

drupps

Transforming industries by airborne water

Water Value Management

Water is a human right. Despite this, access to water is a problem for billions of people. We can no longer, in good conscience, waste our common water resources. Nor can we take them for granted.

When access to clean water globally is becoming harder, it is clearly not an option to leave more people stranded. Facing the consequences of climate change its high time to redefine the value of water. Also looking beyond its economic value.

With Water Value Management, water-intensive industries can act responsibly and in coherence with a transforming world. Future-proofing your businesses by airborne water. Improving your water management, enhancing water efficiency, ensuring water quality.

THE PROBLEM

Unpredictable water supply causes business risks

Global warming is changing rainfall patterns, pushing water availability toward extremes, causing unpredictable water supply. Some places get droughted while some get flooded. Either way this causes unpredictable business risks. Water is an enabler for business. Re-evaluating water as an asset, instead of regarding it as a mere production input among others, will simplify risk-reducing investments in your water supply security management.

Absium is the hero

Drupps Water Value Management technology is based on the capacity of Absium, a heroic hygroscopic liquid able to capture and liquefy airborne moisture. Absium's affinity for water molecules can be varied through changing its concentration, making it a powerful wet scrubber as well, but without the water loss.



THE WHY

Benefits



Maximize water recovery

Recycles more water from your airborne waste water than products using air cooling can return



Maximize energy recovery

Recycles more energy from your airborne waste water by recycling latent heat on top of sensible heat



Minimize CO₂ emission

Reduces more CO₂ emission by recovering more energy from your airborne waste water than classic heat exchanging with incoming air can provide



Clean water

Generates high-purity water that is ready to drink, re-use in production, or discharge without further treatment



Clean and Dry air

Generates dry air that can be recycled back to production, further offsetting energy use



Airflow control

Enables a comprehensive control of your airflows with realtime sensing and monitoring



OUR SOLUTIONS

Choose your system



01 - Atmo

PERFECT MARKET FITS

Industries with waste steam available and with ambition to reduce water use.

BENEFITS

Generates atmospheric water while recycling waste steam, totalling more than 100% steam recovery.



02 - Heat

Drying applications with outlet air temperature less than 80°C.

Recycles high-purity water while reducing energy use and CO₂ emission.



03 - Vapor

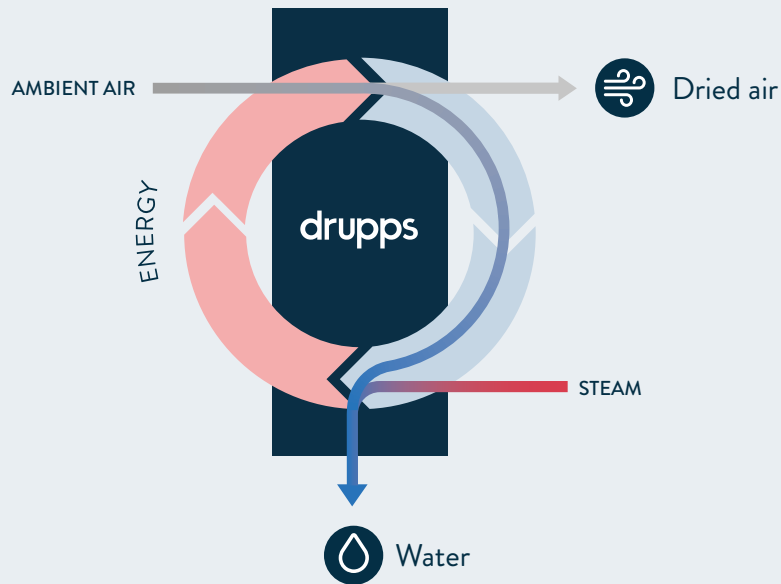
Drying applications with outlet air having high particle content and temperature less than 80°C.

Cleans outlet air while recycling pure water and heat, reducing net energy use and CO₂ emission.

Here's how it works

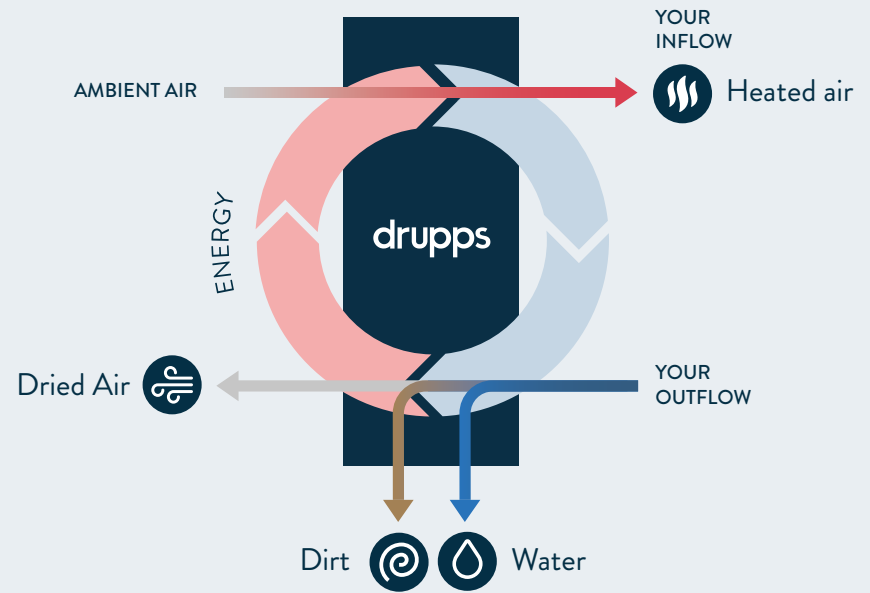
Atmo

Closed-loop system that condenses waste steam into pure water, recycling its energy to power additional atmospheric water generation from a separate ambient airflow. Dry and clean air is generated in the process.



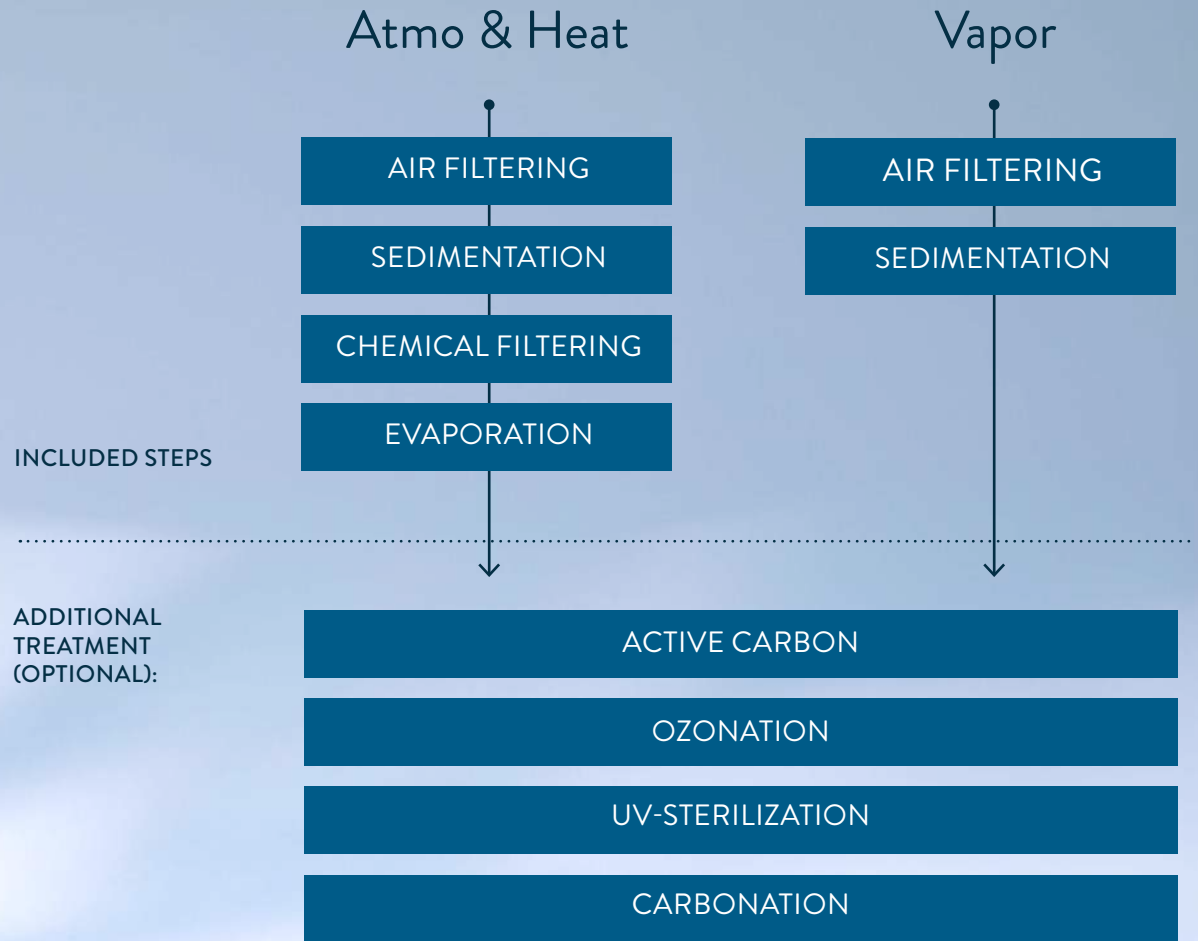
Heat & Vapor

Closed-loop system that extracts water and energy from process air outflow and transfers its energy to pre-heats incoming air, reducing energy need and CO₂ emission. Dry and clean air is generated in the process.



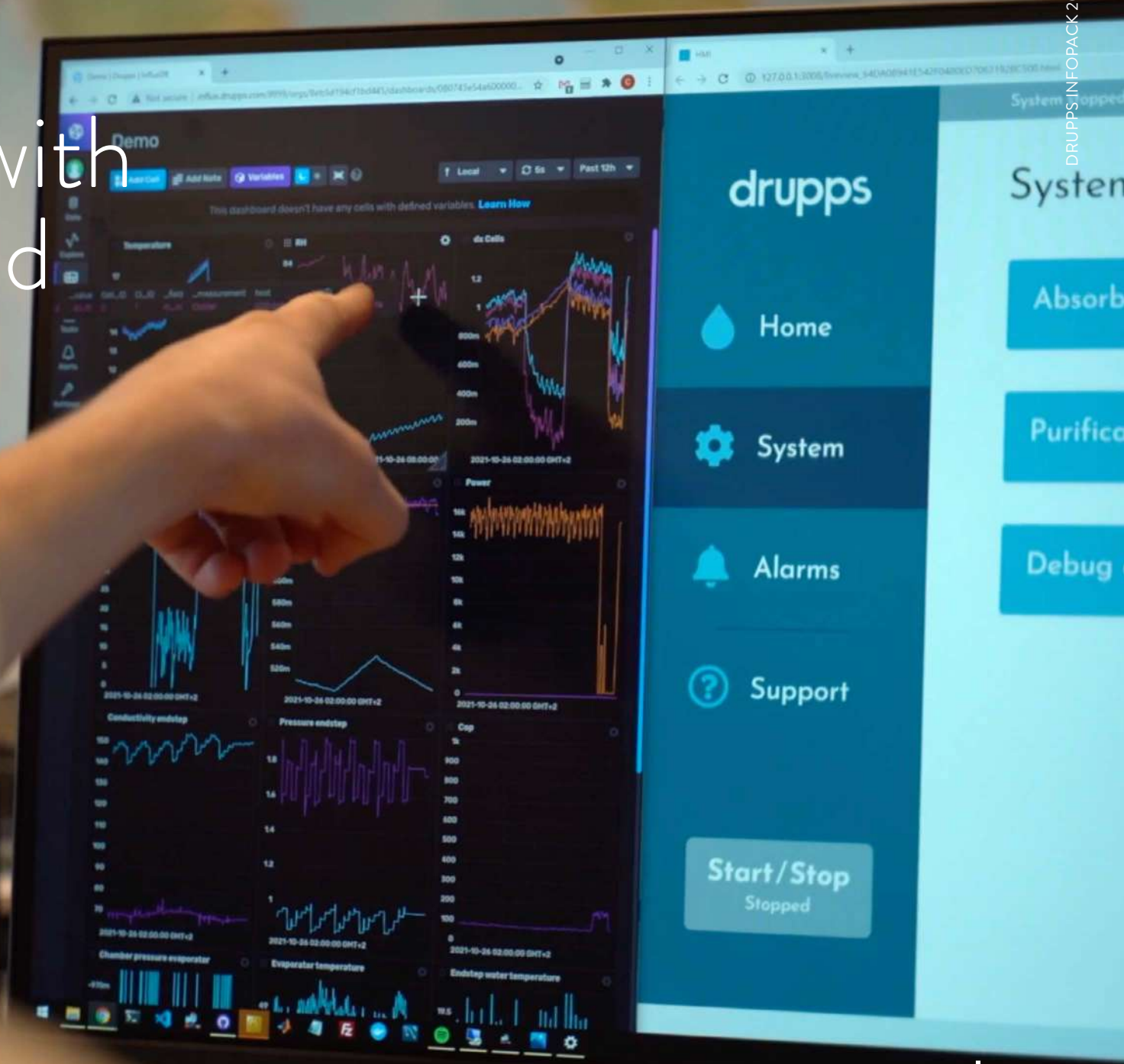
WATER PURITY

Multi-step purification to guarantee high water quality



Full control with Drupps Cloud

Control your Drupps system conveniently from your computer or smartphone. It will not only notify you automatically if it needs manual assistance, it will help you understand the quality of your airflows even better thanks to realtime sensing.



FLEXIBLE SYSTEM

Designing your system

Every site, operation, and installation is unique. Contact us for a discussion on how a Drupps system could be applied to your operations, and what key performance figures would look like.

TELL ME MORE

Questions and answers

Is waste generated?

No waste is generated by Drupps systems except smog particles from the air being caught in filters. Only high-purity water and dried clean air exits the system. No liquids, solids, or fumes needs to be handled or disposed of.

What about water purity?

The water is drinkable and ready to use when exiting the system. As an option, we offer additional post-treatment such as carbon filtering, ozonation, and mineralization.

Any consumables?

Occasional air and Absium filter replacements and refilling of Absium due to evaporation losses.

What about maintenance?

Regular cleaning of air and Absium filters. The system will automatically alert when larger maintenance is due, for example if Absium needs to be refilled (similar to oil-change in a car).

Who performs maintenance?

At commissioning, we will educate customer staff on how to operate the system and handling basic maintenance such as filter cleaning, and automatic notifications. System software will be updated via Drupps Cloud.

Does pollution affect the water quality?

Heavy air pollution may affect water quality slightly but this can be mitigated by a well-designed filtering sequence, including for example active carbon, ozonation, and UV-sterilization.

Is Absium toxic or hazardous?

No. Absium is a natural non-toxic compound. It is edible if diluted.

System life expectancy?

20 years with proper maintenance.

How can I supervise the system?

The system can be conveniently supervised via Drupps Cloud, an internet-based portal, from a computer or smartphone. Read more here: <https://drupps.com/cloud>

Biggest system size?

There is no upper limit. By connecting more modules, we can design a system large enough to cater to any capacity requirement.

Smallest system size?

Our smallest system size produces 3 m³/day. To reach an efficient opex we recommend a system size of at least 10 m³/day.

How can recovery of airborne waste water mitigate water scarcity?

By recovering airborne waste water, industrial water users can reduce their net water withdrawal, leaving more water available for others.

DRUPPS.COM

Curious about how to
transform your industry
by airborne water?

Connect with us.

drupps