

NEXTGEN SEPTIC SYSTEM WITH SEPTIGEN™ TECHNOLOGY

OWNER'S MANUAL

Please note the following at the time of installation.	
Serial Number:	
Installer Name & Contact Number	
Maintenance Provider Name & Contact Number	
Installation Date:	
State Permit Number	

NextGen Septic, LLC
1776 Mentor Avenue; STE 400E
Cincinnati, OH 45212

Welcome to NextGen Septic System

As an owner of a NextGen Septic system, you are at the leading edge of domestic wastewater treatment. Your new, efficient, treatment and filtration system, far exceeds the capability and environmental safety of a traditional septic system.

NextGen Septic is the brainchild of Dr. Rakesh Govind a professor of chemical engineering at University of Cincinnati and world-renown expert in wastewater treatment. Driven to solve the pollution problems of traditional or failed septic systems, he set out to protect the environment and spent years developing and perfecting the system in his private laboratory.

His vision for advanced treatment, using a combination of advanced biomedia and membranes is now available as NextGen Septic, from the team at NextGen Septic. Your system will purify wastewater to a level higher than municipal wastewater treatment plants. The system will be able to handle a maximum daily flowrate of 1200 gallons per day.

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LIMITED WARRANTY

Manufacturer warrants, to the purchaser and subsequent owner during the warranty period, every new product to be free from defects in material and workmanship under normal use and service, when properly used and maintained for a period of two years from date of purchase by the end user. The biomedica inside the septic tank is warranted for the lifetime of the NextGen Septic System. No allowance will be made for shipping charges, damages, labor or other charges that may occur due to product failure, repair or replacement. This warranty does not apply to and there shall be no warranty for any material or product that has been disassembled without prior approval of Manufacturer, subjected to misuse, misapplication, neglect, alteration, accident or act of nature; that has not been installed, operated or maintained in accordance with Manufacturer's installation instructions; that has been exposed to outside substances including but not limited to the following: sand, gravel, cement, mud, tar, hydrocarbons, hydrocarbon derivatives (oil, gasoline, solvents, etc.), or other abrasive or corrosive substances, wash towels or feminine sanitary products, etc. in all pumping applications.

The warranty set out in the paragraph above is in lieu of all other warranties expressed or implied; and we do not authorize any representative or other person to assume for us any other liability in connection with our products.

MANUFACTURER EXPRESSLY DISCLAIMS LIABILITY FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES OR BREACH OF EXPRESSED OR IMPLIED WARRANTY; AND ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND OF MERCHANTABILITY SHALL BE LIMITED TO THE DURATION OF THE EXPRESSED WARRANTY.

Some states do not allow limitations on the duration of an implied warranty, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

PROCESS DESCRIPTION

Traditional septic systems use a holding tank and then rely on a leach field (also known as a drain field or lateral field) and microbes in the soil to do final filtration and treatment. With NextGen Septic, wastewater, entering the NextGen Septic from your home, is fully treated inside the proprietary Septigen™ system. The treated water is periodically pumped to either a soil leach field, as sub-surface discharge or directly into a creek, pond, river or any other suitable water body, if the system is approved for surface discharge.

The NextGen Septic system requires a septic tank which has two chambers: The first chamber is a settling chamber, where the first stage of natural separation happens. The second chamber features a unique type of biomedica for treating wastewater. This high surface area biomedica, comprised of several thousand, 2-inch size, open-cell foam cubes, houses trillions of beneficial bacteria to filter and treat the water. This biomedica is warranted for the lifetime of the NextGen Septic system.

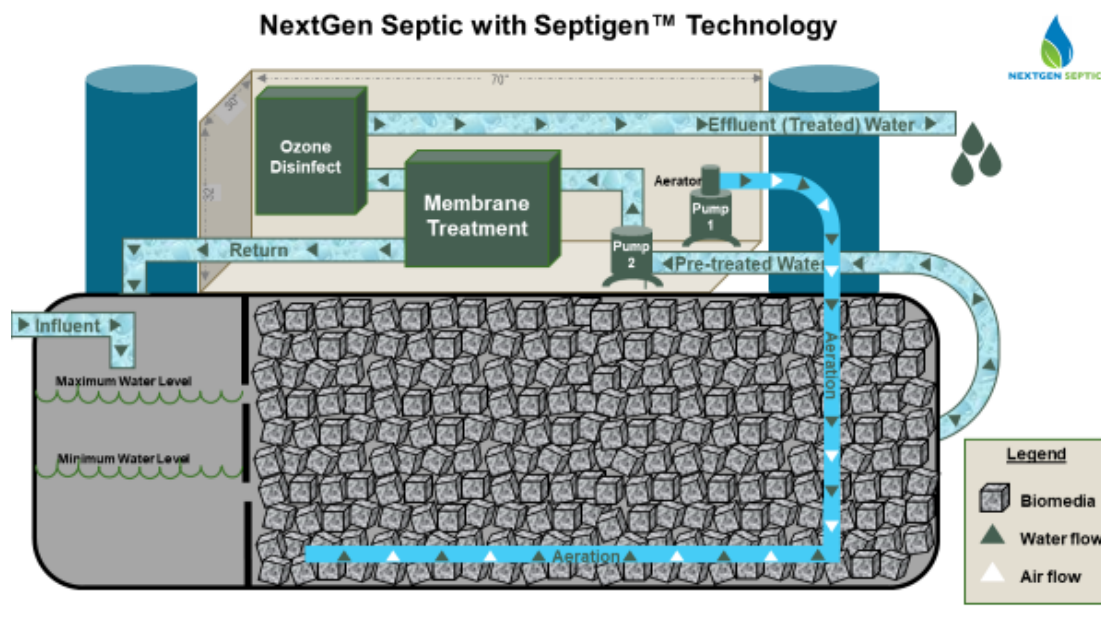
Wastewater, after being treated aerobically by the billions of bacteria residing as active biofilms inside and outside the open-cell foam cubes (biomedica), is pumped to an external box, usually installed above the middle manway of the septic tank, between the two end risers. This treatment box houses the ultra-filtration membrane and ozone disinfection units. The membrane prevents the passage of bacteria, most viruses, and any suspended solids, and clear water is produced from the membrane unit. This clear permeate flow is then disinfected using ozone gas, which is generated from oxygen in the ambient air. Ozone, when dissolved in the water above a concentration of 1 mg/L completely disinfects the water.

The NextGen Septic system is controlled by a Programmable Logic Controller (PLC), which monitors all the critical functions of the treatment system, while allowing them to function at the required rate and intensity. Failure of any treatment sub-system is relayed to an alarm light, which is transmitted to the outside red alarm light and buzzer.

FEATURES AND BENEFITS

- Treated water effluent exceeds standards of a wastewater treatment plant. NextGen treatment removes up to 99% of nitrogen and phosphorous.
- No complicated tank installation, backfill or water filling procedures required—can be installed with 6” to 48” of cover.
- Compact treatment unit (70” x 30” x 32”) installs between risers of tank or above ground.
- Works with most residential septic tanks; no special installation, backfill or water filling procedures are required.
- Operated by a Programmable Logic Controller (PLC), located in the control box, that alarms any major failure within the NextGen septic system; All alarms are transmitted to a red light and buzzer, installed outside the septic tank.
- Treated water, once disinfected with ozone, can be surface discharged in the some states.
- Treated water is clear with practically no turbidity or suspended solids; clogging of leach fields will never occur with NextGen septic’s treated water discharge.
- Technology operated by two 110V, single phase, submersible pumps (1.0 HP AND 0.5 HP), which are operated intermittently, based on demand.
- • Self-cleaning membrane filters out solids, viruses, bacteria and other organic contaminants.
- Disinfection is conducted using ozone, which generates no disinfection by-products, as in the case of chlorine; the disinfection system is inside the NextGen septic treatment box.
- Power consumption is less than 1.5 kW and yearly electrical cost is about \$500 per year.
- NextGen treatment unit is shipped fully assembled with control console and any needed connecting cables.

SYSTEM COMPONENTS



Biomedia

NextGen biomedia contains billions of active, live bacteria that treat the water as the water flows through and around the biomedia placed inside the second compartment. These bacteria can be harmed if chemicals, such as biocides, enter the NextGen septic system. This biomedia is warranted for the lifetime of the NextGen Septic system.

In general, if a chemical substance is considered harmful to humans then it should also be considered harmful to the NextGen septic treatment system. If you have any questions concerning the use of any of these substances, please contact your NextGen septic maintenance provider. **The introduction of any substance on the “Do Not Add List” into the NextGen septic will void the warranty.**

In addition, solids that cannot be broken down easily by the bacteria, will accumulate in the first compartment, where the wastewater enters the NextGen Septic. Hence, addition of solids will increase the frequency of pump outs required for the first compartment of the NextGen septic tank. Pump outs of solids will be made through the first manway, counting from the inlet side of the tank.

Septigen Treatment Unit

The Septigen treatment unit is a compact treatment unit (70" x 30" x 32") installs between risers of tank or above ground. The unit is constructed of stainless steel metal to prevent corrosion over the life of the system. The unit houses the following system processes:

1. Two 110V, single phase, submersible pumps (1.0 HP AND 0.5 HP), which are operated intermittently, based on demand.
2. Ultra-filtration, self-cleaning membrane unit
3. Control box containing the Programmable Logic Controller (PLC) which monitors and controls all the critical functions of the NextGen septic system (see below).
4. Compact heater, which maintains unit at minimum required temperature for biological processes to occur.
5. Ozone gas disinfection unit

CONTROL BOX

The Control box contains a Programmable Logic Controller (PLC) that monitors and controls all the critical functions of the NextGen septic system. The control box is inside the external box, also installed in the ground. The 110V, single phase, power cable connects to this separate box, with a metal green cover, also installed inside the ground, on top of the septic tank.

The main alarm is installed next to the NextGen Septic tank. This alarm is initiated if any failure occurs for any of the critical components of the NextGen Septic treatment system.

Septic Tank

The NextGen Septic System requires a standard, dual compartment septic tank for operation, to be sourced according to NextGen specifications and according to local and state septic tank guidelines.

Tanks and non-NextGen supplied components must conform to all country, state, province, and local plumbing and electrical codes.

NextGen does not warranty any septic holding tank used in conjunction with the NextGen Septic treatment unit. NextGen Septic tank requirements can be found at www.nextgenseptic.com/tank.

SYSTEM CARE

THE “DO NOT ADD” LIST

DO NOT introduce the following substances into the NextGen Septic treatment system:

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> • Motor oil • Brake fluid • Paint thinner • Solvents • Herbicide • Chemicals & chemical waste | <ul style="list-style-type: none"> • Strong caustic drain cleaners in excess • Excess pharmaceuticals • Antifreeze • Paint | <ul style="list-style-type: none"> • Gasoline • Pesticides • Strong disinfectants • Toilet tank disinfection chemicals |
|--|--|--|

NOT RECOMMENDED: Trash and excess food products will likely increase frequency of pumping.

- | <u>Trash</u> | <u>Food products</u> | <u>Limited Use Products</u> |
|---|---|--|
| <ul style="list-style-type: none"> • Sanitary napkins • Feminine products • Diapers • Paper towels • Baby wipes • Condoms • Cat litter • Dental floss • Cigarette butts • Plastic/rubber products | <ul style="list-style-type: none"> • Coffee filters/grounds • Fruit/vegetable peels • Meat products • Garbage disposal waste • Greases/lards • Seeds • Bones • Egg shells | <ul style="list-style-type: none"> • Liquid laundry bleach • Liquid laundry detergent • Dishwashing detergent • Household cleaners |

WATER SOFTENERS

If water softeners are present in the home, we recommend the use of water and salt conservative models that are installed and operated correctly.

MAINTENANCE AND USE

EXTENDED MAINTENANCE POLICY

An extended maintenance policy is available for purchase directly from NextGen Septic, LLC. The extended maintenance policy will include the required systems checks, schedule, and adjustments as the initial maintenance policy (Refer to Maintenance Manual).

INSPECTION AND MAINTENANCE FREQUENCY

NextGen Septic systems are to be inspected and maintained every year under normal usage. The inspection and maintenance are only to be performed by personnel trained and authorized by NextGen Septic, LLC. In many states, a Maintenance and Service Report (Form GF-MR-1) is to be completed for each inspection and maintenance visit (refer to Maintenance Manual).

POWER OUTAGE

Should there be a power outage, the NextGen septic system will begin to fill up and will have to be pumped when the alarm light turns on, due to high level in the septic tank. However, typically, this high level will occur after at least 6 hours of power outage.

INTERMITTENT USE

The NextGen septic system is designed to function even if wastewater does not enter it for extended periods of time. However, the electrical power must be available even when the system is not in use. Start-up and shut-down services are also available through your maintenance provider and they are highly recommended for commercial installations.

NEXTGEN SEPTIC MAINTENANCE

A detailed NextGen Septic Maintenance Manual is available from NextGen Septic, LLC as a hard copy or can be accessed through the company website:

www.nextgenseptic.com

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