Water filter Systems

KuLf®
Wasserfiltersystem der Zukunft.

asafil

KuLf® - Water Filter Systems

An essenetial element …. pure water

Drinking water is the most important food and of great meaning for all human metabolic processes. It can not be replaced by anything!

The water consumption of an adult should vary between approximately 2 – 3 litres per day. Since water is a vital element, it should be consumed in its purest form. Therefore, drinking water must be free of pathogenic agents and may not have any harmful properties. It should be clear, cool, odorless and sound and should give an edge to drink it.

However …. the quality of our drinking water is endangered ! Not all arising harmful substances in the tap water can be smelled or tasted, but they are nevertheless dangerous: because of the slow pollution of our ground-water by the industries, waste buckets, old channels systems, as well as abandoned polluted areas (chlorinated hydrocarbons), heavy metals, chemical fertilisers and plant protectives.

The limits in the drinking water are determined by legal regulations. The legal regulations still in force in the Federal Republic of Germany with regard to the quality of drinking water are the strictest when compared interantionally. Yet, harmful residues of pollutants are still accepted.

These critical values shall now be relaxed within the European Union.

Critical values for drinking water:

According to the most current table of critical values for chemical substances and compounds, the following limits of pollutants are accepted for drinking water:

Nitrate	50,00	mg/Litre
Arsenic	0,01	mg/Litre
Lead	0,01	mg/Litre
Copper	2,00	mg/Litre
Atrazine	0,10	µg/Litre
Desethylatrazine	0,10	µg/Litre
Chlorinated hydrocarbons	0,20	µg/Litre

In order to remove micro-biological polluntants, chlorine is usually added to the drinking water. Since chlorine forms innumerable compounds with organic and inorganic substances, the occurrence of halogenic organic compounds which are hazardous to health is always likley.

Whenever fertilisers, rich in nitrogen compounds, are applied in too large quantities, nitrates get into the ground water. Nitrogen and amino acids can build nitrosamines in the human body which cause cancer.

A high nitrate concentration is harmful to health and dangerous, especially for babies and small children. A high nitrate content can lead to cyanosis and Methemoglobinemia in infants.

KuLf® - Water Filter Systems with Knitted / Waved Active Carbon

General Information about JMV Drinking Water Filters

After years of research and tests, JMV placed a completely new generation of drinking water filter systems with knitted active carbon on the market.

These filters work with highly-active knitted carbon and can be constructed and applied in any required size (e.g. in households, clinics, industry, communes, public and private swimming-pools and private pits).

The advantages of our drinking water filters are obvious:

Technical Advantages of the Houshold Filters:

- Easy handling
- Space-saving mounting under the sink unit
- Casing and filter candles made of stainless special steel 1.4571 (long life time)
- Standard filters candles
- No permanent exchange of the filter candles (generally one per year)
- Regenerable up to 25 times, therefore less environmential impact
- No electric connection
- 10 year‘s warranty for the filter casing

For health reasons:

- No germination
- Suited for the food preperation for babies
- Essential minerals remain in the water
- Nitrate, sulphate and phosphates are removed of the water
- Harmful substances like chlorinated hydrocarbons, plant protectives, solvents, chlorine and ozone are filterd out
- Na taste of chlorine
- Food (e.g. potatoes, rice, noodles, vegetables etc.) can be cooked in pure water
- Fruits, vegetables, salads can be cleaned with water being free of harmful substances
- Coffee, tea, juices, refreshing drinks keep their natural taste

Kulf® - Water Filter Systems with Knitted / Waved Active Carbon

The Cleansing Effect of Active Carbon is Described in Technical Literature as follows:

Active carbon keeps out unwanted natural odours and flavours (e.g. humid acid), and also a number of hydrocarbons. Chlorinated hydrocarbons, chlorinated ethylene compounds, a number of pesticides, manganesecompounds, other suspended matter and even lead perticles, can be filtered out. Also remainders of antioxidants, like ozone and chlorine, which are added to the public water supply in order to remove germs, are absorbed and are removed in this way. The effect of the active carbon filter is not limited to the adsorption of organic micro-polluntants. Suspended matter and turbid matter are removed from the water by a purely mechanical filter system. Active carbon filters can be universally installed and easily regenerated. They are known to be unsurpassed in water purification, removing man-made polluntants from the water.

Extract from “Trinkwasser und Gesundheit, Katalyse e.V.“(Drinking Water and Health), Insitute for Apllied Environmental Research. DAS WASSERBUCH, p.133 published by Kipenheuer and Witsch, Cologne, Germany, 1993

Technical Advantages of the Knitted Active Carbon:

- A very large spectrum of a variety of substances with light to heavy molecular weight is adsorbed (at the µg/l to the mg/l level). Particularly the adsorption of molecules with little molecules weight is excellent in comparison with conventional means of adsorption.
- Very large specivic and geometric surface: 1.000 – 2.500 m²/g.
- The active surface per kilogramm is about a hundred times larger than in case of conventional active carbon (granulate or powder). Thias is the reason for its extrmely high capacity to absorb.
- Very high adsorption and desorption speed.
- Very high flow rate, up to 500 m/h.
- The larger active surface enables a space-saving size, i.e. the construction size is approx. 5 times smaller.
- Filter media can not be washed away, structural cohesion without fixing agents .
- No channelling like for granulates or powder.

Analysis, audit reports and References

The quality of our newly developed drinking water filter has been confiremd several times by microbiological analyses, expert opinions as well as references.

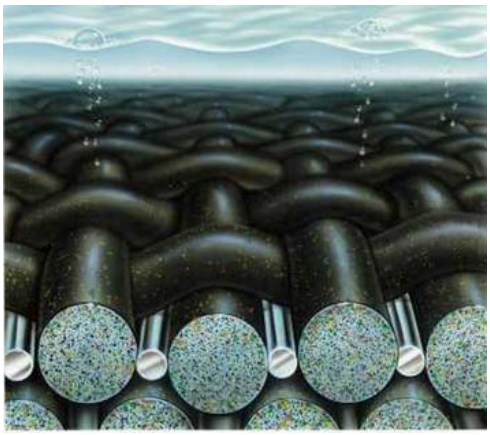
The complete analysis results can be presented on request.

Kulf® - Water Filter Systems with Knitted / Waved Active Carbon

A new generation of drinking water filters

After years of research and tests, JMV placed a completely new generation of drinking water filter systems with knitted active carbon on the market.

These filters work with highly-active knitted carbon and can be constructed and applied in any required size (e.g. in households, clinics, industry, communes, public and private swimming-pools and private pits).



(Active carbon knitted an waved - schematic perception -)

(Chanelling with granulate or powder - schematic perception -)

Technical Advantages of the Knitted Active Carbon:

- A very large spectrum of a variety of substances with light to heavy molecular weight is adsorbed (at the µg/l to the mg/l level). Particularly the adsorption of molecules with little molecules weight is excellent in comparison with conventional means of adsorption.
- Very large specivic and geometric surface: 1.000 – 2.500 m²/g.
- The active surface per kilogramm is about a hundred times larger than in case of conventional active carbon (granulate or powder). Thias is the reason for its extrmely high capacity to absorb.
- Very high adsorption and desorption speed.
- Very high flow rate, up to 500 m/h.
- The larger active surface enables a space-saving size, i.e. the construction size is approx. 5 times smaller.
- Filter media can not be washed away, structural cohesion without fixing agents.
- No channelling like for granulates or powder.

Shower filter for fluently pure water KuLf - DF

The best quality for the best price. The water filter system "KuLf®" is a high-quality German high-class product. With the KuLf® - shower filter you improve not only your water quality. With water free of germs and Legionella, you also profit from good well-being.

Connect and healthy take a shower !

Quick installation by standardized connections:

Of the shower filters KuLf® - DF is simply mounted between the mixer tap and the shower tube. We recommend to renew the tube as well as the shower head in the course of the installation to grant the optimum achievement.

With an installation of the filter to the available or several times used shower head and shower tube, we cannot guarantee for the full cleansing effect.

Profit of excellent water quality:

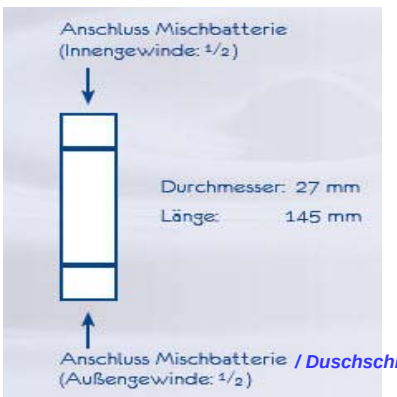
With the shower filter KuLf® - DF you profit of an improved water quality by concurrent protection before germs and legionella.

Use to our practical exchange service:

To receive the full achievement of the house filter, a change of the filter becomes after 2 – to 3-year term recommended.

Technical data:

. . . Length 145 mms
. . . Diameter: 27 mms
. . . Connections: Inside / external thread 1/2“
. . . Wight completely: approx. 315 grammes
. . . Case and filter candle from high-quality rustproof high-grade steel 1.4571
. . . Filter of weaved active carbon, in addition, high-grade steel in silverknit
. . . Flow speed to 500 m/h (low pressure loss)



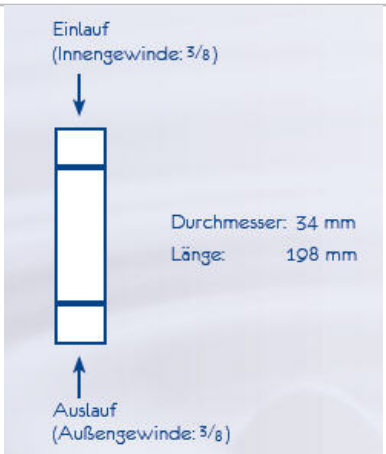
Drinking water filter for fluently pure water KuLf - TWF

The best quality for the best price: The water filter system "KuLf® " is a high-quality German high-class product. By the application of the KuLf® - drinking water filter you improve not only your water quality, but, besides, you profit from fresh and pure drinking water and with it from good well-being

Connect, apply, drink!

Quick assembly by standardized connections:

The drinking water filters is mounted directly under the sink unit between the normal cold water valve (3/8 " inflow) and the connection with the tap (3/8 " outflow). After the assembly cold water flows with open tap under normal management pressure by the whole drinking water filter and enters again into the water cycle.



Profit of excellent water quality:

With the Drinking Water Filter KuLf® - DWF a medium-sized household with 4 – 6 persons receives approx. 10,000 litres of vital pure drinking water per year.

Use to our practical exchange service:

To receive the full achievement of the drinking water filter, a change of the drinking water filter is recommended after 2-year term.

Technical data:

. . . Length 198 mms
. . . Diameter: 34 mms
. . . Connections: Inside / external thread 3/8“
. . . Wight completely: approx. 600 grammes
. . . Case and filter candle from high-quality rustproof high-grade steel 1.4571
. . . Filter of weaved active carbon, in addition, high-grade steel in silverknit
. . . Flow speed to 500 m/h (low pressure loss)

House-/drinking water filter for fluently pure water KuLf - EFH / MFH

The best quality for the best price: The house filter system "KuLf® " is a high-quality German high-class product. By the application of the KuLf® - house water filter you improve your water quality, and profit from fresh custom and pure drinking water.

Connect, apply, drink!

The house filter is installed in the main line directly after the flow counter by a sanitary field company.

Standardized connections allow a quick and easy assembly.

Profit of excellent water quality:

With the drinking water filter KuLf®– DWF in use of house filter apartment houses 500,000 - 2,000 000 litres of pure custom water and drinking waters receives

Use to our practical exchange service:

To receive the full achievement of the house filter, a change of the filter becomes after 2 – to 3-year term recommended.

Technical data:

. . . Length 300 mms – 700 mms
. . . Diameter: 2“ – 4“
. . . Connections: external thread ¾“ – 2“
. . . Wight completely: 1,50 – 8,00 Kg
. . . Case and filter candle from high-quality rustproof high-grade steel 1.4571
. . . Filter of weaved active carbon, in addition, high-grade steel in silverknit
. . . Flow speed to 500 m/h (low pressure loss)

HPM – Large Filter Systems KuLf - HPM

HPM – Water filters are realizable for every achievement capacity in large filter systems. These water filters are tuned thus and built as pollutants exist in the drinking water according to water analysis report.

Models and technical data of the HPM – Large Filter Systems

. . . Filter housings made of specail steel 1.4571

. . . Filter housings controled with 13 bars and officially acceptes by the TÜV

Model	Capacity per year
HPM 250	approx. 100.000 Liter
HPM 350	approx. 500.000 Liter
HPM 500	up to 1.000 m^3
HPM 600	up to 20.000 m^3
HPM 900	up to 50.000 m^3
HPM 1200	up to 200.000 m^3
HPM 1500	up to 500.000 m^3
HPM 2000	up to 1.000.000 m^3
HPM 2500	up to 1.000.000 m^3
further models on request	

KuLf® – water filters can be designed to any size required at large water installations, matched to local water conditions, i.e. to the pollutants that are to be extraced from drinking water (as per water analysis)

	Model 250	Model 350	Model 500	Model 600
Installation	Water mains	Water mains	Water mains	Water mains
Heihgt (mms)	800	800	1250	1500
Diameter (mms)	350	450	600	700
Weight (kg) (approx.)	30	50	100	140
Act. carbon weight (kg)	up to 3	up to 7	up to 10	up to 15
Capacity (litres/year) (approx.)	100	500	1.000	20.000
Max. flow rate (l/min)	100	100	200	400
Min. operate pressure (bar)	0,5	0,5	0,5	0,5
Max. operate pressure (bar)	10,0	10,0	10,0	10,0
Min. water temperature (°C)	5	5	5	5
Max. water temperature (°C)	40	40	40	40
Connection water inlet	1 1/2“	1 1/2“	2“	2“
Connection water outlet	1 1/2“	1 1/2“	2“	2“

Legionella – harmful and the reason for legionnaires' disease

Hidden legionnaires' disease in the custom water

shower steam into the lung

Bacteria called "Legionella", can release a kind of pneumonia if they reach in the respiratory tract - above all, about the steam while showering.

Four percent of all lung illnesses are to be led back on Legionella

Legionella are warm-loving bacteria with natural occurence in the water. They increase ideally with 30 to 45 degrees centigrade, they are killed at more than 60 degrees.

The Legionella available in the water do not lead to a direct health danger. Only the admission of causes by inhaling bacterial-containing water as an aerosol (inhalation possibly while showering, with air-conditionings or jacuzzis) can lead to the illness.
Legionella were proved in 1976 for the first time when at a hotel in Philadelphia / USA an epidemic broke out with which more than 200 people fallen ill and 30 passed away.
Infections express themselves as a harmlessly running Pontiac fever or as a heavy "legionnaires' disease" running with pneumonia.

According to Robert cook's institute (federal institute in the scope of business of the Federal Ministry of Health) from 500 to 600 cases are announced per year. In other European countries these are clearly more.

About four percent all Pneumonien (pneumonia) are caused by Legionella - with yearly about 500,000 Pneumonien are 21,000.

Facts, solutions and installations to keep water free of germs and Legionella

To solve the Problemn of the Legionella in the house water system (care), it is not enough the hot water (custom water) on 70 degrees to warm up or heat up.

Legionella also are in cold water.
Coming in the house installation, Legionella often find the way to the consumer, several thousand dead people prove this year by year only in Germany. In other European lands the situation is comparable.

The custom water used for the showering in the mixer tap has a temperature of approx. 40 degrees at the withdrawal time. This is the temperature at which a climate optimum for Legionella forms.

<u>The solution:</u>

KuLf® water filter systems are universally applicable according to setting of tasks and can be produced in every size.

The installation of the KuLf® water filter system, should occur best of all after the entry place in the main building in the main water pipe. The optimum place would be direct after the water clock, because the installation is the most sensible there.

Advantages of the KuLf ® of water filter

- 5 times smaller construction method easy to use
- Easy handling
- Space-saving mounting
- Casing and filter candles made of tainless special steel 1.4571 (long life time)
- Standard filters candles
- No permanent exchange of the filter candles
- Regenerable up to 25 times, therefore less environmental impact
- No electric connection
- 10 year‘s warranty for the filter casing
- No germination of the waterfilter and, therfore also no germination of the water leading custom water pipes and drinking water pipelines

asafil

Asafil GmbH
Langenthalerstrasse 3
CH-4803 Vordemwald

Tel +41 62-958 10 00
Fax +41 62-958 10 01