



## ARSENIC

Arsenic is a substance found naturally in rocks, often close to gold deposits. In some situations arsenic can very seriously damage human health. In the environment, it is present at higher concentrations due to geological and meteorological conditions. Due to mining, glass industry, metal industry, use of fossil fuels and pesticides and detergents.

Arsenic often enters the body through food or water. It also enters the body when fertilizing the soil or breathe dust that is contaminated with arsenic. Arsenic in soil or powder is usually not absorbed in the body in the same way as food or water. People can consume small amounts of arsenic for a long time without apparent health effects, but the absorption of large quantities of arsenic can harm health. The greatest concern about Arsenic is when it comes to drinking water supply. The current Arsenic standard in drinking water is less than  $10 \mu\text{g}/\text{dm}^3$ .

The content of arsenic in water depends on the shape of the aquifers, either by streams, where faster flows show low quantities of arsenic or the groundwater which runs very slow and where relatively high levels of arsenic can be seen. Especially geothermal activity and production shows high quantity of Arsenic in water. The oscillation of groundwater in the boreholes increases the contamination with arsenic in walls of a boreholes. Arsenic occurs in organic and inorganic forms. Arsenic can stick on to the surface of some minerals. It is an anion, so it sticks to a positively charged surfaces. Typical examples are brown iron oxihydroxides (rust), clay and organic materials. It can stick to particles suspended in water and then can travel 100 kilometers kilometers attached to these particles.

### Kinetic reactor – lowers the level of Arsenic in water

**Kinetic technology for reducing arsenic in water is enhanced by three functions:** (a brief description of the operation)

- hydrodynamic cavitation
- pressure chamber

- cost forces in the Q-range

Hydrodynamic cavitation prepares water before entering the kinetic chamber with an implosion for facilitating condensation of the liquid at low temperatures. In the first stage the kinetic chamber, with condensation and implosion, sublimates one part of the arsenic and transforms it into a gas which is then depleted. In the second stage, with high underpressure of the implanted water greatly expand the surface of the water and the tearing of covalent bonds and cohesion forces of water occurs. That normalizes the polarity of the elements and prepares them for easier oxidation. High oxidation processes considerably reduce the content of arsenic because it moves as an anion (negative charged ion) with oxygen also depending on the parameters of the algorithm and the type of forms of arsenic in the water. If the disinfectant (chlorine) is present in the water, the oxidation processes are further enhanced. The transverse forces in the Q-region effectively smash to smaller particles the sediment and colloidal particles in the water, which again homogenize then into the water.

We can say that we reduce the amount of Arsenic by at least 65% with basic reactors for serial production.

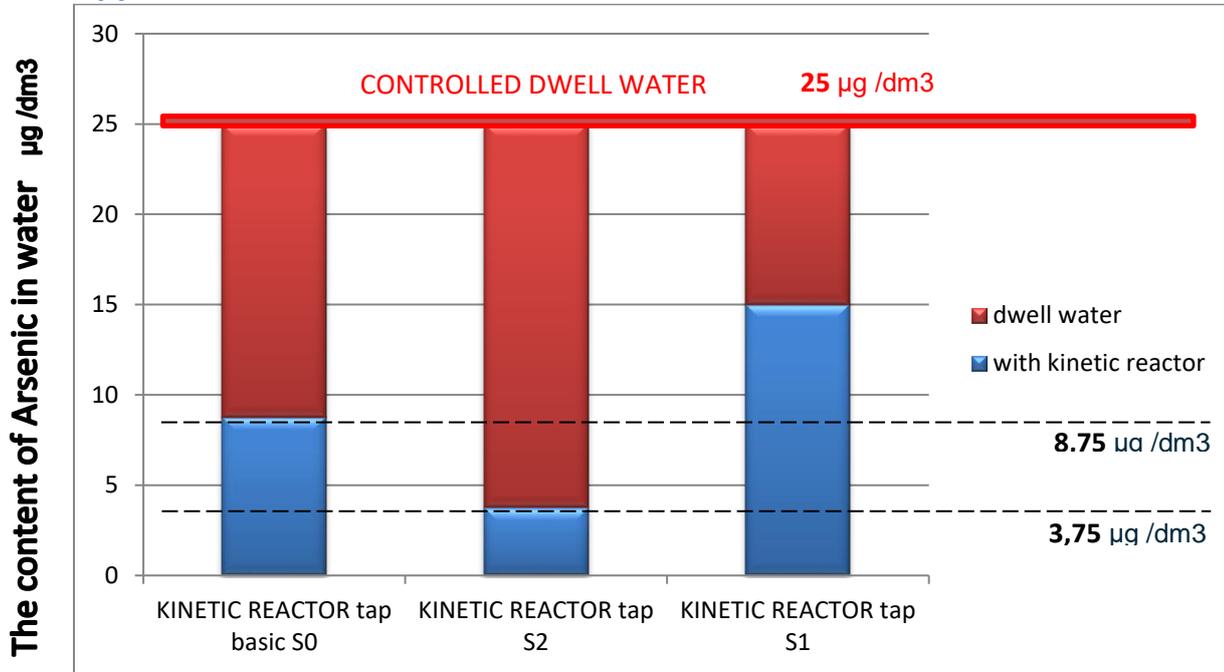
The advantage of the kinetic reactor is, in particular, that it is not an absorption system, which does not cause the accumulation of harmful substances in the device for the further elimination of toxic substances and unwanted third products. The kinetic reactor is also successful in oxidation (As III.) surprisingly in short contact times, which is not the case in many other systems.



## KINETIC REACTOR –TAP

Example: Sampling in a controlled environment (laboratory in Hungary)

Applied standard: US Patent # 6696300



GRAF : 1.1.

	<p><b>KINETIC REACTOR tap-S2</b></p> <ul style="list-style-type: none"> <li>- Designed for special applications where, from Graph 1.1., it is evident that the content of arsenic in water has decreased by 85%. When implementing the S2 model, we must pay attention to the content of bromide in water.</li> </ul>
	<p><b>KINETIC REACTOR tap-basic S0</b></p> <ul style="list-style-type: none"> <li>- Designed for wide use where it is, from Graph 1.1., evident that the content of arsenic in water has decreased by 65%.</li> </ul>

## KINETIC REACTOR TAP

The Kinetic reactor tap is designed as a socket on the outlet of sanitary batteries. Easy, the installation takes just 2 minutes.

### TECHNICAL INFORMATION :

- producer: J in P d.o.o. , Ivančna Gorica SLOVENIA
- made in the EU
- dimensions: M24 or M22
- built-in water reduction valve for 3.8 l or 7.8 l
- optimal operation: 1,8-5 bar
- all materials are certified for drinking water
- packaging: M24 for wholesale of 100 pcs
- packing: M22 for wholesale of 30 pieces
- guarantee per product: 1 year

