

clorofilab

sustainable food
production for earth
and space

OUR SOLUTION

a modular fogponic system that
transforms liquid nutrient-rich
water into mist.

for plants to grow efficiently in
Space and on Earth

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CHALLENGES IN SPACE

RESOURCE AND WATER INDEPENDENCE

traditional hydroponic systems depend on large quantities of water and substrates, both of which are scarce and expensive to transport in space

MASS AND SYSTEM COMPLEXITY

every kilogram launched to orbit is expensive, and traditional hydroponic systems rely on pumps, pipes, large amounts of water, and heavy infrastructure

MAINTENANCE AND CREW TIME

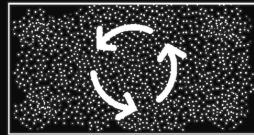
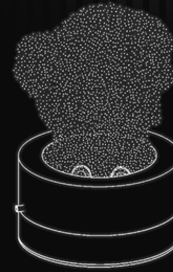
astronaut time is extremely limited. current hydroponic systems demand frequent supervision, sensing, and maintenance

RELIABILITY AND CLOGGING RISKS

nozzles and tubing clog easily in microgravity, jeopardizing the entire crop

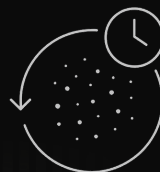
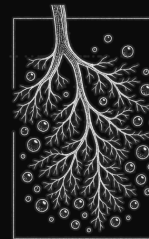
HOW IT WORKS

liquid water is turned into **fog** using ultrasonic atomisers



the fog is delivered to the growing container in small, controlled batches

plant roots capture the fine droplets, absorb nutrients, and then capture new ones



once each fog batch is fully absorbed, a new batch is generated

KEY ADVANTAGES

LIGHTWEIGHT - IT PAYS FOR ITSELF

each growing container holds **only 0.3 liter** of liquid water — at least **50-fold reduction in weight** compared to traditional hydroponics

SIMPLE TO USE

the water parameters are kept **stable by design**. No need for complex sensors or expensive control software and mixers

LOW MAINTENANCE

the simple architecture drastically **reduces maintenance** time and required expertise

COST EFFECTIVE

the combination of minimal water use, low maintenance, and lightweight modules **reduces** both operational and launch **costs**