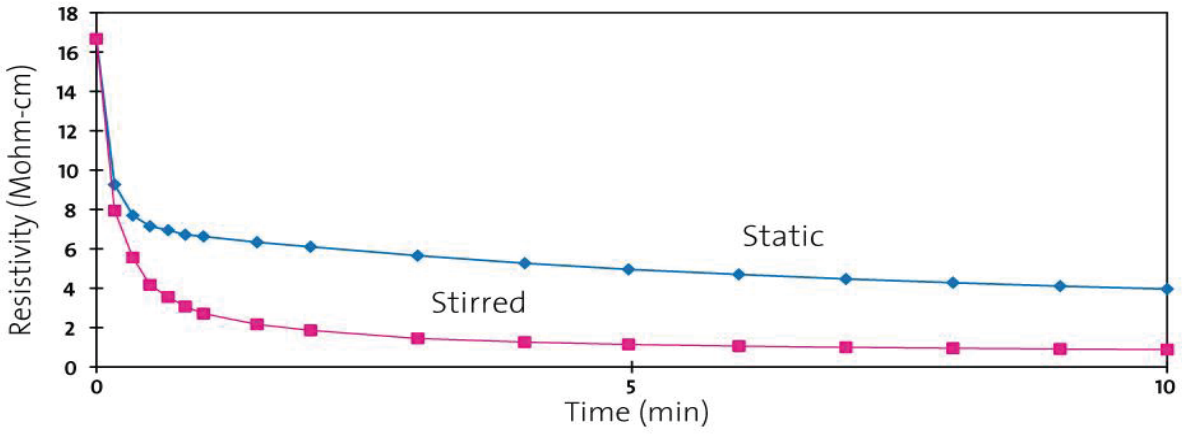
Resistivity in air

Within seconds, ultrapure water from a water purification system dispensed into a vessel starts to absorb carbon dioxide from the air, as shown in the figure below. This reduces the resistivity of the water from 18.2 MΩ.cm to about 1.3 MΩ.cm due to the formation of hydrogen and bicarbonate ions. Although only about 0.5 mg/L of carbon dioxide is dissolved in the water and this does not interfere with most experimentation, this reduction in resistivity could mask the later contamination of the water by other ions and so resistivity can no longer be used as a purity parameter for purified water once it has been in contact with air.

Resistivity of pure water in air



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