Total Dissolved Solids and Activated Carbon

Total dissolved solids (TDS) is a measurement of the total amount of dissolved inorganic compounds in water. It is determined by an instrument that measures the ability of water to conduct electricity. As the concentration of inorganic compounds increases, water becomes a better conductor of electricity. The test does not determine which specific compounds are in the water, only the total concentration. These instruments will typically display the test results as parts per million.

It is normal for drinking water to contain inorganic compounds. Typically, these would be calcium bicarbonate, magnesium bicarbonate, sodium chloride, sodium sulfate, carbon dioxide, and many other possible compounds.

Reverse osmosis and distiller type systems remove most of the inorganic compounds in water, which reduces the electrical conductivity of the treated water. Some pitcher type products add an ion exchange resin to reduce the inorganic ions in water. TDS instruments are very useful to determine if these types of products are performing well.

Since, activated carbon does not remove most inorganic compounds from water; TDS is not an effective way of measuring the product performance. In fact, carbon adds some inorganic compounds to the water. As water passes by carbon, trace amounts of some inorganic compounds dissolve in the water. These compounds can be potassium bicarbonate, sodium bicarbonate, calcium carbonate and carbon dioxide. Therefore, activated carbon can increase a measurement of the TDS. This effect is more pronounced with a new filter. As a filter is used this effect decreases because these inorganic materials are flushed out of the carbon.

Amway uses an exclusive activated carbon that has been tested by the NSF International to assure that there are no harmful compounds in the activated carbon. NSF International is a non-profit organization that has developed test methods for water treatment systems. These tests assure the performance and safety of the products, and the materials that they are made from.

Organic compounds, such as industrial solvents, petroleum, and pesticides, do not usually change the electrical conductivity of water. Therefore, a TDS meter will not measure them. The Amway Water Treatments System is very effect at reducing many organic compounds that may occur in drinking. A TDS measurement of the water that has been treated by activated carbon will not demonstrate performance.