



Green technologies

Non-Electrical Water Filtration System

Internationally Marketted by :
GLOBAL ENERGY COLLABORATIONS
USA: NJ, GA, TX ; INDIA: GJ, MH, KT & TG



Avya Water Filtration System

Operating Non-Electrically on Gravity Basis

Avya Green Technologies was formed with a vision of developing/bringing green and sustainable solutions to primarily enhance the quality of living for the millions of people that live in rural and underdeveloped areas of the globe. Additionally these technological solutions provide green alternatives to people in urban settings to meet their basic needs of power and drinking water.

Droughts, alarming water pollution and ever increasing and critical requirement for clean drinking water necessitate innovative and smart thinking for finding green and sustainable solutions. Typical drinking water sources in rural areas are lakes, streams and ground water that are contaminated with fluoride, arsenic, iron, nitrates and microbiological pathogens. More than 65% of people visiting a hospital all across the world suffer from water borne diseases/ailments (result of drinking contaminated water).

Technology:

Avya brings Sine Qua Non Filter (**SQN**), one of the world's most advanced water filtration technology through a strategic partnership with US based company. The technology was originally developed with the purpose of recycling and purifying the space cabin water for future manned missions into space. Avya is now introducing this technology to address the aforementioned various water quality issues of bacteria/virus, arsenic, fluoride and other heavy metals.

These filters are also incorporated with a fine carbon powder that is electrically bonded to the surface of the filter media. This electro-adhesive bonding eliminates the need for glues, binders and adhesives typically found in ordinary carbon filters and hence leaves 100% of the carbon free for chemical adsorption.

The AWFS system uses a series of **SQN** filters and pre-filters, designed to be used at grass root levels and operates through simple user interface options of a bicycle pump, hand crank, mechanical/pneumatic/hydraulic hand pump and other forms of alternative non-conventional energies. It is extremely easy to operate and maintain.

How it Works:

SQN filter is a new type of water filter media combining the proven benefits of standard pleated filters with the breakthrough in nano-technology to create a unique filter possessing removal capabilities well beyond the scope of conventional filtration technologies. Using the principle of electro-adhesion **SQN** filter is capable of removing a wide range of water borne microbiological contaminants and colloidal particles.

In contrast to traditional water filter technology which removes contaminants based purely on the physical pore size of the media, **SQN** filter utilizes nominal pore size at the nanometer scales of less than 2000 to trap particles and combines this with process called 'electro-adhesion' to trap fine and ultra-fine particles down to an incredible 2 nanometers. This powerful combination of micro filtration and electro-adhesion results in a filter with higher removal capacities, reduced clogging, minimal pressure drop and longer life, even in the presence of saline solutions.

The relatively large physical pore size of the media means **SQN** filters are able to offer flow rates that are significantly higher than conventional sub-micron filtration technologies. High flow rates combined with a correspondingly low pressure drop of only 2 psi.



Technology highlights and benefits:

- Capable of removing up to 99.9999% at 200 Nanometers.
- Capable of removing up to > 99.997% at 20 Nanometers (virus level).
- Lowest Pressure Drop - comparable to a 2000 Nanometer filter.
- Wide pH Ranges - effective from 4 to 9.5.
- Heavy Metal Reduction - Copper, Iron, Lead, Tin.
- Portable and Ease of Operation/Maintenance.
- Arsenic & Fluoride Removal.
- No Electrical Power Required.
- Ability to work in presence of saline solutions

AWFS units are made from the best quality materials and to the highest safety and manufacturing standards. Each of our products are tested and ensured to workmanship of highest engineering standards of excellence.



Water Related Disease Facts:

- Every 20 seconds a child under five years of age dies from waterborne illness.
- 80% of all sickness and disease worldwide is related to contaminated water (WHO).
- Four in ten people in the world have no toilet.
- India has got 58% of the people who defecate in the open in world.
- 1.1 million liters of raw sewage dumped into River Ganges every minute.
- 1 gram of faeces may contain 10 million viruses, one million bacteria, 1000 parasite cysts and 100 worm eggs.
- Four in ten people live in situations where they are surrounded by human excrement.
- About 50% of world's hospital beds are occupied by someone with water related illness.
- Lack of access to clean water and sanitation has claimed more lives through disease than any war.
- Diarrhoea kills more children every year than AIDS, malaria and measles combined.
- Diarrhoea is responsible for 1.5 million preventable child mortalities each year.
- Women spend 200 million hours collecting water every day.
- 443 million school days are lost each year due to water-related diseases.
- In India alone, water-borne diseases cost the economy 73 million working days per year.

Typical Application Areas:

Remote rural areas	Hospitals
Educational Institutions	Shopping Malls
Mass Transit Stations	Remote Military Installations
Places of Worship	Disaster Management
Travel and Hospitality Industry	Desalination Pre-Filtration
Pre/Post filter to UF, MF and RO Membranes	Boilers and Air Conditioning Cooling Towers
Food & Beverage Processing	Rainwater Harvesting & Grey Water Recycling
Pharmaceutical Processing	Municipal Plant Water Sampling

Product Specifications:

Model	AWFS25K	AWFS50K	AWFS100K	AWFS250K	AWFS500K
Rated Capacity Liters*	25000	50000	100000	250000	500000
Weight*	100 Kgs	100 Kgs	100 Kgs	100 Kgs	100 Kgs
Dimensions H x W x L*, mm	2340 x 300 x 1050	2340 x 300 x 1050	2340 x 300 x 1050	2340 x 300 x 1050	2340 x 300 x 1050
Filter Media	SQN Filter	SQN Filter	SQN Filter	SQN Filter	SQN Filter

* Some capacities / specifications may vary at the time of production



Internationally Marketted by:
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Always Collaborating to make
Future Brighter and Economical

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