

GEYSER-ULTRA BIO



MODIFICATIONS OF GEYSER-ULTRA BIO

- for soft water **411**
- for hard water **421**
- for ultra-hard **431**
- for ferruginous **441**

Thank you for buying the Geyser water filter!

Our developments and technologies make it possible to ensure the excellent water quality in your house.

Water filter Geyser-ULTRA BIO – you can drink water without boiling it!

All functionality and the installation method are described in these Instructions. Please carefully read it and keep for future reference.

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PURPOSE

In the Geysler-Ultra Bio filters, there are employed both conventional water purification methods: mechanical filtration, ion exchange, sorption and deferrization, and innovative ones: decontamination, removal of viruses, cysts, bacteria, humic compounds. The effect of quasi-deneutralization that is characteristic of the Aragon material makes it possible to produce not only absolutely clean and safe water, but also tasty and useful water.

The Geysler-Ultra Bio water filters are distinguished by the logic and thoughtful nature of each phase of purification, which results in the fact that the long useful operation time and stable purification efficiency is guaranteed for the entire system throughout the service life.

Due to the unique combination of the Aragon Bio and Disruptor cartridges, the Geysler-Ultra Bio water filters are capable to protect you against contamination of all classes while maintaining the natural composition of microelements in soft water, and to soften hard water and to make it beneficial to health.

The Aragon Bio cartridges guaranteed to remove from water not only harmful impurities but also bacteria and viruses (Patent No. 2506232).

You can drink water purified by the Geysler-Ultra Bio filters without boiling it.

This is confirmed by:

- Scientific Research Institute named after A. N. Sysin (Moscow),
- Influenza Scientific Research Institute (St. Petersburg),
- Universita di Ferrara (Italy),
- Institut Paster (France).

Advantages of unique Aragon material (Patent No. 2203721):

- High efficiency of impurity removal (hardness salts, iron, heavy metals, radionuclides, chlorine, etc.).
- Active silver in the wash-fast form suppresses the growth of filtered bacteria.
- The selfindication of the useful operating time: scale formation or reduction in water head indicate the need for the cartridge replacement.
- Antirelease: all filtered impurities are permanently trapped in the labyrinth structure of the cartridge.
- Quasisoftening: in the process of filtration through the Aragon cartridge, water is saturated with useful calcium – Aragonite (heart disease prevention). When boiling, purified water forms no scale on heating elements.

GEIZER-ULTRA BIO PACKAGE CONTENTS

Model	First stage	Second stage	Third stage	casing	Application
411	PFM, AFM, PP	Aragon S-BIO+B(Ca)	Disruptor/ MMB	white	soft water
421	PFM, AFM, PP	Aragon 2-BIO	Disruptor/ MMB	white	hard water
431	Aragon 2-BIO	BS	Disruptor/ MMB	white	ultra-hard water
441	BA	Aragon H-BIO	Disruptor/ MMB	white	ferruginous water

FILTERING MATERIALS AND CARTRIDGES USED

Mechanical sediment - protection cartridge (EFM, PFM, PP) made of polypropylene removes dirt, suspended matter and insoluble impurities from water.

Aragon S-BIO retains useful calcium in soft water.

Aragon 2-BIO has an increased useful life of removing hardness salts.

Aragon H-BIO: reduced hardness, removal of heavy metals.

The **Ultra Bio 411** Model has a V(Ca) dispenser additionally installed inside its Aragon M-BIO cartridge to enrich water with useful micro-elements.

Disruptor is the most recent technology to remove viruses, cysts, bacteria, humic compounds. Unique filtering material based on nanoaluminium fiber by American company Ahlstrom. Efficiently reduces a level of chlorine, iron and heavy metals

MMB is a cartridge of high-quality carbon fiber. Efficiently removes organic and chloro-organic compounds, free chlorine, unpleasant odor and foreign taste. Silver contained in the cartridge provides the bacteriostatic effect throughout the service life.

BS cartridge is intended for hard water. It contains food-compatible ion-exchange resin to soften water (to remove hardness salts). This cartridge can be repeatedly used many times after regeneration.

EFFICIENCY OF PRINCIPAL IMPURITIES PURIFICATION

Suspended impurities (rust, sand, algae, other particles) over 5 µm	100 %
Heavy and radioactive metals (lead, cadmium, copper, strontium-90, caesium)	up to 99 %
Active chlorine	100 %
Organic compounds	up to 92 %
Hardness salts	up to 85 %
Microorganism and coliform bacillus	99 %
Hepatitis A virus, rotaviruses and Noroviruses	99 %

MEAN SERVICE LIFE AND MEAN USEFUL OPERATION OF CARTRIDGES

Cartridge	Service life*, months	Useful operation*, l
Sediment-protection	12	up to 7,000
Aragon S-BIO/Aragon 2-BIO Aragon H-BIO	12	up to 7,000
Disruptor/MMB	18	up to 10,000
BA**	6–8	up to 2,000
BS ***	12	up to 4,000

* depends on contamination degree of initial water

** given the iron content of water up to 1 mg/l with consideration for regeneration

*** at hardness up to 3 mg-eq/l with consideration for regeneration

SPECIFICATIONS

Overall dimensions of water purifier assembly no more than, mm	380 × 310 × 140
Recommended filtration rate no more than	3.5 l/min
Operating pressure	up to 7 atm
Frequency of BS cartridge regeneration (at hardness of 6–4 mg-eq/l)	200–400 l
Temperature of water to be filtered	+4...+40 °C
Weight without packing no more than	6.5 kg

SCOPE OF SUPPLY



1. Filter assembly
2. Wrench for body
3. Wrench for bottom plug
4. Clear water faucet
5. Decorative cap
6. Rubber washer
7. Plastic washer
8. Fastening nut with washer
9. Piston
10. Collet clamp nut 1/4"
11. Connecting tube 1/4"
12. T-piece adapter with faucet knob
13. Manual
14. Packaging

GETTING CONNECTED

Connection may be only done by a qualified technician or a manufacturer's representative! In case of do-it-yourself connection, strictly follow these instructions.

It is not recommended to dismantle the factory connections if it is not required.

Attention! All filter bodies passed the tightness test under high-pressure. To prevent it from being cracked, always keep the Aragon cartridge in wet conditions. If there breaks longer than 1 month in using the filter, make sure that water is always left in the filter body.

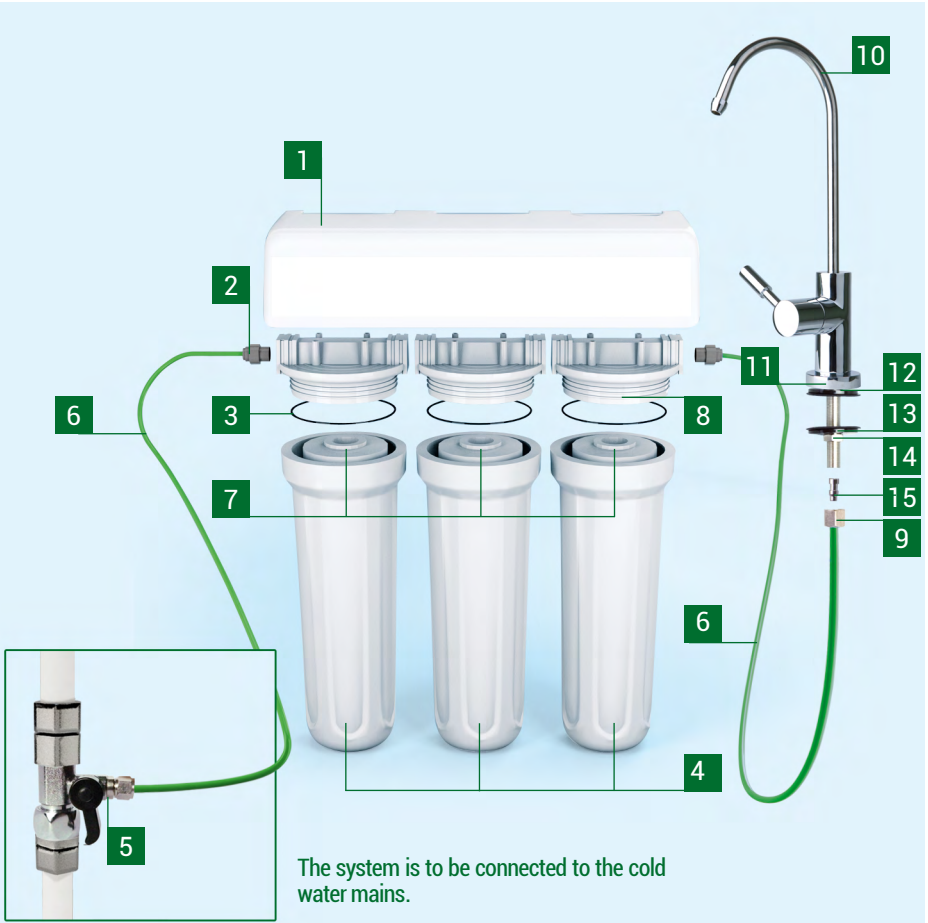
Attention! In case of the pressure increase higher than 6 atm in the system, it is required that a pressure reducer to be installed upstream of the filter.

Prior to beginning the work, cut off the cold water supply to the connection point and depressurize by opening any faucet located downstream of the water cut-off point.

Before the installation, make sure that the filter flasks are securely tightened (if required, tighten up) and make the connection according to the instructions.

Attention! The position of the vertical sticker strictly in the middle of the filter front side does not guarantee the connection tightness. The sticker position might change when the threaded connection of the flask is tightened.

CONNECTION DIAGRAM



- | | |
|---|-------------------------------------|
| 1 Bracket | 9 Collet clamp nut 1/4" |
| 2 Adapter 1/2" x 1/4" | 10 Faucet |
| 3 Sealing ring | 11 Decorative cap |
| 4 Cartridge cases | 12 Rubber gasket |
| 5 T-piece adapter with faucet knob | 13 Plastic washer |
| 6 Connecting tube 1/4" | 14 Fastening nut with washer |
| 7 Cartridges | 15 Piston |
| 8 Caps of cartridge cases | |

CONNECTION PROCEDURE

The system is to be connected to the cold water mains. Remove the filter from its packing. Remove the transportation plugs. Press a tip of a screwdriver against the plastic ring in the connection and remove the plug without applying force (Fig. 1).

Cut the tube of the connection kit into 2 pieces and connect each one to the filter inlet and outlet.

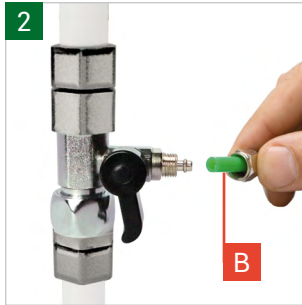
Attention! Inlet – first stage. Outlet – third stage.

Install the filter in the convenient place for use.



CONNECTION TO WATER PIPELINE

1. Install T-piece adapter (A) into the cold water mains sealing the connections (Fig. 1).
2. Insert the plastic tube into nut (B) (Fig. 2). Insert the tube into the ball valve fitting as far as it will go and tightly screw the nut (Fig. 3).

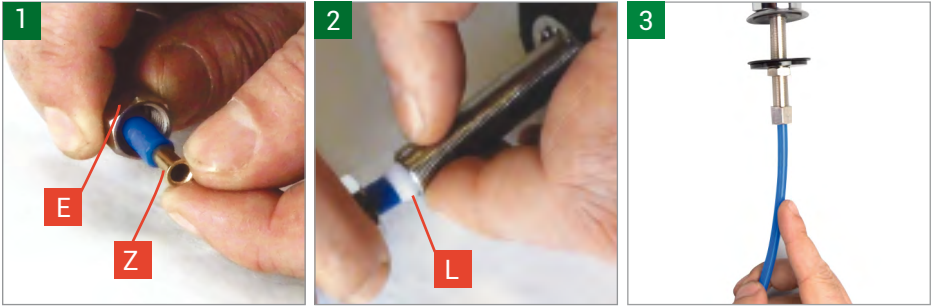


CONNECTION OF CLEAN WATER FAUCET

Drill a hole 12 mm in diameter in the sink. Assemble the faucet as follows:

1. Faucet
2. Decorative cap
3. Rubber gasket
4. Plastic washer
5. Rubber washer
6. Metal washer

Secure the faucet on the sink. Pass through the blue-color tube into nut (E) (Fig. 1). Insert piston (Z) inside the tube as far as it will go. Put plastic stop ring (L) onto the tube end (Fig. 2). Screw the nut onto the threaded faucet rod (Fig. 3).



GETTING STARTED

Prior to using, wash through the filter for 2–5 minutes. The filter should be also washed after the replacement of the cartridges and after the long-time (more than 5 days) of the break in use.

After a new filter has been installed or the cartridges have been replaced, air remains in the system. That would result in excessive aeration of water (visually, water may be of milk-white color). As the filter operates, air is being removed from the system and purified water will become clear.

FILTER MAINTENANCE

When to provide maintenance	Cartridge	Type of maintenance
Occurrence of scale signs	BS, Aragon 2-BIO	Regeneration
Noticeable reduction in filtration rate	PFM, EFM, PP	Replacement
	Aragon 2-BIO, Aragon H-BIO, Aragon S-BIO	Mechanical cleaning or replacement
Reduction in water quality	Disruptor, MMB	Replacement

Upon expiry of their useful operation time or service life, the cartridges shall be replaced.

REPLACEMENT OF CARTRIDGES OF I, II, III STAGES

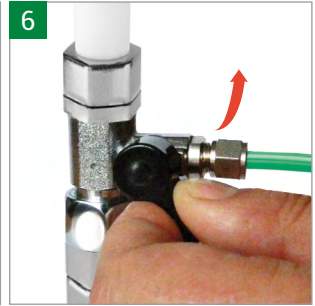
Cut off water at the inlet (Fig. 1). Open the clean water faucet to depressurize the system (Fig. 2). Using the wrench, unscrew the filter flask (Fig. 3), check the conditions of the O-ring and replace it, if required, then replace appropriate cartridge (Fig. 4, 5).



It is recommended that, prior to reinstallation, silicone grease (do not mix up with sealant!) or vaseline should be applied on the O-ring.

Install the flask in place and tighten with the wrench.

Check the system for tightness opening water supply to the filter. (Fig. 6). The system is ready for operation.



REPLACEMENT OF MINERALIZER FOR MODEL 411



Unscrew the flask using the supplied wrench and screw out the Aragon M-BIO cartridge.

Drain water from it.

Using the wrench for the bottom plug, screw out the bottom plug from the Aragon M-BIO cartridge (Fig. 1), remove dispenser B(Ca).

When replacing the Aragon M-BIO cartridge, it is required to withdraw fitting piece "B" (Fig. 3) from the cartridge used and transfer it to a new cartridge.

Remove the lid of the new dispenser, insert it (Fig. 2) with its opened side facing upwards. Screw in the bottom plug as far as it will go.

Reassemble the filter in reverse order and wash it through for 2–5 minutes. The system is ready for operation.



CARTRIDGE CLEANING AND REGENERATION

Removing of hardness salts from BS cartridge

Cut off water upstream of the filter and open the clean water faucet to depressurize the system.

Unscrew the flask with the supplied wrench.

Remove the BS cartridge from the body.

Unscrew the cartridge cap and transfer the cartridge content into a glass or plastic container with a capacity of at least 2 l.

Prepare 1 liter of saturated solution of cooking non-iodized salt (300 g of salt per 1 liter of water) and pour it over ion-exchange resin.

Attention! Solution may be bubbling due to air escaping from resin.

Mix up the container content and leave it for 1–2 hours agitating it from time to time.

Carefully drain the salt solution. Pour cold water over resin. Mix up, drain water. Repeat the operation two times more.

Transfer resin into the body and screw the cartridge cap.

Put the cartridge into the flask. If required, replace the O-rings. It is recommended that, prior to installation, silicone grease (do not mix up with sealant!) or vaseline should be applied on the O-ring. Install the flask in its place in the filter and tighten with the wrench. Check the system for tightness opening water supply to the filter. Wash the filter through for 2–5 minutes.

The system is ready for operation.

Attention! When carrying out the regeneration, it is required to prevent washing solutions from contacting with eyes as it might bring pain. In case of contact, thoroughly wash your eyes with water!

ATTENTION!

In replacement, it is recommended to use replaceable components Geysler. Failure to comply with this requirement might result in changes to the functionalities and specifications of the water-purification system.

Agreed price

Declaration of conformity:

TC N RU Д-RU.HO03.B.00113 dated 12.03.2015

TU 3697-018-48981941-2009



MANUFACTURER: AKVATORIYA LTD

Legal address:

69 Shosse Revolyutsii, build. 6, lit. A, Saint Petersburg, Russia 195279

Tel./Fax: +7 (812) 605-00-55 (multichannel)

Mailing address:

195279, St. Petersburg, B.O. 379

e-mail: office@geizer.com

Internet-Shop: shop.geizer.com

You can have the full list and locations of the representative offices on the web-site www.geizer.com or by phone in St. Petersburg (812) 605-00-55

www.geizer.com

STATEMENT BY INSTITUT PASTER DE LILLE, FRANCE



Institut Pasteur de Lille
Unité de Sécurité Microbiologique – Microbiological Safety Unit
1 rue du Professeur Calmette – BP 245 – 59019 Lille Cedex – France

REMOVAL OF MICROORGANISMS FROM WATER BY GEYSER FILTERS

According to a test protocol based on filtration of artificially contaminated ultrapure water, GEYSER filters ARAGON BIO were able to remove bacterial and viral contamination with the following values (obtained in separate experiments):

- *Legionella pneumophila* serogroup 1 (CIP 103854), mean removal 99.99987% (5.9 log)
- *Salmonella* Typhimurium (ATCC 14028), mean removal 99.998% (4.8 log)
- Poliovirus strain Sabin type 1, mean removal 99.84% (2.8 log)
- Rotavirus strain simiens SA114F1, mean removal 99.99% (4.0 log)
- Hepatitis A virus strain HM175/18f (ATCC VR-1402), mean removal 96% (1.4 log)

Lille, September 3rd, 2014



Dr. Michèle Vialette
Head of the Microbiological Safety Unit
Institut Pasteur de Lille

REMOVAL OF MICROORGANISMS FROM WATER USING GEYSER FILTERS

In accordance with the test report based on the filtration of the artificially contaminated ultra-clean water, the GEYSER ARAGON BIO filters are capable to remove the bacterial and viral contamination with the following parameters:

- *Legionella pneumobilia*, Serogroup 1 (CIP 103854): mean removal efficiency 99.99987 % (5.9 log)
- *Salmonella* Typhimurium (ATCC 14028): mean removal efficiency 99.998 % (4.8 log)
- Poliovirus, Sabin Strain of Type 1: mean removal efficiency 99.84 % (2.8 log)
- Rotavirus, Simiens Strain SA114F1: mean removal efficiency 99.99 % (4.0 log)
- Hepatitis A virus, Strain HM175/18f (ATCC VR-1402): mean removal efficiency 96 % (1.4 log)

Lille, September 03, 2014

WARRANTY

The guaranteed service life of the filter is 5 years from the sales date. If the sales date and a stamp of the sales company are missing, the guaranteed service life is calculated from the date of filter manufacture. The warranty does not apply to the cartridges: for those, the useful operation is indicated in the table on Page 4. When any factory defects are found in them, the cartridges may only be replaced against the warranty after they have been undergone the appraisal by the Aftersales Service representative.

The manufacturer disclaims the responsibility for the filter operation and for possible consequences in cases where:

- the filter or its component parts have mechanical damages;
- in connecting and operating, the requirements of these instructions were not met or original cartridges and components were not used;
- cartridges have been overaged;
- the filter was not used for the designed purpose (to treat hot or corrosive fluids).

The service life of the filter is 10 years. The maintenance and post-warranty service are provided by the manufacturer or its regional representatives.

The Aftersales Service guarantees the free correction of defects, during a period of 6 months, in the filter connections and attachments, with above defects occurring due to the manufacturer fault when installing the filter.

The shelf life of the filter - 3 year.

SAFETY PRECAUTIONS, STORAGE AND TRANSPORTATION

Prevent the filter and cartridges from being hit, dropped, exposed to negative temperatures and direct sunlight. The filters may be transported in any enclosed means of transportation (except for non-heated air plane compartments) according to the freight transport regulations applicable for given means of transportation.

The filters shall be stored packaged at a distance of at least 1 m from heating appliance. Avoid exposing to aerosols, aggressive and odorous substances.

Disposal shall be in accordance with the sanitary, environmental and other requirements established by the national standards in the field of environmental protection.

MATTERS OF AFTERSALES SERVICE ARE TO BE ADDRESSED TO:

WARRANTY CARD

Date of issue:

To be completed by sales company

Date of sale _____

Stamp of the store _____