



## **OFF-GRID**

### **NOMAD H2o:**

#### **Generator (potable)**

Technology: Transforms available water vapor from the air into drinking water using refrigeration technology and continuously simulating the “dew point” allowing water to be collected even in relatively low humidity conditions

Filtration: 5-stages of Hot & Cold UF/UV filtration system

Maintenance: depending on production of water, the filter only needs to be changed 1-2 times a year

Power: 115V power.

Size: Installed under the sink cabinet

Temperatures: Hot & cold water dispenser

Capacity: Up to 8 gallons of water per day as it is being used, based on relative humidity and temperature and will work at indoor climates ranging between 65 -75 degrees Fahrenheit (20-23.8 degrees Celsius) and relative humidity

Additional benefits: Also functions as an air cleaner and dehumidifier.

#### **Storage (non-potable)**

Materials: Food-grade polyethylene (MDPE) complies with AS2070, FDA and HPB Regulatory standards for food contact. Brass and nylon threaded fittings.

Size: 71" x 20" x 9.5"

Capacity: 50 US Gallons

Weight (full): 440 lbs

Colour: Olive Green

## **NOMAD Sewer Treatment:**

### **Process:**

NOMAD uses a wastewater treatment system that is designed for treating domestic wastewater generated by normal household activities. The system consists of a single tank utilizing the extended aeration activated sludge process. The system is capable of producing an effluent which meets or exceeds applicable state discharge standards. This system has been successfully tested in accordance with National Sanitation Foundation (NSF) Standards 245 and 40.

Treatment begins when wastewater from the home flows into the pretreatment zone of the system. Here, the organisms begin to break down and convert the waste into gases and additional microbes. This is also where nitrate is converted to nitrogen gas. The partially broken down waste then enters the treatment area, or aeration chamber. In the treatment area, waste is continually exposed to microbes for the remainder of the treatment process. The digestion action of the aerobic microbes results in a lower concentration of pathogenic bacteria.

After average retention time in the aeration zone of 24 hours or more, the mixture enters the clarifier where calm conditions enable separation of microbes, solids, and treated wastewater. The microbes that settle out of the water sweep back into the aeration chamber where they are again beneficial in wastewater treatment. The proprietary airlift provides for a portion of the treated wastewater to be returned to the pre-treatment zone for additional treatment and denitrification.

The result of aeration and quiescent separation, followed by recirculation is an effluent that is clear, odorless, and low in nutrients which may be discharged according to local health regulations. The system is available in concrete and polyethylene. Materials are subject to state approval.

### **System:**

The system is uniquely designed based on modern concepts and has been

tested at an ANSI certified lab. It has also undergone strenuous testing, meeting ANSI/NSF standards 40 and 245 requirements, and is approved for use throughout the United States.

The system consists of three compartments:

Pre-treatment Compartment Aeration  
Compartment Clarification Compartment  
Pretreatment Compartment

In the pretreatment compartment large solids are separated out from the incoming wastewater. This compartment helps to prevent unapproved items from entering the aeration compartment. This is also where re-circulated water, from the clarifier, is returned to continue the nutrient reduction process.

The aeration compartment is designed to set the right environment for aerobic microbes to grow by having air pumped in with a specific formation. The air is diffused into microscopic bubbles by low pressure diffusers. This process agitates and mixes the effluent, while promoting the growth of aerobic microbes which breakdown organic solids in wastewater.

Wastewater from the aeration chamber seeps into the clarifier from the bottom of the tank. In this system the clarifier is referred to as the still zone. In the clarifier there are no mixing of solids and wastewater. Solids are settled and diverted from the clarifier and returned to the aerator chamber for further treatment. Water, after separation, passes through a clarifier tee assembly and discharged as local laws allow. Settled solids, and a portion of treated wastewater along with microbes are re-circulated back to the pretreatment chamber.

**Specifications:**

Size: 48" X 84" X 32"H

Capacity: 4 person

Materials: Polyethylene tank, schedule 40 PVC pipe

Electrical: Solar electric 12V, 1.2 to 1.8 amp

Maintenance: 60-year lifecycle, aerator changed every 10 years

**NOMAD Power:**

Under redevelopment