



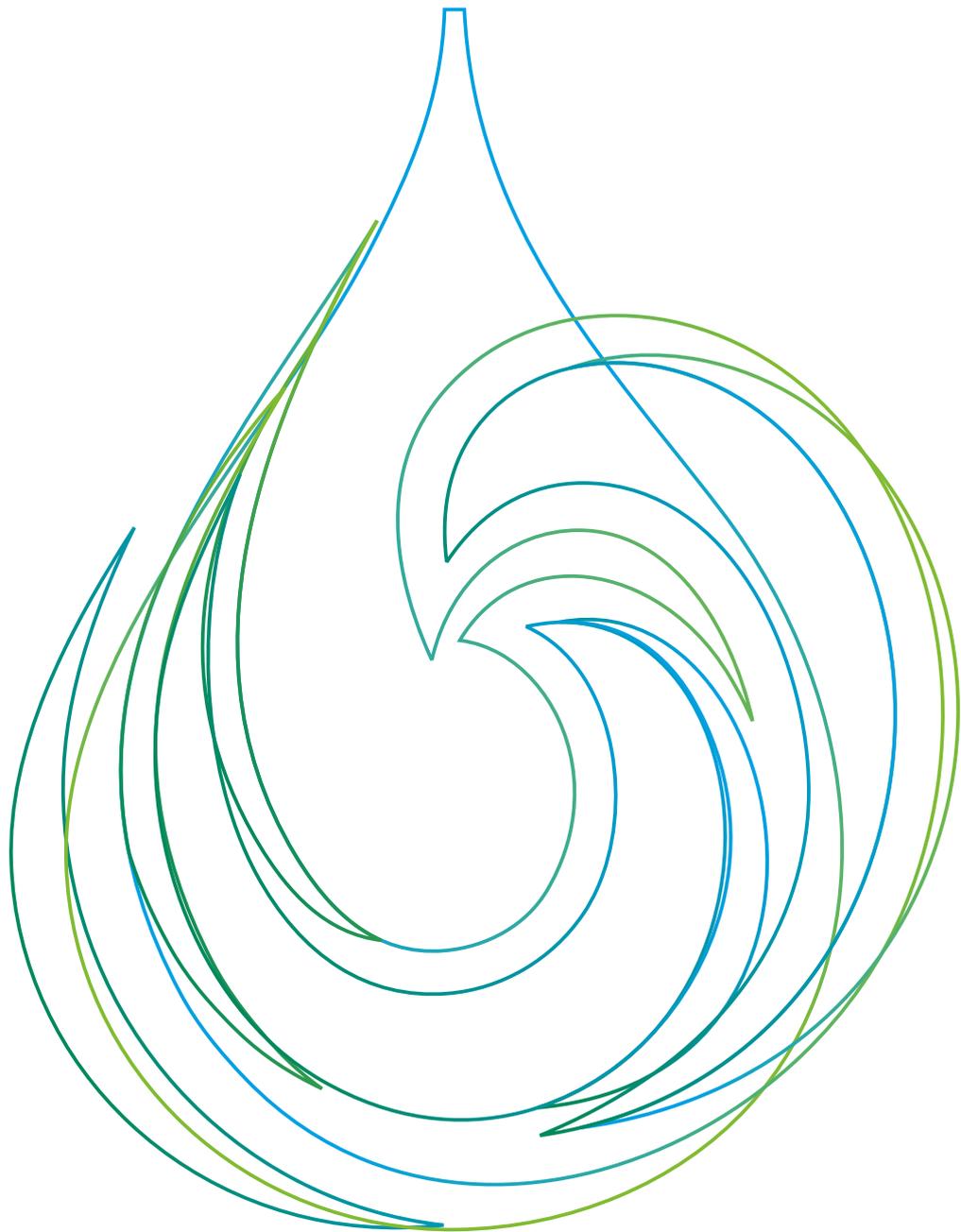
MAITHRI

AQUATECH PVT LTD

MEGHDOOT

Atmospheric Water Generator
with Remineralizer

An Innovative Solution to Global Drinking Water Needs





About Maithri Aquatech Pvt Ltd:

Maithri Aquatech Pvt Ltd, a start-up based in Hyderabad, India, was incorporated in December 2016, with a focus on developing and manufacturing India's first Atmospheric Water Generator Machine.

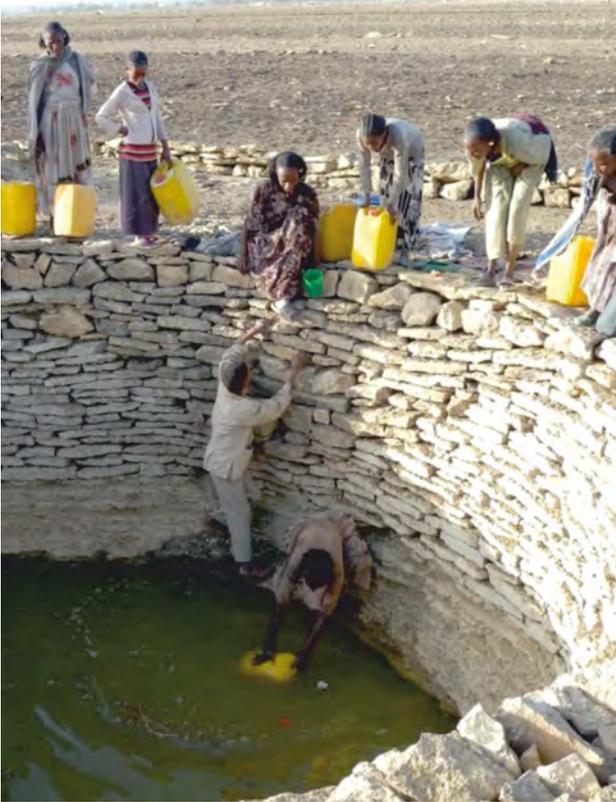
Maithri Aquatech's vision is to alleviate the global water crisis by adding **80 million** litres of water to the surface of our planet over the next 5 years, thus impacting **20 million** lives, and helping save **160 million** litres of ground water.

Following its inception Maithri Aquatech has done extensive research and has joined hands with Indian Institute of Chemical Technology (CSIR-IICT) to develop our Remineralizer technology and with Bharat Electronics Limited (BEL) to produce and service **MEGHDOOT** on a mass scale.

“Thousand have lived without love, not one without water.”

*W.H. Auden
American-English Poet*

Drinking Water Challenges





Is there a solution
to overcome this
drinking water
scarcity?

YES.

Possible Solutions

The problem of water scarcity can be solved, but it requires a collective effort with each and every one of us playing our own part to solve this global crisis. Here are some solutions partially addressing the water scarcity crisis:

- 💧 Artificial Groundwater/Aquifer Recharge
- 💧 Rainwater Harvesting
- 💧 Desalination
- 💧 Reverse Osmosis Water Purification

Key Challenges:

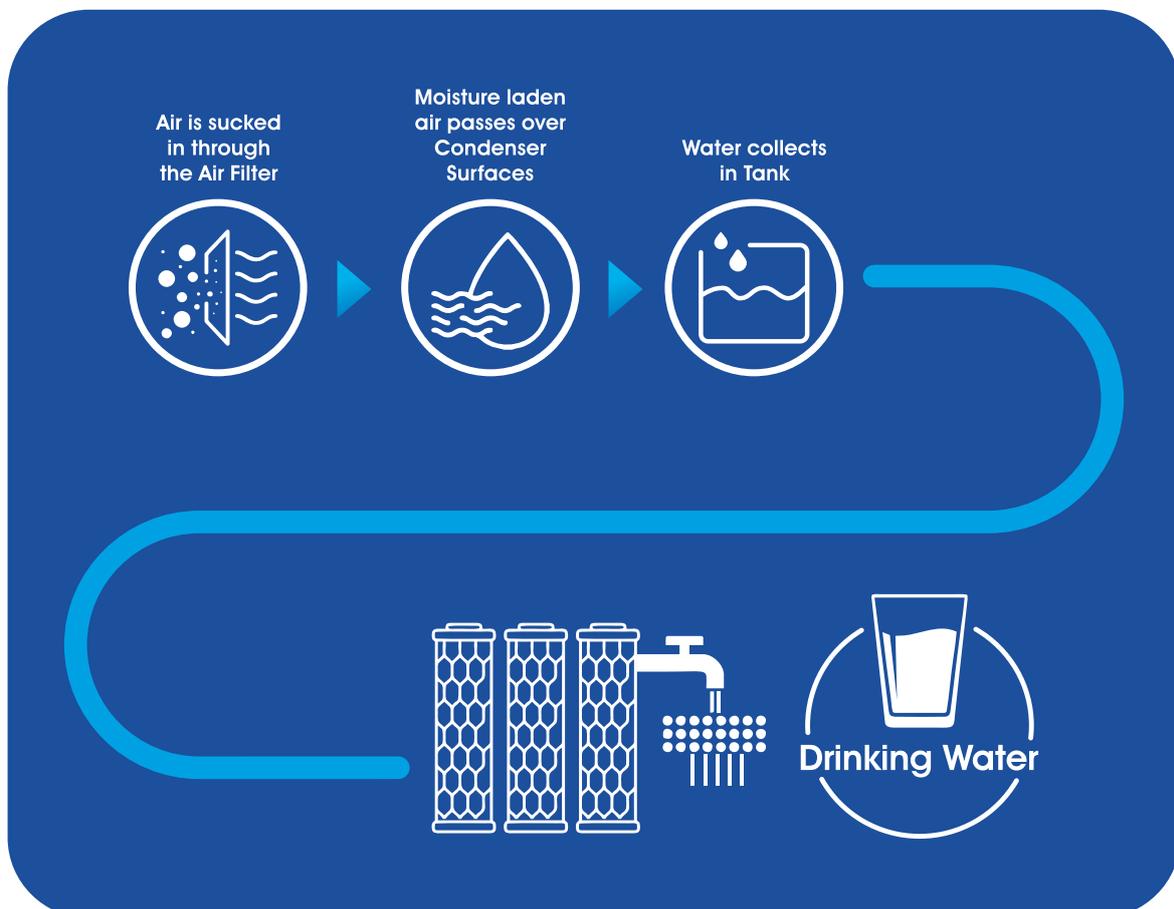
- 💧 Artificial Groundwater Recharge is possible through Injection but a major constraint is the clogging of pores from particulates, chemical precipitation, and biofilm formation. This can have adverse effects on the quality of groundwater such as the formation of dissolved sulphides and iron solubilisation.
- 💧 Rainwater Harvesting requires the dependence on rains and then there is the issue of pollutants and other contaminants in the water.
- 💧 Desalination requires large infrastructure which is expensive and the large amount of by-product produced from it i.e. salt causes damage to the ecosystem through dumping.
- 💧 Reverse Osmosis Purification is a widely known technology. But a major drawback with this technology is the amount of waste water generated. A whopping two-thirds of the water used in this method is discarded as waste water.

Atmospheric Water Generation:

- 💧 Atmospheric Water Generation is a new technology that shows a lot of promise.
- 💧 It requires no input water source and leaves no by-products.
- 💧 It is a scalable, portable and cost-efficient solution.

Our Answer

- ◆ At any given time, the air around us contains 37.5 million billion gallons of water. Yes, you have read that right: 37.5 million billion gallons. That amount should be sufficient for all of life on earth and more. But how do we access it? The answer is Atmospheric Water Generation.
- ◆ We at Maithri Aquatech, believe this sincerely and have built the MEGHDOOT Atmospheric Water Generator (AWG) & Remineralizer. MEGHDOOT quite literally means "Messenger of the Clouds", and true to its name, will be able to provide water from Air.
- ◆ Our product: MEGHDOOT, is an Atmospheric Water Generator (AWG) & Remineralizer that condenses this moisture, collects it, and produces Pure and Safe Drinking Water. Our intricate filtration process ensures that the quality of the water produced is up to the World Health Organization (WHO) standards.



MEGHDOOT Atmospheric Water Generators with Remineralizer



MEGHDOOT Magnum +
(up to 1000 LPD)



MEGHDOOT Premium
(up to 150 LPD)

MEGHDOOT is available as:
Classic series for requirements up to 60 LPD,
Premium series for requirements up to 250 LPD,
Magnum series for requirements up to 1000 LPD,
and Signature series for all customised
requirements greater than 1000 LPD.

Here LPD is Litres Per Day.

Technical Specifications of MEGHDOOT AWG with Remineralizer

Model	MEGHDOOT Classic Plus	MEGHDOOT Premium	MEGHDOOT Premium Plus
Capacity	Up to 60 Litres/day	Up to 150 Litres /day	Up to 250 Litres/day
Ambient Condition for rated Output	85°F/ 29.4°C, 80% RH	85°F/ 29.4°C, 80% RH	85°F/ 29.4°C, 80% RH
Size (LxWxH)	75(L)x 58(W)x 90(H) cm	96 (L)x 79(W)x 117(H) cm	100(L)x 85(W)x 150(H) cm
Weight	105 Kg	150 Kg	190 Kg
Power Supply	200-230V, 50Hz	200-230V, 50Hz	400 + 5%V, 50Hz
Phase	Single Phase	Single Phase	Three Phase
Requirement of Stabilizer	Optional	Optional	Not Required
Refrigerant	R134A	R407C	R407C
Power Consumption	1.05 kWh	2.0 kWh	3.4 kWh
Water Tank	Internal-20 Litres	Internal-40 Litres	Internal-100 Litres
Filtration Feature	Multi Level Filtration	Multi Level Filtration	Multi Level Filtration
Disinfection	UV System	UV System	Ozonator System
Mineral Dosing Method	Mineral Cartridge	Mineral Cartridge	Mineral Cartridge
Frequency of Replacement	6 months	6 months	6 months
Instrumentaion	Machine switches off when the tank is full	Machine switches off when the tank is full	Machine switches off when the tank is full
Final Water quality output	Fixed quality	Fixed quality	Fixed quality

Dimensions shown here are subject to change and may vary.

MEGHDOOT Signature is also available as a tailor-made solution for water requirements greater than/in multiples of 1000 LPD.

Technical Specifications of MEGHDOOT AWG with Remineralizer

Model	MEGHDOOT Magnum	MEGHDOOT Magnum Plus	MEGHDOOT Signature
Capacity	Up to 500 Litres/day	Up to 1000 Litres/day	Upto 2000 Litres/day
Ambient Condition for rated Output	85°F/ 29.4°C, 80% RH	85°F/ 29.4°C, 80% RH	85°F/ 29.4°C, 80% RH
Size (LxWxH)	115(L)x 180(W)x 120(H) cm	147(L)x118(W)x170(H) cm	266(L)x 150(W)x165(H) cm
Weight	300 Kg	450 Kg	900 Kg
Power Supply	380-420V, 50Hz-60Hz	380V - 420V, 50Hz-60Hz	380V - 420V, 50Hz-60Hz
Phase	Three Phase	Three Phase	Three Phase
Requirement of Stabilizer	Not Required	Not Required	Not Required
Refrigerant	R407C	R407C	R407C
Power Consumption	4.5 kWh	9 kWh	18 kWh
Water Tank	External-300 Litres	External-500 Litres	External-1000 Litres
Filtration Feature	Multi Level Filtration	Multi Level Filtration	Multi Level Filtration
Disinfection	Ozonator System	Ozonator System	Ozonator System
Mineral Dosing Method	Mineral Dosing & free dosing salts for 1 yr	Mineral Dosing & free dosing salts for 1 yr	Mineral Dosing & free dosing salts for 1 yr
Frequency of Replacement	6 month	4 months	2 months
Instrumentaion	Machine switches off when the tank is full	Machine switches off when the tank is full	Machine switches off when the tank is full
Final Water quality output	Customized dosing possible	Customized dosing possible	Customised dosing possible

Dimensions shown here are subject to change and may vary.

MEGHDOOT Signature is also available as a tailor-made solution for water requirements greater than/in multiples of 1000 LPD.

Applications of MEGHDOOT



Hospitals



Military



Disaster Relief



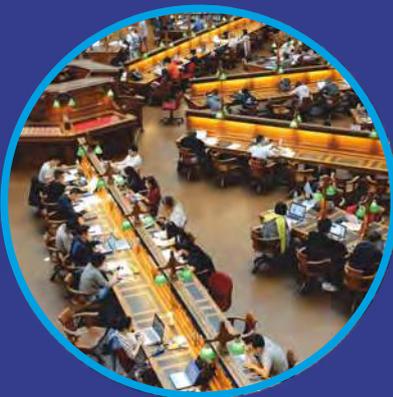
Airports



Sea Ports



Communities



Educational Institutions



Residences



Resorts

And MANY MORE!

MEGHDOOT Kiosks in Railway Stations

MEGHDOOT can also be installed as Kiosks to serve the public by providing affordable and potable water.

On 12th December 2019 Maithri Aquatech Pvt Ltd created history by installing the World's First Atmospheric Water Generator Kiosk with Remineralization Technology, at Secunderabad Junction (SC) Railway Station.

The machine capable of generating up to 1000 litres of water per day, was installed under SCR's green initiative and water conservation efforts. Since its installation Maithri Aquatech has catered to numerous passengers and members of staff throughout the day and has received highly positive feedback and support from the officials and passengers.

MEGHDOOT 'Water from Air' Kiosks can be placed in airports, bus stations, pavements, etc. to provide water sustainably.



On 16th December 2019, the Minister for Railways Sri. Piyush Goyal also acknowledged the installation as a novel idea to conserve water and ensure healthy and safe drinking water for passengers, the same was retweeted by Sri. G. Kishan Reddy - Minister of State for Home Affairs Government of India.



Sustainable Water Solution for Sea-Faring Vessels



Despite oceans and seas having plenty of water, Sea-Faring Vessels such as boats, ships and naval vessels are highly dependent on expensive and large desalination systems, as sea water is unsafe for consumption due to high salinity.

MEGHDOOT can serve as the best alternative to desalination systems to produce water whenever required. Few advantages are:

- ◆ MEGHDOOT occupies a much smaller area when compared to desalination systems to produce the same amount of water
- ◆ MEGHDOOT is eco-friendly and has no waste product produced as a by-product following filtration unlike desalination systems which dump large volumes of salt, damaging marine life
- ◆ MEGHDOOT can produce large volumes of potable water thanks to the high Relative Humidity and favourable wind velocities
- ◆ MEGHDOOT is easy to maintain and service and has a long lifespan

Social Impact of MEGHDOOT Drinking Water



Instant pure drinking water
to Millions



Improves life expectancy as water
contains very low levels of bacteria



Reduces stress on Healthcare
offering wastage free distilled
quality water for medical uses



Literacy Rate improves as
more children go to schools



Reduces Farmer
dependence on rains



Allows ground water recharge
as it does not use the same
to produce water

Collaborations | Certifications Approvals | MOUs



Maithri Aquatech Pvt has collaborated and signed an MOU with the Indian Institute of Chemical Technology (CSIR-IICT). Quality of Alkaline, Type-2, Type-3 produced by MEGHDOOT AWG have also been approved by IICT.



Quality of Alkaline, Type-2, Type-3 produced by MEGHDOOT AWG have also been approved by National Institute of Pharmaceutical Education and Research (NIPER).



MEGHDOOT AWG with Remineralizer has been approved as Eco-friendly by Environmental Protection Training and Research Institute (EPTRI).



MEGHDOOT's AWG with Remineralizer power consumption has been tested and certified by Electronics Test and Development Centre (ETDC), which functions under the Ministry of Electronics and Information Technology.



Maithri Aquatech Pvt Ltd has signed an MOU with Bharat Electronics Limited (BEL) to jointly manufacture MEGHDOOT for supply to Defence, Strategic and Export markets.



- MEGHDOOT AWG with Remineralizer's performance has been approved by the Northern Railways.



- Maithri Aquatech is an ISO 9001:2015 certified company.



- Maithri Aquatech's MEGHDOOT AWG with Remineralizer is CE Certified.



- Maithri Aquatech is a **Department of Industrial Policy and Promotion (DIPP)** registered start-up under the Make In India initiative.



- Maithri Aquatech is registered with the **Accelerating Growth of New India's Innovations (AGNI)** initiative.

Media Coverage on MEGHDOOT



Maithri Aquatech MEGHDOOT AWG has been inaugurated by General Bipin Rawat, Chief of Defence Staff, during the Aero India show 2019 in Bengaluru, Karnataka, India.

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M RAMKRISHNA

Maithri Aquatech



**FOUNDER & MANAGING DIRECTOR
CONSERVATIONIST DEVELOPING
TECH FOR CLEAN DRINKING WATER**

📍 **HYDERABAD, TELANGANA**



**DEVELOPING INDIA INTO A WATER SECURE
NATION**

Maithri Aquatech's Founder Mr. M. Ramkrishna and the company's director Mr. T. M. Shyamsunder have been featured on Republic TV's "Har Ek Boond" show to discuss the importance for alternative and sustainable water solutions in India.



FAQs

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How does MEGHDOOT AWG work?

The atmosphere holds a lot of moisture free for the taking. "Atmospheric Water Generator" uses refrigeration techniques to condense this humidity from the air. Air is sucked into the system through an air filter, cooling coils located in the path of air provide a temperature differential between the air and the coil surface resulting in condensation. Water is then passed through various filters to remove solids, to remove any odour and to eliminate any bacterial content. Pure drinking cold water is then supplied through the dispenser.

Is there enough water in the air to produce water every day?

There are 3.1 quadrillion gallons of water always available in the atmosphere.

Will MEGHDOOT make the surroundings hot and dry after absorbing the moisture around it?

Air is not constant, it keeps flowing and the moisture in it is replenished immediately due to the natural water cycle.

If we are extracting moisture from the air, won't it affect the natural balance?

Not at all! AWG extracts water from the air. Water that evaporates from the ocean is 850 billion litres in a single day which is nearly equivalent to 60 days of mankind's requirement of water. In Short, moisture from the atmosphere is an everlasting source of water. By extracting this water, we

not only get pure drinking water but also save our groundwater. As a fact, by reducing the amount of water vapour present in the air, the effect of global warming is reduced, as water vapour is one of the major contributors to global warming.

Will air pollution affect the quality of water that is produced?

Absolutely not! MEGHDOOT only condenses the water vapour and generates the purest form of water. The machine has an air filter which removes any suspended particles present in the air up to 10 microns.

Is it expensive to produce water with an AWG?

MEGHDOOT is extremely efficient using minimal amounts of energy to produce water. Only 0.3 to 0.4 units of energy are consumed to produce 1 litre of water of the highest quality. On average, 1 litre of highest quality water would cost less than ₹ 2 /-, which is very economical for the quality of water produced.

Will water produced from the air in my home or office have a funny taste or smell?

Absolutely not. The water generation process involves air being passed through air filters to remove any suspended particles from the air and condensing of water vapour into pure and safe water. Activated carbon present in the machine removes any dust if present.

Why do I need the AWG to bring me water, anyway? What is wrong with the water I get from my tap?

Many articles have been written warning about the number of impurities that are contained in public drinking water supplies. The only way to be certain that your drinking water is pure and safe is to produce it yourself with an AWG.

Is water from an AWG as good as the water available in the 5-gallon bottles used at offices and homes?

Surface/groundwater which is the main source of water for the bottled/RO-treated water is highly scarce both in terms of quality and quantity. And who likes to handle that 40 lb. water bottle anyway? Again, MEGHDOOT AWG water is the purest water on earth.

What does pH mean for water?

The indicator for acidity or alkalinity is known as the pH value. A pH value of 7 means a substance is neutral; water with a pH lower than 7 is considered acidic and with a pH greater than 7 water is considered alkaline. The normal range for pH in surface water systems is 6.5 to 8.5. The range in MEGHDOOT AWG is 7 to 7.5 pH.

What temperature and humidity do I need, in order for MEGHDOOT AWG to produce water?

MEGHDOOT AWG produces its per day (24 hrs) rated capacity of pure and clean water from the air. The amount of water

produced will depend on relative humidity and temperature, with the most efficient operation at a Temperature of 28 degrees Celsius and a Relative Humidity of 80%.

How often do I need to change filters and is it hard to do?

The water filters need to be changed every 6 months. Air filters need to be cleaned regularly depending on the surrounding air pollution levels.

What is the machine's life span?

If the machine is used as designed and as specified in the owner's manual and proper maintenance procedures are employed, then the unit will operate for 10 years.

What is the warranty on the machines?

Maithri Aquatech products are warranted against all manufacturer defects and workmanship for one year from date of purchase. Annual Service Contracts are available for ongoing maintenance needs through Maithri Aquatech or its Authorised Service Providers.

When will the machine start making water?

Water will be dispensed within 1 to 2 hours from start-up or less, depending on the humidity & temperature conditions

FAQs

How will it operate in areas with no humidity?

Low humidity conditions are a challenge for any system that extracts moisture from the air. The system may produce lower levels of water during the day in deserts or in very hot climates because of less humidity. However, it will still produce water at night because of the increase in humidity levels.

What happens if the MEGHDOOT AWG reservoir is full? Will the machine overflow?

No, it will not overflow. The machine has a water level sensor, which will stop the machine from running.

Will water standing in a full reservoir get stagnant and stale?

The water is treated with a UV filter which mitigates any bacterial growth and the reservoir is built with a food grade material (Stainless Steel). This ensures the freshness of water for at least 4 months.

Does the water have any essential minerals in it?

Special cartridges are provided to provide necessary minerals.

Are there any harmful bi-products produced or generated?

No by-products are generated by the machine.

Does the machine make any noise, do you need any protective gear when operating the machine?

The noise generated by our machines is low (<80 dB), which is safe on human ears and hence requires no protective gear.

Can the water that is generated be transferred to any other tanks?

Yes, the water generated can be transferred and stored in any food grade external tank.

Does one need any specific knowledge on how to use the machine?

No, anyone can operate the machine. One needs to just plug in the machine into the power source and turn it on, the machine will do the rest.

Does the machine display the current temperature and humidity levels?

Yes, the unit has an inbuilt display, which displays the current temperature, relative humidity and the water level in the tank.

Should the machine be placed indoors or outdoors?

Our smaller units i.e., 30 LPD and 100 LPD, can be placed indoors as long as there is sufficient air flow and placed either near a window or a balcony. Larger machines should be placed in an outdoor environment.

“Clean water is a great example of something that depends on energy. And if you solve the water problem, you solve the food problem.”

*Richard Smalley
Professor of Physics and
Astronomy at Rice University*

“People with water-borne diseases occupy more than 50% of hospital beds across the world. Does the answer lie in building more hospitals? Really, what is needed is to give them clean water.”

*Manoj Bhargava,
CEO of Innovation Ventures LLC*



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