



Technical Bulletin No 4 - Atmospheric Water Generator (AWG)



Green Company Rating System

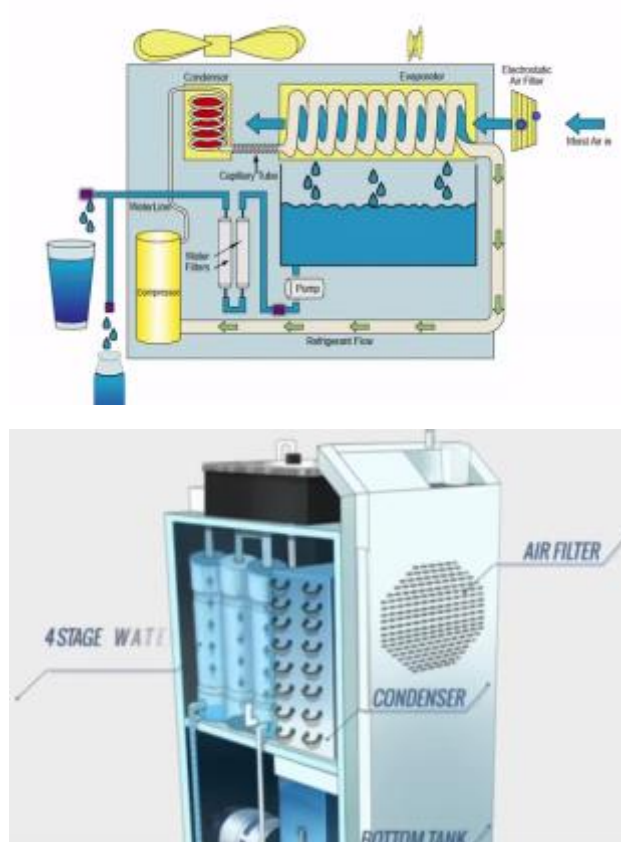
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An atmospheric water generator (AWG) is an electricity-powered device that extracts water from humid ambient air.

The most abundant source of freshwater is the Earth's atmosphere. When atmospheric humidity condenses, it falls as rain. AWG replicates this natural process of condensation by simulating the dew point, which allows it to make water continuously, even in low humidity conditions. AWG is a solution to curb and tackle global water scarcity by providing a cost-effective technology that uses the least

amount of power to generate the most amount of water – with zero environmental impact. AWG gives you complete water independence without having to be bound to pipelines and water sources.

How it works



AWG uses optimized dehumidification techniques to extract and condense moisture in the air to produce healthy, purified drinking water.

- A controlled speed fan pushes filtered air over a cooled coil, causing water to condense.
- The rate of water production depends on the ambient temperature, humidity, the volume of air passing over the coil, and the machine's capacity to cool the coil.
- The condensed water is funneled into a holding tank. A level switch in the holding tank controls the water making cycle.
- Water is purified by a filtration system and dispensed through multiple dispensing points.

Operating Environment



As the technology is climate-dependent, Atmospheric Water Generators depend on the humidity and temperature in the geographical location it is installed in. The output increases with an increase in humidity and vice versa. Warm coastal areas with high humidity are ideal. AWG requires ideal working temperatures between 25°C – 32°C and an average Relative Humidity of 70% – 75% to produce water as per their capacity. AWGs can be designed to work in most arid environments with humidity levels as low as 35% and temperatures are between 18°C - 45°C.



Benefits of Atmospheric Water Generator

- As the technology requires no water source, it does not deplete existing water resources.
- Pure drinking water with no impurities and odor.
- It is an environmentally positive technology. Unlike RO and desalination systems that waste 70% of the water as reject water, there is no water wastage.
- Great source for water during emergencies and areas of water shortages and water contamination.
- It provides a decentralized, local source of pure water without any connection to pipes.
- Capacity starts at 25 liters/day to 5000 liters/day
- Cost-efficient and require minimum maintenance.

Case Study - 1 AWG at Secundrabad railway station



Case study - 2 Akvo AWG at Greater Chennai Corporation



Akvo Atmospheric Water Generator installed at **Greater Chennai Corporation**

Sources

- Atmospheric water generator (Wikipedia) - https://en.wikipedia.org/wiki/Atmospheric_water_generator
- Avoksphere - <https://akvosphere.com/>
- Water Makers - <http://watermakerindia.com/>
- Maithri Aqua - <https://www.maithriaqua.co.in/>

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