

Water Purification

Consumer/Home/Recreation

Shown below is a Vision™ Catalyst Purifier, a hybrid catalytic/ion dispersal water purification system manufactured by Fountainhead Technologies, Inc., Providence, Rhode Island. The vision system employs the basic technology developed by NASA for purifying spacecraft drinking water, but Fountainhead additionally uses a patented "erosion" technique that differs from the approaches employed in many spinoffs from the NASA technology.

For the Apollo spacecraft, Johnson Space Center developed an advanced system for supplying purified water for the three-man Apollo crew for missions up to two weeks (see page 86). This tiny, compact system, based on use of an electrode to generate ions, offered an alternative to use of chemicals for water purification, hence found broad spinoff application.

The Vision purifier kills bacteria, viruses and algae by a process the company refers to as "catalytic conversion." A cartridge contains a silver-impregnated alumina bed that has a very large surface area, roughly the equivalent of three acres. This catalyst bed converts the available oxygen in a pool of water to its most oxidative state, which kills more than 99 percent of the bacteria within five seconds (15 times faster than chlorine, the company claims).

In addition, the cartridge releases into the pool low levels of ionic silver and copper through a controlled process of erosion. The flow of water becomes electrochemically active due to the presence of dissimilar metals within the cartridge, so no electricity is required.

The process of erosion delivers residual sanitizer into the pool, which further inhibits bacteria. The volume of ions released is automatically limited by the design of the cartridge and it is extremely low, well within the Environmental Protection Agency's standards for drinking water. Fountainhead Technologies produces Vision Catalyst Purifiers in several sizes for use in recreational pools, spas and other applications.

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