶ Compact dimensions and light weight
- ▶ Low power and water consumption for producing 1 liter of distillate / bi-distillate
- ▶ Installation of the equipment does not require skilled specialists. The equipment can be installed by operating personnel with the help of the manual.
- ▶ Our products are made of high quality corrosion-resistant titanium stainless steel
- ▶ Water distillers, bi-distillers, reagent grade water generation systems feature:
 - an easy-to-dismount condenser tank allowing easy evaporation chamber cleaning and water heaters maintenance,
 - special units separating and degassing droplets of raw water from steam allowing higher quality distillate / bi-distillate production,
 - safety system improving reliability and lifetime of the equipment
- ▶ The manufacture has been licensed by the Federal Service for Surveillance in Healthcare (ROSZDRAVNADZOR) of Russia
- ▶ The products are certified by the standards of the European Union

Water distillers of AE series

Purpose: The device is designed for production of distilled water by heating of raw water to boiling with subsequent condensation of the generated steam resulting in the distillate (non-pyrogenic) with a temperature from +40°C to +85°C.

The electrical conductivity of distilled water:
1,8 – 2,0 μS/cm

Design features:

- ▶ A body and main parts are made of high-alloy stainless steel AISI 321 / 304.
- ▶ Demountable design of the condensation chamber for visual monitoring of scale formation, easy sediment cleaning, easy maintenance and repair.
- ▶ Automatic control of the water level in the evaporation chamber.
- ▶ A double shell and a heat-protective shield provide a moderately warm (not more than +45 °C) surface of the distiller while functioning and protect operating personnel from thermal burns.
- ▶ A removable cooler allows distillate cooling.
- ▶ A distiller can be combined with a tank into an automatically operating single system.
- ▶ Lifetime: at least 8 years, warranty period: 14 months, MTBF (Mean time between failures): 3,500 hours.

Characteristics of electric water distillers «AE»

PARAMETERS	AE-4	AE-5	AE-10	AE-15	AE-25
Output, liters per hour	4 (-10%)	5 (-10%)	10 (-10%)	15 (-10%)	25 (-10%)
Voltage, V (50 Hz)	230	230	400	400	400
Power consumption, kW	3,0 (±10%)	3,5 (±10%)	7,2 (±10%)	9,0 (±10%)	16,2 (±10%)
Water consumption, liters per hour	30 (±10%)	36 (±10%)	75 (±10%)	110 (±10%)	180 (±10%)
Overall dimensions (LxWxH), mm	260x215x370	260x215x370	335x275x460	335x275x460	365x310x580
Weight, kg	6,5	6,5	11	11	16



Water distillers of AE series (with a built-in distillate storage tank)

Purpose: The device is designed for production of distilled water by heating of raw water to boiling with subsequent condensation of the generated steam resulting in the distillate (non-pyrogenic) with a temperature from +40°C to +85°C followed by its accumulation in the built-in storage tank

The electrical conductivity of distilled water:
1,8 – 2,0 μS/cm

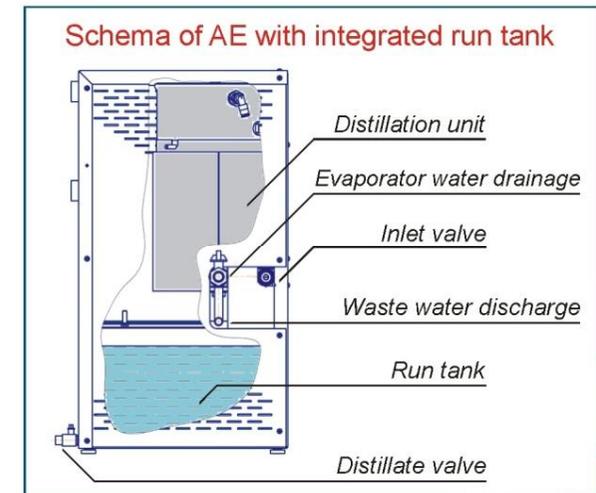
Design features:

- ▶ A body and main parts are made of high-alloy stainless steel AISI 321 / 304.
- ▶ Design: a single unit of stainless steel with adjustable legs for desktop location. The unit can also be wall mounted.
- ▶ Stainless steel panels protect the operating personnel from thermal burns and contact with working elements of the machine.
- ▶ Fully automatic control system:
 - regulates the amount of water for evaporation,
 - stops water and electricity supply when the water tank is filled,
 - switches the system on when distillate is drawn off from the storage tank.
- ▶ Lifetime: at least 8 years, warranty period: 14 months, MTBF (Mean time between failures): 3,500 hours.

Characteristics of electric water distillers «AE» (with built-in distillate storage tank)



PARAMETERS	AE-4/8	AE-10/20
Output, liters per hour	4 (-10%)	10 (-10%)
Capacity of storage tank, l	9	20
Voltage, V (50 Hz)	230	400
Power consumption, kW	3,0	7,2
Water consumption, liters per hour	30 (±10%)	75 (±10%)
Overall dimensions (LxWxH), mm	320x290x570	425x425x775
Weight, kg	13,5	22,8



Water bi-distillers of BE series

Purpose: The device is designed for the production of distilled and bi-distilled water by heating of raw water to boiling with subsequent condensation of the generated steam resulting in the

- distillate with a temp. from +70°C to +85°C (non-pyrogenic)
- bi-distillate with a max. temp. of +30°C (non-pyrogenic)

The electrical conductivity of distilled water:
bi-distillate: 1,0 – 1,2 µS/cm
distillate: 2,0 – 3,0 µS/cm

Design features:

- ▶ Production of both distilled and bi-distilled water is possible.
- ▶ Reagents can be placed in the evaporation chamber of the 2-nd distillation stage for the secondary distillation of the distillate with them.
- ▶ A body and main parts are made of high-alloy stainless steel AISI 321 / 304.
- ▶ Stainless steel panels protect the operating personnel from thermal burns and contact with working elements of the machine.
- ▶ Demountable design of condensation chambers allows visual monitoring of scale formation, easy sediment cleaning, easy maintenance and repair.
- ▶ Lifetime: at least 5 years, warranty period: 12 months, MTBF (Mean time between failures): 3,500 hours.

Characteristics of electric water bi-distillers «BE»

Advantages in comparison to similar products:

- lesser weight,
- smaller size,
- lesser water consumption,
- lesser power consumption,
- few times lower price

HIGHER DISTILLATE QUALITY

PARAMETERS	BIDISTILLER MODEL	
	BE-2	BE-4
Output, liters per hour		
- distillate	2,6 (-10%)	5,0 (-10%)
- bi-distillate	2,0 (-10%)	4,3 (-10%)
Voltage, V (50 Hz)	230	230
Power consumption, KW		
- distillation	2,0	3,5
- bi-distillation	3,3	6,2
Water consumption, liters per hour		
- distillation	20 (±10%)	36 (±10%)
- bi-distillation	44 (±10%)	88 (±10%)
Overall dimensions (LxWxH), mm	470x280x300	550x360x400
Weight, kg	14,5	16,5



Reagent grade water generation systems (UPVA)

Purpose: The system is designed for production of ultra pure non-pyrogenic reagent grade water (type II) with a very low content of inorganic, organic or colloidal contaminants.

Design features:

- ▶ Multi-stage cleaning system.
- ▶ Low consumption of water and electricity.
- ▶ A body and main parts are made of high-alloy stainless steel AISI 321 / 304.
- ▶ Demountable design of condensation chambers allows visual monitoring of scale formation, easy sediment cleaning, easy maintenance and repair.
- ▶ Automatic control of the water level in the evaporation chamber.
- ▶ A built-in cooler chills distillate to a temperature not exceeding +40°C.
- ▶ UPVA can be combined with a tank into an automatically operating single system.
- ▶ Lifetime: at least 8 years, warranty period: 14 months, MTBF (Mean time between failures): 3,500 hours.

The electrical conductivity of distilled water:
0,8 – 1,0 μ S/cm

Characteristics of UPVA



PARAMETERS	UPVA-5	UPVA-15	UPVA-25
Output, liters per hour	5 (-10%)	15 (-10%)	23 (-10%)
Voltage, V (50 Hz)	230	400	400
Power consumption, kW	3,6	9,1	16,3
Water consumption, liters per hour	36 (\pm 10%)	110 (\pm 10%)	180 (\pm 10%)
Overall dimensions (LxWxH), mm	424x417x454	550x500x625	660x550x760
Weight, kg	20	39	50
Design	desktop / wall-mountable	desktop	desktop
Terms for replacement of replaceable elements:	prefilters — 3 months, membrane — 12-18 months, electric heaters - 18-24 months		

Water distillers of ADE series

Purpose: The device is designed for production of distilled water by heating of raw water to boiling with subsequent condensation of the generated steam resulting in the distillate with a temperature from +40°C to +85°C.

The electrical conductivity of distilled water:
< 3,0 µS/cm

Design features:

- ▶ A body and main parts are made of high-alloy stainless steel AISI 321 / 304.
- ▶ Type of heating elements– tubular electric heaters.
- ▶ Tubular condenser.
- ▶ Separate water supply circuits allow separate water feeding for evaporation and cooling.
- ▶ Demountable design of the condensation chamber for visual monitoring of scale formation, easy sediment cleaning, easy maintenance and repair.
- ▶ Automatic control of the water level in the evaporation chamber.
- ▶ A distiller can be combined with a tank into an automatically operating single system.
- ▶ Lifetime: at least 8 years, warranty period: 14 months, MTBF (Mean time between failures): 3,500 hours.



Characteristics of electric water distillers «ADE»

PARAMETERS	ADE-40	ADE-50
Output, liters per hour	40 (-10%)	50 (-10%)
Voltage, V (50 Hz)	400	400
Power consumption, kW	27 (±10%)	31,5 (±10%)
Water consumption, liters per hour	320 (±10%)	380 (±10%)
Overall dimensions (LxWxH), mm	760x510x850	760x510x850
Weight, kg	46	46

Water distillers of DE series

Purpose: The device is designed for production of distilled water by heating of raw water to boiling with subsequent condensation of the generated steam resulting in the distillate with a temperature from +50°C.

The electrical conductivity of distilled water:
< 3,5 µS/cm

Design features:

- ▶ A body and main parts are made of high-alloy stainless steel AISI 321 / 304.
- ▶ Type of heating elements – electrodes which ensure the reliability of the distiller operation in case of scale formation. Unlike tubular electric heaters the electrodes do not blow out because of scale deposits.
- ▶ Steam is cleaned from raw water droplets by a special unit.
- ▶ Automatic control of the water level in the evaporation chamber.
- ▶ Tubular condenser.
- ▶ Separate water supply circuits allow separate water feeding for evaporation and cooling.
- ▶ Demountable design of the condensation chamber for visual monitoring of scale formation, easy sediment cleaning, easy maintenance and repair.
- ▶ A distiller can be combined with a tank into an automatically operating single system.
- ▶ Lifetime: at least 8 years, warranty period: 14 months, MTBF (Mean time between failures): 3,500 hours.



Characteristics of electric water distillers «DE»

PARAMETERS	DE-40	DE-50	DE-70	DE-100	DE-140	DE-210
Output, liters per hour	40 (-10%)	50 (-10%)	70 (-10%)	100 (-10%)	140 (-10%)	210 (-10%)
Voltage, V (50 Hz)	400	400	400	400	400	400
Power consumption, kW	26,5 (±10%)	30 (±10%)	42 (±10%)	60 (±10%)	84 (±10%)	128 (±10%)
Water consumption, liters per hour	320 (±10%)	360 (±10%)	455 (±10%)	750 (±10%)	1000 (±10%)	1800 (±10%)
Overall dimensions (LxWxH), mm	560x420x1100	560x420x1100	740x550x1010	810x630x1270	810x630x1420	1195x850x1912
Weight, kg	43	43	65	82	88	208

Purified water storage tanks of C series

Purpose: The device is designed for collection, storage and distribution of purified water obtained by different methods of treatment from drinking water of general use.

Design features:

- ▶ A body and main parts are made of high-alloy stainless steel AISI 321 / 304.
- ▶ Tanks can be combined with distillers for convenient collection of distilled water.
- ▶ Tanks are equipped with:
 - a device aimed to power the distiller off when the tank is filled
 - an antibacterial air filter
 - a water level gauge
- ▶ Supply voltage of electrical control circuits (connection to the distiller): ~ 230 V (50 Hz, AC single phase) or 12 V (DC)
- ▶ Lifetime: at least 8 years, warranty period: 12 months.

Characteristics Tanks for storage of purified water «C» series



Model	Overall dimensions, mm		Capacity, liters	Weight, kg
	Dimensions (LxW)	Height		
C-30	450x500	485	30	6,6
C-60	450x500	785	60	8,1
C-100	560x580	725	100	13,5
C-180	690x660	890	180	20
C-240	690x660	1120	240	24
C-300	880x785	1150	300	31
C-500	880x785	1560	500	48

AUTHORIZATIONS



The equipment manufacture has been licensed by the Federal Service for Surveillance in Healthcare (ROSZDRAVNADZOR) of Russia



The manufacture has been certified for compliance with international standards of Quality Management System ISO 9001:2015

The products are certified by the standards of the European Union



LOCATION

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***We hope for long-term
and mutually beneficial cooperation!***

Regards, PF «Livam»