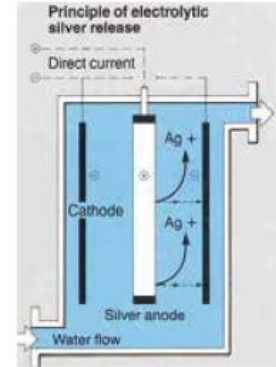


Fundamentals and Application

The bactericidal action of silver (Ag+) is known as «Katadyn» effect, a fusion of «catalytic» (German: katalytisch) and «oligodynamic». It means the destruction of micro-organisms by catalysis, using very small amounts of dissolved silver (oligos = small, dynamis = force). The Electro-Katadyn system is adding the silver ions to the water by an electrolytic process. It is the practical application of Faraday's law of Electrochemical Equivalent.

Faraday's Law

Electrochemical equivalent of silver:	1.11817 mg/ampere-second (A x s)
This means:	1.11817 mg Ag+ discharge at 1 A during 1 s
Therefore:	4 g Ag+ discharge at 1 A during 1 s
Or:	4 mg Ag+ discharge at 1 mA during 1 h



Investigations

Over the decades, a great many scientific investigations into the bactericidal effect of silver ions in the water have been done. The works worth noting are, for example, the investigations by Wuhrmann and Zobrist, Swiss Federal Institute of Technology, and the tests by Dr. Lee, Centre for Applied Microbiology and Research of the U.K. Public Health Service. The investigations by Wuhrmann and Zobrist included the sensitivity of various types of bacteria to silver as well as the influence of the chemical composition of the water on the reaction time. These tests confirmed the oligodynamic effect of silver.

Dr. Lee examined the effect of silver ions on legionellae, including *Legionella pneumophila*. These water-borne bacteria have a propensity to become airborne via the shower aerosol or the airwasher system of air conditioning plants. In this way, they are able to enter people's lungs and cause «legionaires' disease», a kind of pneumonia. The tests demonstrated that legionellae are killed by silver ions. Silver has the advantage of remaining in the water for weeks even during extremes in temperature. Such situations are to be found, for example, on board ships or in hotwater tanks.



Electro-Katadyn Type EK../24



Electro-Katadyn Type EK4

Benefits Aquafides Silver Ionizer

- High reliability
- Years of proven functionality
- High quality
- Swiss made
- High performance
- Robust construction = easy maintenance
- Used throughout the world by well-known companies



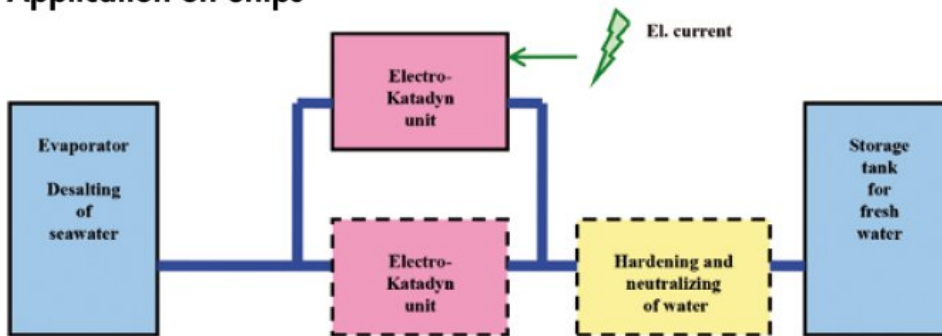
Benefits of Silver

- No change of natural taste
- Long conservation of water (at least 6 months)
- Residual effect also with extremes in temperature
- Small amounts of treatment agents
- No corrosive effect
- No toxic reaction products

Applications

- Drinking water (ships, platforms, civil defence, army)
- Beverage industry (table-water, rinsing water, disinfection water)
- Food industry (process water, washing water, disinfection)

Application on Ships



Industrial Application

