

LOWeFLOW™-UV Treatment System
Homeowner's Manual
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Manufactured and Marketed by:

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Operating Instructions

The *LOWeFLOW*[™] system has been tested and meets the criteria for a Class I treatment unit under NSF/ANSI 40 protocol. The types of wastes that the *LOWeFLOW*[™] can handle are limited to normal household activities:

- Showers/bathing: soap, hair shampoo and conditioner.
- Laundry: normal laundry chemicals (bleach, detergents, fabric softeners used according to manufacturer's recommendations). Concentrated powdered detergent is recommended.
- Toilet: regular toilet use and wastes.
- Kitchen: food washing, dish and hand washing.

The types of wastes that should not be discharged to the system:

- Excessive body oils, sun tan lotions, and lotions.
- Any substances that have an alternative method of disposal: hair, paper towels, food waste/scrap, tobacco products, drugs (prescription or others), paint, stains, un-used herbicides and pesticides, strong acids or bases, water softener backwash, and pet waste, etc.
- Garbage grinders (disposals) are not recommended.
- No Feminine products.

The system owner must take sufficient care not to over load the system by using too much water. Refraining from disposing of the above listed types of wastes will prevent organically overloading the system. Spreading out the laundry over the week and not attempting to wash all the laundry on one day a week will prevent hydraulic overload. You should never use more than the design flow of your system. The *LF500* is designed for a maximum daily use of 500 gallons.

Proper System Operation:

Proper system operation is evidenced by a number of things you can see or smell.

1. *LOWeFLOW*[™] filter: There should be no odor coming from the top of the filter. The gravel media should be clean and free of any visual signs of sewage on the surface of the media.
2. Treated liquid entering the splitter tee of the recirculating tank should be clear with no odor. It is not uncommon to see very small white thread like solids suspended in the final effluent.
3. Liquid within the recirculation tank will be slightly less clear than the final effluent and have a slight musty smell.
4. Septic tank effluent will be quite cloudy and have a distinct rotten egg smell.
5. Pressures readings on the three pressure gauges in the headworks should all be about the same. The pressure on all gauges should read about 32 psi. Pressure readings before and after the disc filter should be identical. If the values between these first two gauges vary by 1-2 psi or more, the disc filter is plugging and must be manually cleaned.

Solids shall be removed when they have accumulated from 1/3 to 1/2 of the volume of the septic tank. To measure the floating mat layer, cut a hole in the mat with a shovel and extend the shovel under the mat. Pull up on the shovel blade catching the bottom of the mat layer. Hire a professional to measure and report the sludge accumulations. Total accumulation values are the sum of the settled bio-solids and floating scum layers. The recirculation and final discharge tanks shall be pumped when 6" of settled bio-solids have accumulated.

During periods of non-use or power outages, there is no required action. The *LF-500* has a redundant off float switch for the pumping system in the recirculation tank. During periods of non-use, especially during the warmer summer months, evaporation of the recirculated liquid will occur. The redundant off float switch will prevent the liquid level from falling below the level of the pump by cutting power to the pump. Once sewage flow into the system resumes, the redundant off float switch will rise and power the pump again and operation will continue as normal.

There are no low level alarms during low level events and none of the timer settings are changed with power outages or if the power is shut off.

Improper system operation:

Improper operation can be observed by a number of visual and odor indicators.

1. *LOWeFLOW*[™] filter: foul odors coming from the top of the filter. The gravel media has signs of sewage on the surface of the media.
2. Treated liquid entering the splitter tee of the recirculating tank or discharge tank is cloudy with an odor.
3. Liquid within the recirculation tank is cloudy and has a strong musty or foul smell.
4. Pressure values on the three pressure gauges in the headworks have a wide range in value. Pressure readings pre and post disc filter have a large differential.
5. The alarm is sounding and/or the red beacon is illuminated. The alarm will sound for one of three reasons: recirculation pump has failed, discharge pump has failed, or the UV light has failed.

The owner should reference the system data plate located on the control panel door in the event that a problem arises or service is required. If a problem with the system occurs and the name and telephone number of an appropriate service representative are not known, call *Lowridge Onsite Technologies, LLC* for assistance, **1-877-476-8823**.

Warranty and Service Intervals:

Limited Warranty: manufacturer shall warrant all components of their residential wastewater treatment system covered by this standard, to be free from defects in material and workmanship for 2 yrs. from the date of installation. To validate the warranty the owner must have an active operations and maintenance agreement with an authorized service provider.

The start-up and first four (4) inspections are covered in the purchase price of the system. Start-up shall be conducted prior to final back-fill by installer. Routine inspections are to start 6 month after installation is complete and every six (6) month for the first two years. After the initial two years, inspections will be performed once per year. The manufacturer or authorized representative shall make available for purchase by the owner an extended service policy with terms comparable to those in the initial service policy

The owner shall be notified in writing about improper system operations that cannot be remedied at the time of inspection.

Responsibilities of Owner, Service Provider, and Manufacturer

Owner's Responsibilities:

System Owner's Do's and Don'ts

Do:

- Practice water conservation
- Fix all leaking plumbing fixtures
- Maintain a maintenance contract with a *LOWeFLOW*[™] certified service provider
- Divert roof drains and other impervious surface run-off away from system
- Spread out laundry wash throughout the week
- Operate system within the design capacity, 500 gallons per day.
- Follow all of the manufacturer's recommendations.

- Call service provider in the event of a problem. If service provider is not available, call the manufacturer, 1-800-877-8823.

- Contract with a certified pumper to remove solids from tanks when directed by service provider.

- Refer to the data plate on the control panel in case of an alarm or system malfunction.

- Delay the dishwasher on time.

- Minimize the use of household chemicals such as bleach and drain cleaning compounds.

Don't

- Flush anything down toilet other than toilet paper and human waste

- Don't use septic tank additives or strong acids or base solutions
- Don't drive vehicles over system
- Don't tamper with control settings in control panel
- Don't dump any disinfectants, paint products, paint thinners, or any other non-cleaning agents down the drain.
- Don't use a garbage grinder.
- Don't dispose un-used medication into system.

Service Provider's Responsibilities:

The Service Provider must:

- Obtain the necessary training from *Lowridge Onsite Technologies, LLC* or their designee on the proper operation and maintenance practices of the *LOWeFLOW™* system.
- Keep all records of inspection and maintenance activities
- Provide a written report to Owner upon completion of any inspection and/or maintenance activity.
- Provide all inspection and maintenance reports to Lowridge when requested.
- Provide start-up services for systems under contract.
- Notify the owner in writing about improper system operations that cannot be remedied at the time of inspection.

Manufacturers Responsibilities:

The manufacturer is responsible to insure that all service providers have received the appropriate training on operation and maintenance procedures and all service providers and distributors have all instructional materials. During the initial service contract period Lowridge will replace all parts that fail because of defects in workmanship or materials (as long as an authorized *LOWeFLOW™* service provider performs all the prescribed inspections). Cover cost of the first two years of service provider inspections.