

Mobile Emergency Water & Power Rapid Response Unit

Flux Ember Mobile Power System | GTG 1000L Atmospheric Water Generator

Trailer-mounted, self-contained potable water generation for disaster response

GTG 1,000 Liter / 264 Gallon Per Day Atmospheric Water Generator
Prepared for emergency management planning and procurement review

Water Is the First System to Fail

- Grid loss halts pumping, treatment, and distribution — taps go dry within hours, not days
- Contamination from flooding, main breaks, or chemical intrusion makes existing supply unsafe even when pressure holds
- Bottled water resupply depends on trucks, fuel, passable roads, and warehousing — exactly what a disaster removes
- WHO/Sphere minimum is 15 liters per person per day: a 500-person shelter needs 7,500 L every day, so multiple Mobility units are needed to meet this demand
- Water convoys are the single heaviest logistics burden in the first 72 hours of any response

One trailer replaces roughly 2,000 half-liter bottles a day — and the convoy that hauls them.

One Trailer, Three Integrated Subsystems

conceptual configuration subject to customization

SUBSYSTEM 01

Flux Ember Mobile Power System

Supplies the full electrical load for water generation and onboard controls, with no grid connection required.

- Fuel: NG, CNG/PNG, Bio-CNG, methane
- Runtime: 7.3 days on a 250 gal tank
- Tank options: 120 gal to 1,000 gal
- Grid hookup: not required

SUBSYSTEM 02

GTG 1,000 Liter Atmospheric Water Generator

Condenses moisture from ambient air and purifies it through a multi-stage filtration process.

- Rated output: 1,000 L / 264 gal per day
- Purity: meets or exceeds WHO standards
- Source water: none required
- Outlet: tanks, bladders, or mains

SUBSYSTEM 03

Flatbed Trailer Platform

Integrates both subsystems onto a single towable chassis that any standard response vehicle can move.

- Deck: [TBD] ft tandem-axle flatbed
- GVWR: [TBD] lb, tow class [TBD]
- Setup crew: 2 personnel
- No crane or forklift required
- Onboard potable storage: [TBD] gal

From Ambient Air to Potable Water in Four Stages

1 AIR INTAKE

Ambient air is drawn through a filtered intake, removing airborne particulates before processing.

2 CONDENSATION

Air is cooled below its dew point. Water vapor condenses and collects in the internal reservoir.

3 7-STAGE FILTRATION

A seven-stage EZ-Filter™ chain: HEPA air, dual UV lamps, sediment, pre- and post-carbon, ultra-fine membrane, mineralization.

4 DISPENSE & STORE

Water meeting or exceeding WHO purity standards is dispensed or piped to storage reservoirs.

Fully independent of existing water infrastructure — no wells, mains, or source water required.

Trailer Configuration

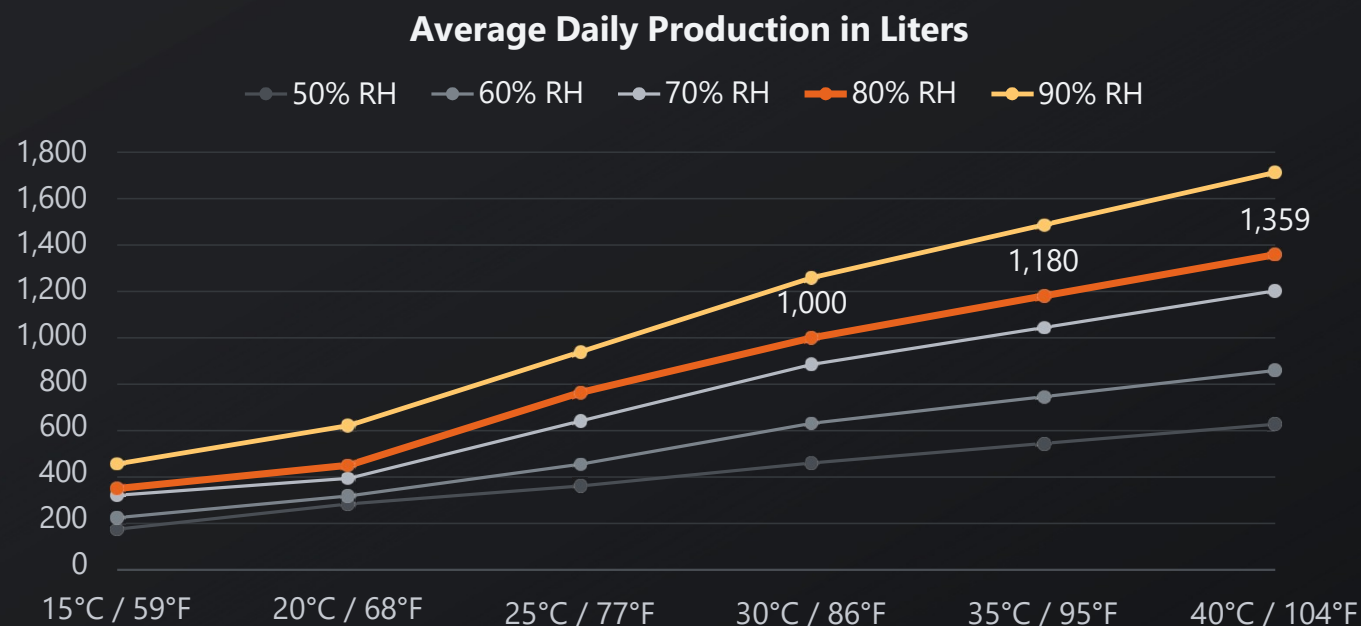


PLATFORM SPECIFICATIONS

- **Trailer class:** Tandem-axle flatbed, [TBD] ft deck
- **Gross vehicle weight:** [TBD] lb, tow class [TBD]
- **AWG dry weight:** approx. 2,000 lb (920 kg)
- **CNG fuel tank:** 250 gal standard, 7.3 days runtime
- **Tank options:** 120 gal (4.5 d) to 1,000 gal (29.2 d)
- **Potable storage:** [TBD] gal onboard
- **Setup crew:** 2 personnel, no crane required
- **Site requirement:** Level pad, open airflow both sides

Plan view — deck layout, front (hitch) at left. Not to scale.

Water Output by Ambient Condition



CONVERSIONS

1,000 L = 264 US gal

1,500 L = 396 US gal

$^{\circ}\text{F} = (^{\circ}\text{C} \times 9/5) + 32$



GTG 1000L condenser unit

Manufacturer average daily production table, 1000L unit. Rated output of 1,000 L / 264 US gal per day occurs at 30°C / 86°F and 80% relative humidity. Production is negligible at 0°C / 32°F at all humidity levels.

Flux Ember: Powering the Unit Off-Grid

300 Wh

Energy per liter produced
(class-typical)

~300 kWh

Daily energy demand
at 1,000 L rated output

7.3 DAYS

Unattended runtime on
a 250 gal CNG tank

ZERO

Grid connections or
utility hookups required

FUEL FLEXIBILITY & RUNTIME

- **Fuel compatibility:** natural gas (NG), CNG and PNG, Bio-CNG, methane
- **Runtime by tank size:** 120 gal / 4.5 days, 250 gal / 7.3 days, 500 gal / 14.6 days, 1,000 gal / 29.2 days
- **No grid tie, no fuel truck** inside the deployment window
- **Output is energy-bound, not source-bound:** sustained production depends only on fuel resupply



Seven-Stage Filtration to WHO Potable Standards

1	HEPA Air EZ-Filter™
2	Bottom Tank UV Lamp EZ-Filter™
3	Sediment EZ-Filter™
4	Pre-Carbon EZ-Filter™
5	Ultra-Fine Membrane EZ-Filter™
6	Post-Carbon EZ-Filter™
7	Top Tank UV Lamp EZ-Filter™

WHO STANDARD

Produces fresh drinking water that meets or exceeds World Health Organization standards for purity and health.

NO SOURCE WATER

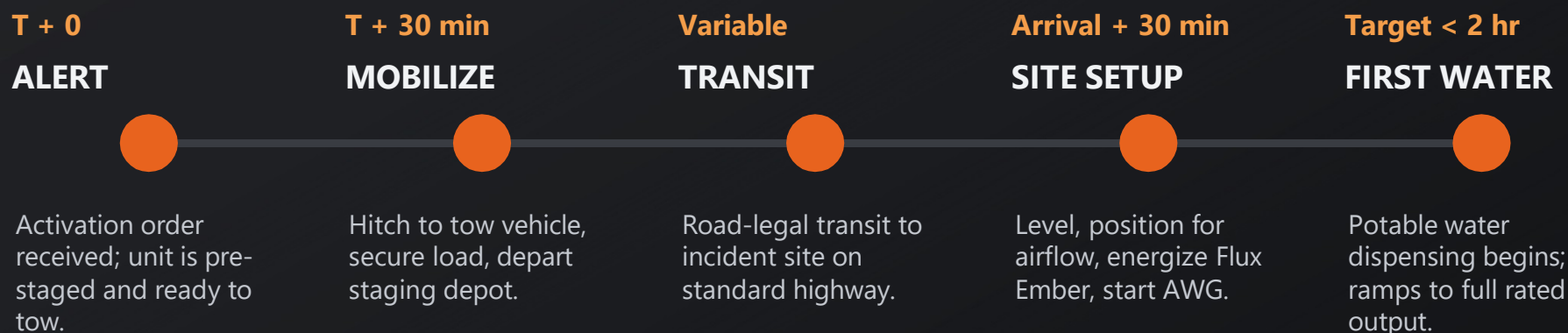
Quality is unaffected by contaminated groundwater, failed mains, or floodwater intrusion.

NO PLASTIC WASTE

Eliminates the bottled-water waste stream that burdens shelters and staging areas.

Seven-stage EZ-Filter™ sequence per the Green Technology Global system schematic.
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Deployment Timeline: Alert to First Water



Setup and first-water times are planning targets pending field validation of the integrated trailer build.

What 1,000 Liters Per Day Supports

Use Case	Liters / Person	US Gal / Person	People Supported Daily
Survival drinking water only	3	0.8	333
Drinking and cooking	5.5	1.5	181
Sphere minimum, all domestic uses	15	4.0	66
Field medical / triage station	40–60 per patient	10.6–15.9	~20 patients
Shelter supplemental supply	Offsets bottled water	—	~2,000 half-liter bottles

A single unit meets the Sphere 15 L/person/day standard for a 66-person shelter while fuel and maintenance supplies remain available, with no source water and no resupply convoy.

Deployment Scenarios



HURRICANE & FLOOD

Mains lose pressure and floodwater contaminates wells. The unit produces clean water on site while distribution is restored.



WILDFIRE & EVACUATION

Supports evacuation centers and staging areas outside the burn zone where municipal supply is unavailable or reserved for suppression.



CONTAMINATION EVENT

Chemical intrusion or a boil-water order renders existing supply unusable. Output is independent of the compromised source.



REMOTE & MASS CARE

Sustains field medical stations, shelters, and staging camps beyond the reach of piped infrastructure.

Compared to Conventional Water Resupply

Factor	Bottled Water	Tanker Trucking	AWG Trailer Unit
Source dependency	Intact production and supply chain	Potable source and fill point	Ambient air only
Recurring logistics	~2,000 bottles per day, daily	Repeated tanker round trips	Energy resupply only
Road access needed	Continuous	Continuous	Single trip in
Waste generated	High plastic volume	Minimal	None
Sustained duration	Limited by convoy cadence	Limited by source and fuel	Limited by energy supply
Time to first water	Depends on convoy arrival	Depends on fill and transit	Target under 2 hours

The unit does not replace bulk distribution at scale — it removes the water-convoy dependency for shelters, staging areas, and isolated populations during the critical first phase of a response.

Readiness, Open Items, and Next Steps

Readiness & Sustainment

- Pre-staged at depot, hitched and tow-ready on activation order
- Two-person operator crew; certification time [TBD] hours
- Preventive maintenance: filter change interval [TBD], consumables kit stored onboard
- Periodic water quality verification against WHO and EPA potable standards
- Known limitation: output falls sharply in cold, dry air below roughly 15°C / 59°F

Open Items & Next Steps

- Confirm Flux Ember rated electrical output in kW under full AWG load
- Finalize trailer GVWR, deck length, and tow class certification
- Site-test actual output across regional temperature and humidity bands
- Establish procurement vehicle and delivered cost per trailer
- Identify pilot jurisdiction and schedule a validation exercise