genaq

# Corporate Overview

# Company

# Company - History

**Background** KEYTER TECHNOLOGIES group was promoted by businessmen, managers and technology specialists who founded CIATESA (Air Conditioning), Infrico and CORECO (Commercial Refrigeration) in the 80s

- **2000** Keyter Technologies (Air Conditioning, Refrigeration and Atmospheric Water Generation)
- **2007** INTARCON (Industrial Refrigeration)
- **2008** **First Atmospheric Water Generator**
- **2013** Keyter HVAC (Industrial Air Conditioning)
- **2017** genaq (Atmospheric Water Generation)

**4th generation already in operation (US, Africa, Latin America, SE Asia,...)**





# Company - Group

Keyter Technologies

- > 30 years in HVAC, refrigeration & water
- • We research, design, manufacture and market
- > 40 M$ turnover
- > 450 employees
- > 24,000 m2 of production facilities
- > 25,000 units manufactured annually

Keyter HVAC

HVAC

INTARCON

Refrigeration

genaq

Atmospheric Water Generation

Keyter ODM

Special Developments

# Company - Facilities

## Offices, Factory and Laboratory (24,000 sqm) in Lucena (Spain)




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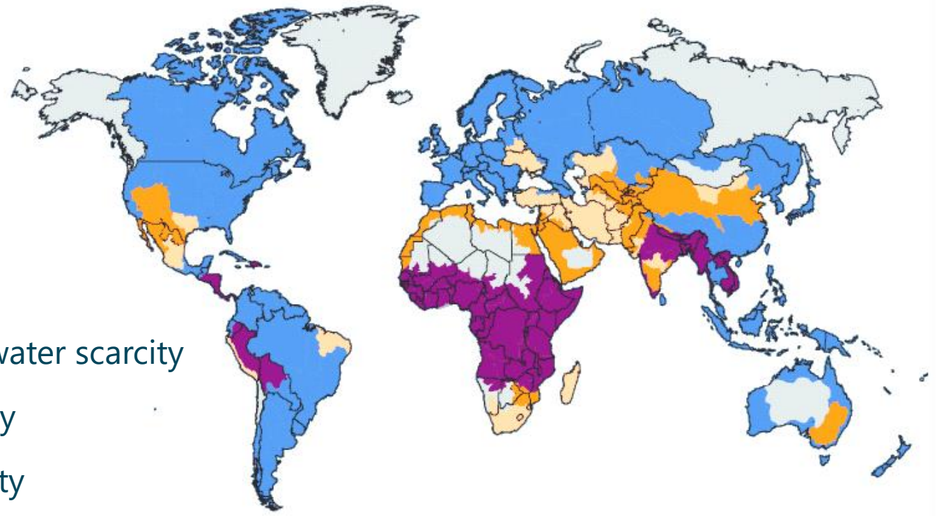
# **Company** - Future Facilities


# **Company** - The Water Challenge

The **atmosphere contains water**, which is a natural **renewable resource**.

Our **mission** is to provide solutions for access to quality **drinking water**, at **low cost**, in a **sustainable** manner and in situations without access to a water or energy supply, with our portable **atmospheric water generators**.





## More Water, less plastic!

In GENAQ we contribute to the **UN Sustainable Development Goals** by promoting the use of Atmospheric Water Generators to **reduce the plastic bottles**.

SUSTAINABLE DEVELOPMENT GOALS

# Technology

# **Technology** - Atmospheric Water Generation

Air

Dry air

Energy

Grid

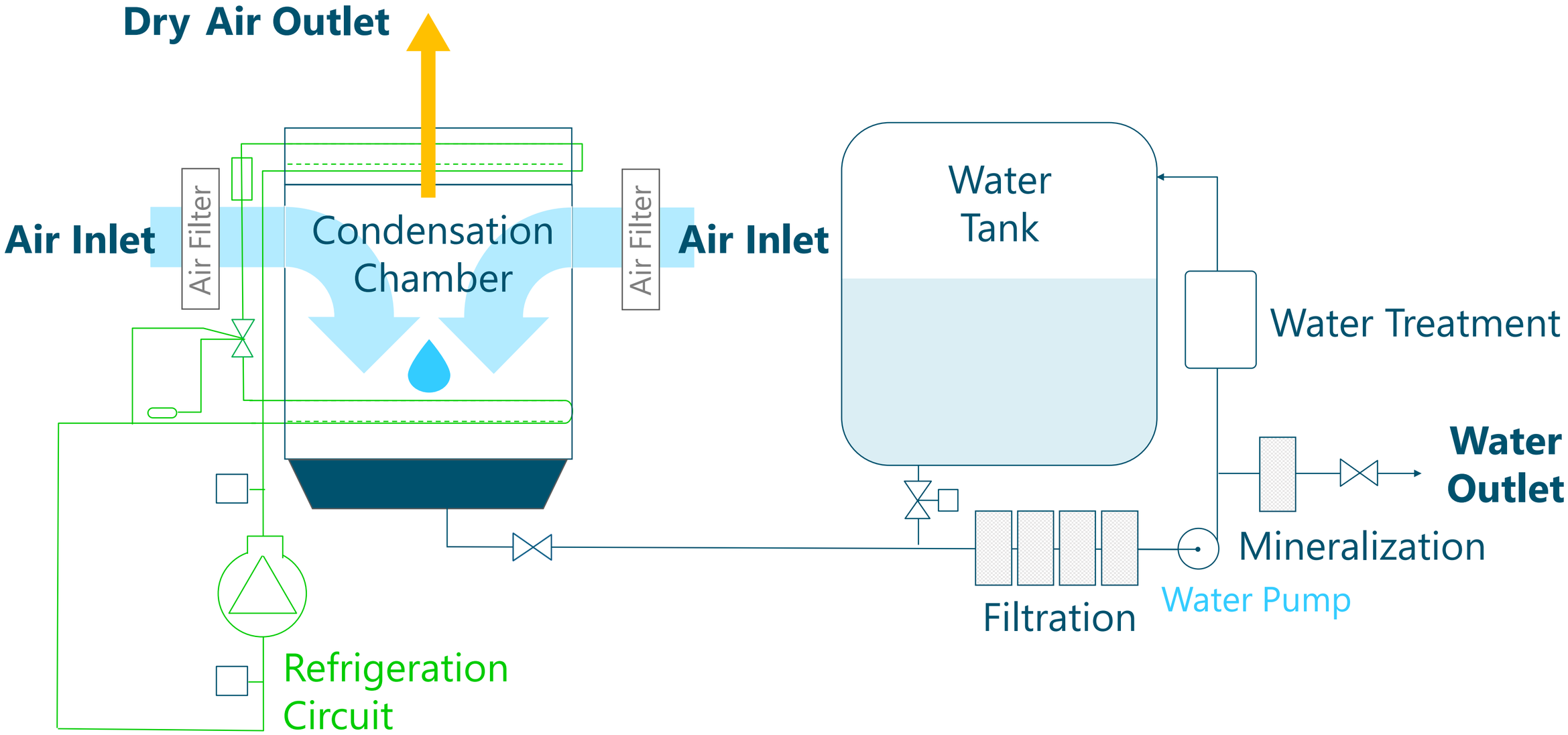
Solar

GenSet

Water

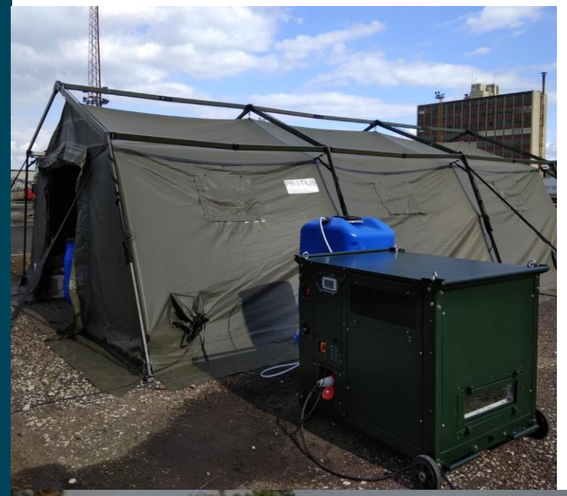
- Replicates the natural process of rain
- Condenses water from humidity in the air
- Uses refrigeration technology
- Just air and a source of energy needed

# **Technology** - Working Scheme



# Technology - Applications

## Emergencies



Camps

Disaster Relief

## Industrial

Oil&Gas

Remote Locations

Mining Construction

Hydroponics

Labs

## Commercial

Offices

Communities

Exhibitions

Restaurants

## Large scale

Bottling plants

Industrial processes

Residential water supply

# Generators

# Generators - Features

## Pure Drinking Water

Directive 98/83/EC

## Low Cost

Energy consumption

Tell us your location
We'll calculate your costs

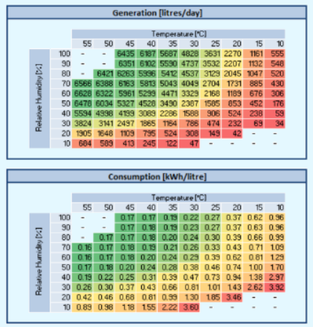
Generator

Maintenance

## Environmentally-friendly

## Connected

kiconex




TÜVRheinland CERTIFIED

## Tested and Certified

## Autonomous

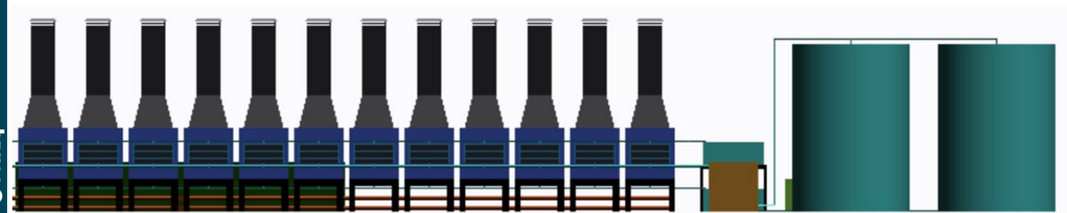
# **Generators** - Product Range

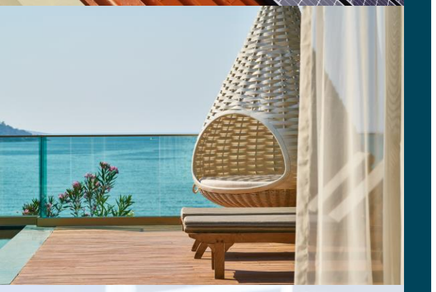
**stratus** Water Dispensers

**nimbus** Remote Supply

**cumulus** Emergency

**AWGplant**





# genaq stratus

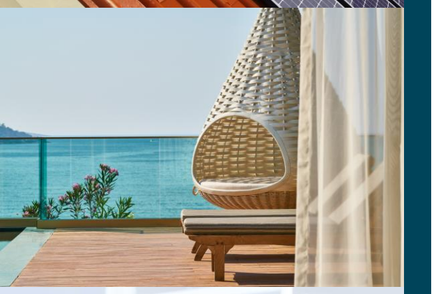
## Water Dispenser

Designed as Water Dispensers
to supply the purest drinking water in
**houses, hotels, hospitals, offices, restaurants…**

- No installation, no plumbing
- No storage space
- No waste
- Several water purification options available

| | s50 | s200 |
|---|---|---|
| **Nominal Generation** (liter per day) | 52 | 201 |
| **Nominal Consumption** (kWh per liter) | 0.42 | 0.36 |
| **Nominal Power** (kW) | 0.7 | 2.5 |
| **Dimensions** (mm) (Height, Width, Depth) | 1500<br>400<br>515 | 1765<br>595<br>710 |
| **Weight** (kg) | 105 | 185 |
| **Cold/Hot Water** | Optional | Optional |
| **Compatible with Solar** | AC or DC | AC or DC |
| **Internet of Things** | Optional | Optional |
| **Safe External Tank** | No | No |
| **Containerized with genset** | No | No |




genaq stratus

# Example

Community of 35 people without access to safe drinking water

**Before**

Water dispenser

- 0.20 USD per liter
- Low water quality
- Depends on bottles delivery
- Needs manipulation

**After**

stratus s200

- 0.03 USD per liter
- High water quality
- Autonomous
- No installation, no manipulation





genaq nimbus

# Remote Supply

Designed in Remote Supply format
with improved efficiency to supply drinking water in
**oil rigs, mines, construction sites, remote facilities...**

- Standard dimensions
- Optimized efficiency
- Extreme environmental conditions up to 55ºC
- Keeps external tank water safe
- Several water purification options are available.



| | n500 | n4500 |
|---|---|---|
| **Nominal Generation** (liter per day) | 504 | 4537 |
| **Nominal Consumption** (kWh per liter) | 0.24 | 0.24 |
| **Nominal Power** (kW) | 4.1 | 35 |
| **Dimensions** (mm) (Height, Width, Depth) | 1800<br>795<br>1180 | 2170<br>2210<br>3420 |
| **Weight** (kg) | 380 | 2200 |
| **Cold/Hot Water** | Optional | Optional |
| **Compatible with Solar** | AC | AC |
| **Internet of Things** | Yes | Yes |
| **Safe External Tank** | Yes | Yes |
| **Containerized with genset** | No | Optional |





# genaq nimbus

## Example

Oil Rig with 80 workers that is currently transporting bottled water by helicopter for drinking water.

**Before**

Bottled Water

- 0.70 USD per liter
- Logistics management needed
- Storage space needed
- Plastic waste

**After**


**nimbus n500**

- 0.03 USD per liter
- No logistics
- Limited space required
- No waste





# genaq cumulus

## Emergency Response

Designed in Emergency Response format structurally strengthened to supply drinking water in **disaster relief, military and humanitarian camps…**

- Structurally reinforced and easy-to carry features
- Maximized generation
- Extreme environmental conditions up to 55ºC
- Keeps external tank water safe
- Several water purification options are available.



| | c50 | c500 | c5000 |
|---|---|---|---|
| **Nominal Generation** (liter per day) | 52 | 573 | 5192 |
| **Nominal Consumption** (kWh per liter) | 0.42 | 0.26 | 0.32 |
| **Nominal Power** (kW) | 0.7 | 4.7 | 50 |
| **Dimensions** (mm) (Height, Width, Depth) | 1050<br>390<br>575 | 1110<br>1095<br>1300 | 2170<br>2210<br>3420 |
| **Weight** (kg) | 70 | 370 | 2200 |
| **Cold/Hot Water** | No | Optional | Optional |
| **Compatible with Solar** | AC or DC | AC | AC |
| **Internet of Things** | Optional | Yes | Yes |
| **Safe External Tank** | Optional | Yes | Yes |
| **Containerized with genset** | No | No | Optional |

# genaq cumulus

## Example

Hurricane disaster relief for 2000 people with damaged water and energy supply systems

**Before**

Purification plant

- Needs a water source
- Needs a power supply
- Low water quality
- Needs installation

**After**


cumulus c5000

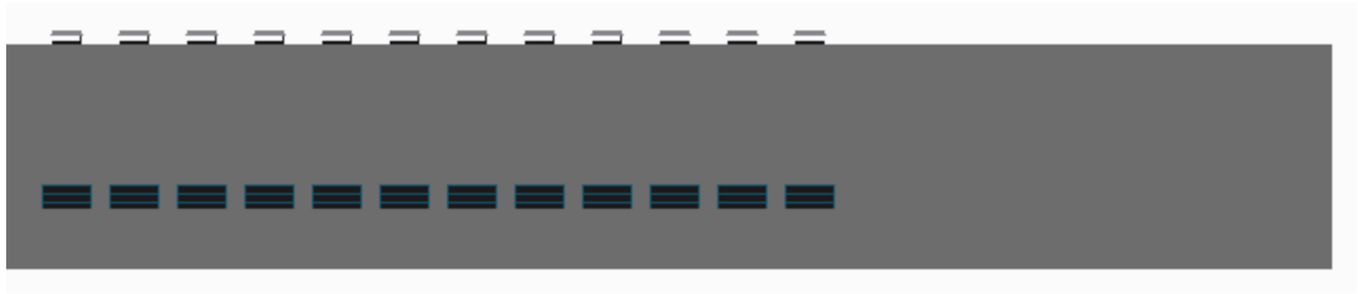
- 100% autonomous (1 week)
- No water/energy supply
- High water quality
- No installation

# genaq AWGplant

## Atmospheric Water Generation Plant

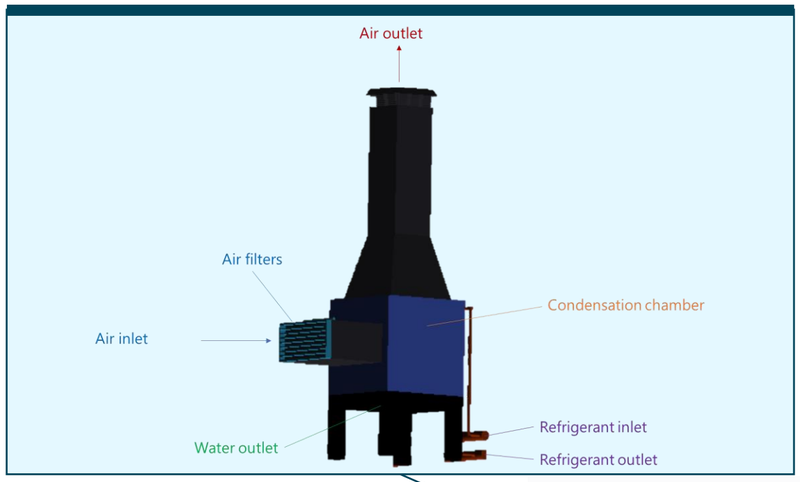
Designed for large needs of high-quality water and optimized for low investment and operating cost for **bottling plants, residential water supply, industrial processes…**

- Performance with minimized energy consumption
- Reduced investment
- Scalable from 50,000 to 1,500,000 liters/day
- Adapted water treatment for mineral bottled water
- Customizable mineralization

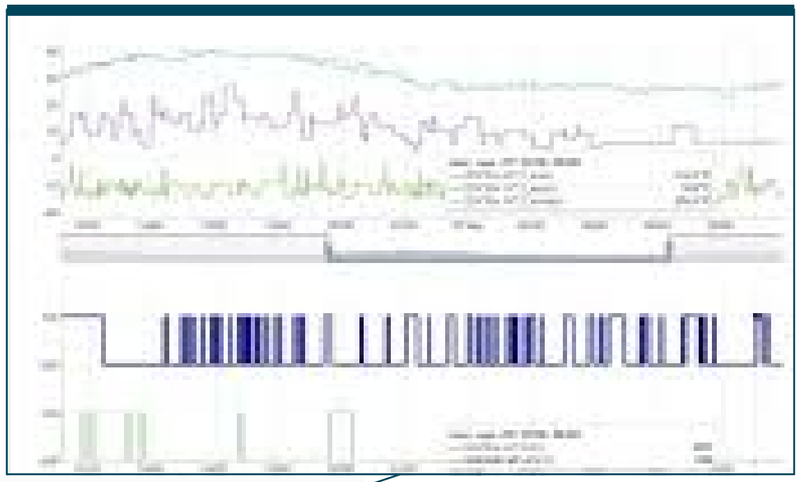


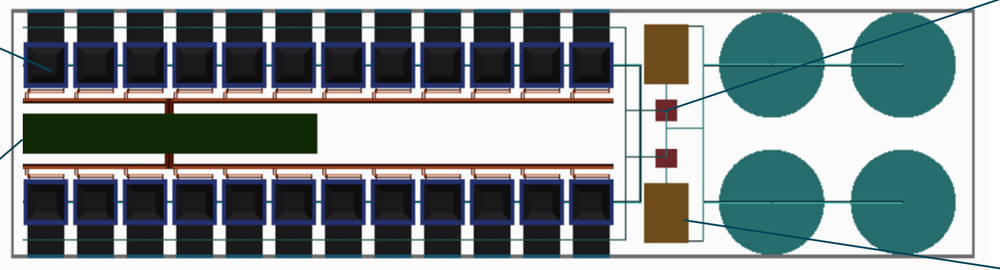
# genaq AWGplant

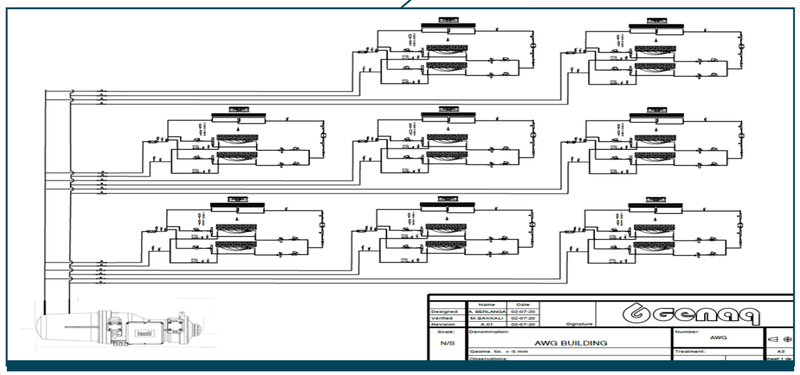
## Condensation Chambers




## Online Control








## Centralized Refrigeration Circuit

## Unified Water Treatment




# genaq AWGplant

## Example

Bottling plant in a location without permission to use a water spring

**Before**

No project

- Cases of no permission
- Cases with no spring available
- Variable water quality

**After**

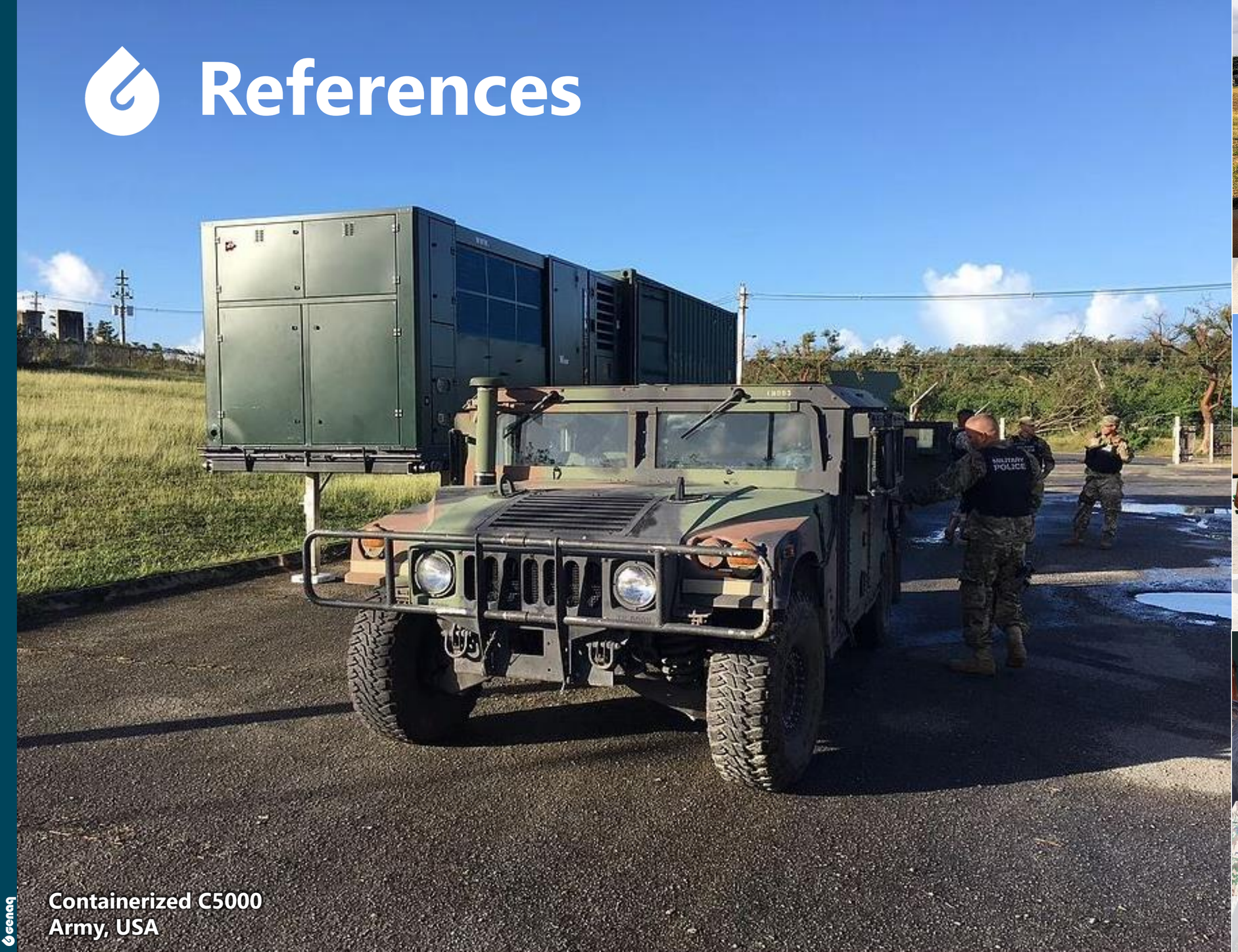
AWGplant

- Independent from permissions
- Independent from springs
- Always high water quality
- Scalable
- Compatible with renewable energy

# References

# **References** – Global Presence

# References




Containerized C5000
Army, USA


C500 in military base
Army, USA


Containerized C5000
Army, Spain

S50 in a military base
Army, Malaysia

# References


Emergency response after Hurricane Maria
Puerto Rico

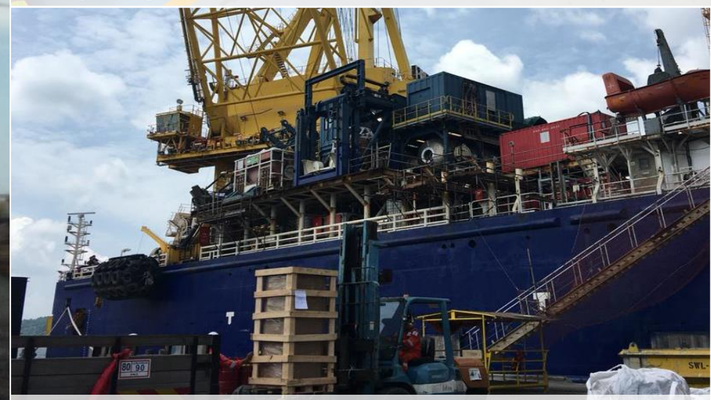
World Youth Day
Panama


Emergency Response
Ethiopia

2022 World Cup
Qatar

# References

C500 military base
Navy, Nigeria



S200 in a O&G Vessel
Sapura, Malaysia

Disaster Relief
United Nations

Solar C500
Canary Islands Technological Center, Spain

# References


S200 in a military camp
SENAFRON, Panama

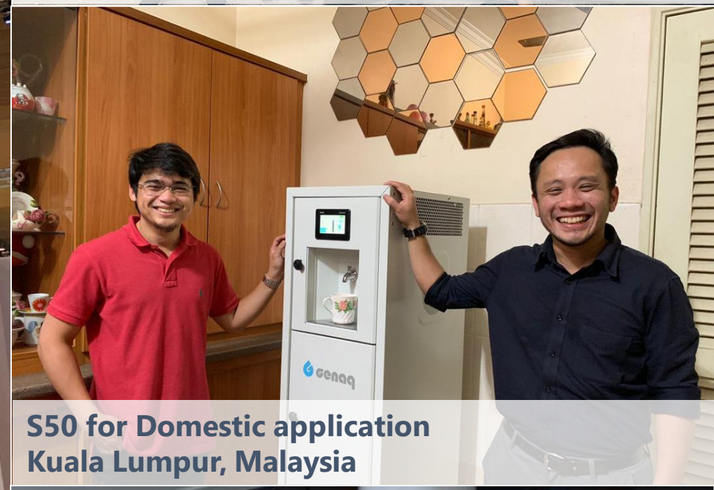

S50 for oil&gas
Oil Rig, Australia


S200 for Remote Supply
Chile


N4500 for Remote Supply
Oman

# References


S200 at Community
Iquique, Chile




S50 for Domestic application
Kuala Lumpur, Malaysia

S50 at Tropicana Restaurant
Kuala Lumpur, Malaysia

S200 at European Union Pavillion
Web Summit, Portugal

# Case Study

# Case Study - Dubai

| | |
|---|---|
| Location | Dubai, UAE |
| Average Temperature | 28°C |
| Average Relative Humidity | 56% |
| Electricity Cost | 0.08 USD per kWh |
| Need | 300 liters per day |


## Current Solution

### Bottled Water

- 0.20 USD per liter
- Logistics required
- Waste

**Monthly cost:**
**1,800 USD**

## Alternative

**nimbus n500**


- 318 liters per day
- High quality water
- No water supply
- No logistics
- No installation
- No waste

Investment: 28k USD
Operating cost: 0.03 USD per liter
**Return on investment: 1.6 year**
**Monthly savings: 1,530 USD**

Data calculated from Water generation and Energy consumption measured in Climate Chamber and audited and certified by TÜV Rheinland

# Shaping the future

Co-funded by the Horizon 2020 programme
of the European Union

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