



**Vulcan** works exclusively with electric impulses only. The energy is simply taken from a power plug. We would like to distance ourselves from those devices that use the force of magnetism to treat water.

## Why you should avoid magnetism when treating water

All magnetic-based physical water treatment devices want to produce electric impulses by induction. This means that the magnet(ism) together with the water that flows through the pipe are supposed to generate complex electric impulses, this sometimes gets achieved. However, the following problems cannot be ignored:

## **Problem with Magnetism: Velocity**

The generation of a complex electric impulse field only works if the water inside the pipe flows by the magnetic field in the exact right speed (velocity).

If the speed is right, then the impulse is generated. However, if the speed of the water is not right (too fast or too slow), the impulses are not generated or -worse- the impulses are generated wrong.

▶ We believe that it is the best to always provide the perfect and stable electric impulse field simply by using constant electricity. Therefore, Vulcan is solely electric. The annual power consumption is minimal and amounts to approx. 3-6 ( $\sim$  5-7 USD).

## Problem with Magnetism: not all pipe materials can be treated equally good

As the magnet does not penetrate through metal very well, many distributors ask to install their units on plastic pipes. If the installation place is a metal pipe their recommendation is to cut out a piece of pipe and to replace it with a piece of plastic pipe.

▶ We believe that this is an unnecessary complication to work with magnetism as it limits the treatment to take place on plastic pipes only.

## **Problem with Magnetism: Magnetism itself**

Magnetism is а powerful force indeed. Τt is attributed with many positive effects on organisms. However, everyone also knows that magnets attract metallic objects, no matter how small. This again leads to a major problem when magnets are used on a piping system because of course the area where electromagnetic cables or permanent-magnets are installed is of course magnetic. Here, all magnetic particles in the water are firmly connected to the inside of the pipe. This happens on metal and plastic pipes alike. After only a short while the inside of the pipe is covered with a metal-dirt-particle-film that is a perfect breading ground (biofilm) for bacteria or other unwanted substances. Many producers of magnetic devices therefore suggest to turn off the unit and "flush" the pipes every six months as a solution to the problem.

▶ We believe that building up a potential dangerous biofilm with magnetism in order to treat the piping system is not a smart way to solve the scale-problem. Also, we know the need to clean the pipe with flushing or brushing can be avoided. The answer is not to use magnetism.

Vulcan offers you a reliable eco-friendly water treatment system against scale and rust – without the drawbacks of magnetism