



# ECOTECH INSTRUMENTS

Technical Solution Providers for Water Treatment and Analytical Grade Water Generator

## Ecotech Eco-Aqua Model 10AGW

### Background

Water contamination includes inorganic ions, particulates, micro-organisms, and dissolved gases. All these impurities known to impact the sensitivity and resolution of analysis done in the laboratory using sophisticated analytical instruments. Particulate and solids can interfere not only with instrument function but also reduces resolution of analysis. Bacteria and their pyrogenetic by-products cause an array of issues and erroneous results with inaccuracies. Gases, such as nitrogen, oxygen, and carbon dioxide can influence pH EC and this impact biochemical reactions.

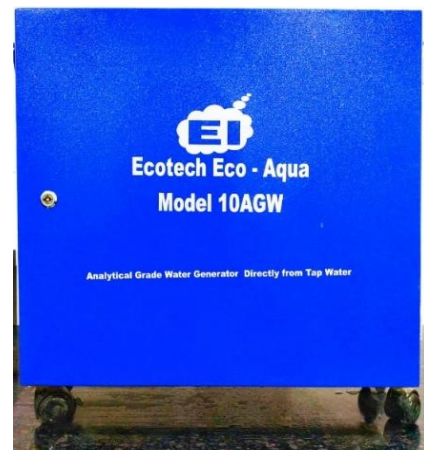
In analytical grade water contaminants are removed at varying degrees to produce application-specific water types.

“Analytical-grade water has a defined quality that ensures reliable and repeatable results. “Analytical-grade water is typically used in different lab analysis. It is also used for sample dilution, stock preparation and for making buffer solutions, which require minimal interference at ionic, levels dissolved and suspended solids and presence of bacteria. Reference solution and dilution of CRM need to be done in pure form of water as medium to get repeatable accurate results.

Water purity, is Globally defined from ultrapure type I water to semi pure type IV water. Purity levels are determined by specific characteristics, which include conductivity (measured in micromhos/cm), presence of sodium chloride, and silica, according to Brands. Bacterial levels need to be controlled to ascertain production technologies to “purify the water to a required type. Ecotech has adopted sublimation of technologies particulates and sediment removal, organics removal, dissolved solids, and ions removal by reverse osmosis membrane technology and by ion exchange respectively.

Electrical Conductivity are basic indicator used to get idea of the water’s ionic content and purity. Low conductivity means water is in pure and lack of interfering agents which normally interfere in analysis.

Type I (Ultrapure)— A conductivity of <0.05 micromhos/cm. Should be used for critical analysis applications such as HPLC (high performance liquid chromatography), gas chromatography, IVF, mass spectrometry, making reagents for molecular biology applications such as PCR and DNA sequencing, and preparation of solutions for electrophoresis and blotting.



Type II— A conductivity of <1 micromhos/cm. Used in general applications, to make buffers, pH solutions, microbiological culture preparation, for use in cell culture incubators, environment related analysis, feed water for key instruments and analysers, or as feed water to make Type I grade water, as there is less calcium build-up. Type II can be used for electrochemistry, sample dilution, and radioimmunoassay and air pollutants analysis.

Type III— A conductivity of <2.5 micromhos/cm. Between 90–99% of impurities are removed in Type III water by way of osmosis (RO) of tap water. May be used for glassware rinsing, non-critical laboratory applications, heating baths, and filling autoclaves. Can also be used as a feed water source for Type I and type II water systems.

Type IV— A conductivity of <5 micromhos/cm; produced by RO and used as feed water to a Type I or Type II it is only a deionized (DI) system used for only general water application glass ware cleaning etc.

To remove all impurities, a combination of techniques is required. Ecotech Eco-Aqua Analytical Grade Water Generator which can be fitted directly on tap water having conductivity up 1500 micromhos/cm to get output analytical grade water with conductivity almost zero equivalent to Type 1 grade water.

Eco Aqua Model 10AGW is an innovative effort of Ecotech R&D team to develop 100 % indigenous system to give analytical grade water at the flow rate of 12 LPH using a combination of the processes and technologies in a single compact unit with established unmatched after sale service support of Ecotech Group. Unit is based on latest German technology for water treatment with the minimum maintenance and a cost-effective solution for laboratories.

Unit Is supplied along with an installation kit with operating instructions. A trained plumber can do connection of the unit as depicted in manual. A video on installation shall be shared with supply of unit on what's up number to be referred while installation of the unit. Online support is provided through Ecotech team for successful installation.

**ALL ECOTECH PRODUCTS CARRY ONE YEAR WARRANTY**



For pricing information and queries contact

**ECOTECH INSTRUMENTS**

K-127, UPSIDC Industrial Area, Site-V, Kasna, Greater Noida, (Uttar Pradesh)

**Phone:** 9810392043, 9999575740 **email:** [ecotechinstruments@gmail.com](mailto:ecotechinstruments@gmail.com)

website : [www.ecotechinstruments.co.in](http://www.ecotechinstruments.co.in)