

# ***MULTI-FLO***

## **MULTI-FLO WASTEWATER TREATMENT SYSTEMS**

### **OWNER'S MANUAL**

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## **THE MULTI-FLO ONSITE WASTEWATER TREATMENT SYSTEM**

CONGRATULATIONS! You are the owner of a complete wastewater treatment system that combines aeration and filtration in one compact unit. Your system is tested and certified under NSF International, ANSI/NSF Standard 40, as a Class I system. The MULTI-FLO system meets the needs for onsite wastewater treatment beyond the capabilities of septic tanks. Like all onsite wastewater treatment alternatives, your MULTI-FLO unit must be operated and maintained in accordance with the Manufacturer's requirements and service provider's instructions. When properly operated and maintained, your unit will produce an effluent that meets all certification requirements.

### **HOW DOES THE MULTI-FLO OPERATE?**

One of the features of the MULTI-FLO is that the entire treatment process takes place within a single tank. Wastewater flows into the tank. An aerator near the bottom draws air in and disperses it. This process transfers oxygen throughout the system. The oxygen, which is dissolved in the water, provides an environment conducive to the growth of aerobic bacteria. These bacteria effectively consume the organic materials. Consider your MULTI-FLO a living organism and treat it as such.

Another feature is the filter "socks," which are suspended in the tank. The "socks" support additional bacteria and strain all effluent before it leaves the unit. Solids are retained in the system. There is no by-pass for solids.

### **IMPORTANT ITEMS TO REMEMBER**

MULTI-FLO units have an initial break-in period of six-to-eight weeks, during which time bacteria establish themselves in the unit. The development of these biological colonies occur naturally with the addition of sanitary wastes, so we recommend you use all your plumbing facilities in a normal manner from initial start-up. You may notice a tendency for the unit to foam from laundry wastes during this period. This is normal, and it should cease by the sixth week. You can help by using moderate amounts of low-sudsing biodegradable detergents.

MULTI-FLO units are designed to treat typical domestic wastewater. Flows from and materials in garage catch basins, storm water drains, sumps, and the like will adversely affect MULTI-FLO operation. Excessive amounts of cleaners, solvents, paints, greases, etc., will lead to a failure and service calls.

The following of these simple rules will decrease or eliminate maintenance problems and prolong the life and efficiency of your unit.

- Maintain a service agreement with an authorized MULTI-FLO service provider.
- Check that your unit's access lid is securely tightened down.
- Check the alarm by pressing the button to activate the light and buzzer on the audio-visual alarm.
- Call your service provider at the first sign of trouble.

- Follow your service provider's advice. He/she is trained to ensure that your unit operates at its maximum efficiency.
- Use low-sudsing, low phosphate biodegradable detergents.
- Contact your service provider if the system is to be used intermittently or if extended periods of non-use is anticipated.
- Keep un-disposable items out of your system. Some examples include but are not limited to: wet strength paper towels, disposable baby diapers, sanitary napkins, rubber and plastic products, rags, grit, and coffee grounds.
- Avoid discharging a water softener backwash into the system.
- Avoid placing grease into your system. Excessive grease will bind the filter socks.
- Do not pour solvents, paints, etc., into your system. These substances will harm the bacteria and plug the filters.
- Always keep your aerator running unless instructed otherwise by your service provider.
- Do not service the unit yourself. Contact your service provider to maintain your MULTI-FLO unit.

## **ALARM SYSTEM and ALARM CONDITION**

Every MULTI-FLO unit comes equipped with an audio-visual alarm system. This alarm should be mounted in a conspicuous location. If an abnormal condition develops, you will be notified with a light and buzzer. Silence the buzzer by pressing the "silence" button on the alarm. If the light should stay on, call your service provider.

Check your audio-visual alarm periodically by holding the "test" button for approximately 10-to-12 seconds or until the light flashes and the buzzer sounds. Push the "Silence" button. Contact your service provider if your "test" button fails to activate the alarm.

If your alarm goes off, there are several steps you can take to determine the possible nature of the malfunction.

1. Is the alarm activated during a non-flow period, i.e., late at night, early morning? If so, the probable cause is the aerator.
2. Is the alarm activated intermittently while washing clothes or taking a shower? If so, filter failure (1–2 weeks) may be impending.

## **MAINTENANCE PROGRAM**

### **YOUR MULTI-FLO UNIT REQUIRES PERIODIC SERVICING.**

Maintenance of your MULTI-FLO is essential to ensure its proper operation and longevity.

During your initial two-year warranty, an authorized service representative will inspect your unit at six-month intervals and make any necessary adjustments to the system. The only exception is for the replacement of “out of warranty” and “physically abused” parts or abuse to the treatment process. Moreover, this warranty will not cover other treatment and dispersal components and devices, such as pre-tanks, drain fields, pump stations, and the like.

For continued service, your service provider will offer an annual service contract at the end of the warranty. Please contact your service provider for details.

In the event a problem arises or service is required, refer to the unit’s data plate (located on the alarm and access lid) or the service label for instructions on contacting your closest service provider. Occasional pumping is required, due to accumulation of solids. The pumping cost may not be covered under your maintenance and service program. If you need parts or service, please contact the factory for the name of the service provider nearest you.

Your MULTI-FLO system is designed and intended to treat typical domestic wastewater (i.e., human bodily waste and liquid waste generated by the occupants of dwellings). To insure optimum performance and longevity, do not discharge any type of non-residential wastewater or other high-strength waste, including commercial food service waste, without contacting the manufacturer to determine if this will be acceptable without additional treatment.

**IMPORTANT:** MULTI-FLO units must be installed and maintained in compliance with all state and local laws and regulations. This includes compliance with all regulations concerning proper effluent disposal and the pumping and disposal of solids and byproducts pumped from the unit.

**MULTI-FLO WARRANTY DOES NOT COVER THE COST OF SERVICE CALLS, LABOR, OR MATERIALS REQUIRED DUE TO THE FOLLOWING:**

1. Misuse, abuse, or any repair or alteration performed by anyone other than authorized MULTI-FLO personnel
2. Use of components other than authorized MULTI-FLO replacement components.
3. Non-wastewater flows caused by infiltration, storm water connections, leakage from improperly maintained plumbing fixtures, water softener backwash, etc.
4. Failure to maintain electrical power to the treatment system in accordance with the requirements of the Manufacturer or the authorized MULTI-FLO service provider.
5. Disposal into the MULTI-FLO of non-biodegradable materials (i.e., plastics, coffee grounds, etc.) chemicals, solvents, grease, oil, paint, or any other substance, including but not limited to medicines, metals, toxins, volatile substances, and the like that are deleterious to the development and maintenance of the biological treatment process.

6. Short-term or daily wastewater flows to the MULTI-FLO that exceeds the unit's hydraulic or organic design capabilities.
7. Any usage contrary to MULTI-FLO owner's manual and/or the MULTI-FLO representative's recommendations.

### MULTI-FLO MODEL SPECIFICATIONS

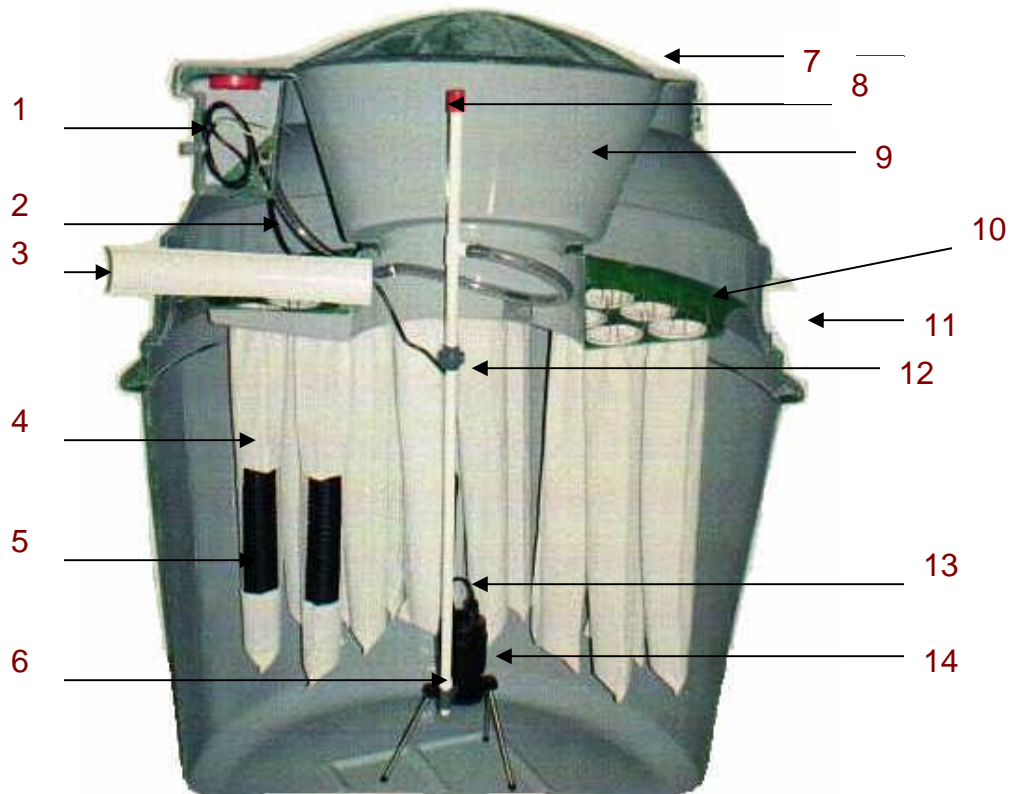
Item	FTB 0.5	FTB 0.6	FTB 0.75	FTB 1.0	FTB 1.5
Treatment (gal/day)	500	600	750	1000	1500
Volume (gal)	500	600	750	1000	1500
CBOD (lb/day)	1.5	1.5	1.5	3.0	4.5
Diameter (in)	63"	71"	71"	78"	135"x63"
Total Height (in)	86"	86"	90 ¾"	93"	86"
Grade to Inlet Invert (in)	17 ¾"	16 ½"	16"	14 ¾"	17 ¾"
Grade to Outlet Invert (in)	19 ¾"	20"	19 ½"	18 ½"	21"
Excavation Depth (in)	74"	74 ½"	81"	81"	76"
No. of Aerators	1	1	1	2	3
No. of Filters	30	30	30	30	60
Shipping Weight (lb)	380	420	450	580	920
Inlet Invert* (in)	58"	58"	62 ½"	68"	58"
Outlet Invert* (in)	54 ¾"	54 ½"	59"	64 ¼"	54 ¾"
* From Bottom of Excavation – See Drawing					

### MULTI-FLO WASTEWATER SYSTEM SPECIFICATIONS

Wastewater Treatment Performance (ANSI/NSF Standard 40 Evaluation)

TEST RESULTS (Mean Results)	INFLUENT (mg/L)	EFFLUENT (mg/L)	REDUCTION (%)
CBOD <sub>5</sub>	150	5	97
TSS	195	5	98

## MULTI-FLO COMPONENTS AND SPECIFICATIONS



Item	Part No.	Description	Qty.
1	A5037	Junction Box & Junction Box Cover	1
2	A9510	Air Tubing from sensor	1
3	A5025	Inlet Pipe	1
4	B5017	Filter	30
5	W49104L	Expander	30
6	A3016	Air Intake Assy.	1
7	A3008	Access Cover Assy.	1
8	A6517	Primary Alarm Sensor Assy.	1
9	A5029	Surge Bowl	1
10	A6002	Spring Ring Retainers	60
11	A5026	Outlet Pipe	1
12	A9516	¾" Union	1
13	A6603-4	Aerator Power Cord	1
14	A10031	Aerator	1

## **WARRANTY**

Consolidated Treatment Systems, Inc., warrants the parts in each aerobic treatment unit to be free from defects in material and workmanship for a period of two (2) years from date of installation for treatment of household wastewater when properly registered with the manufacturer. Consolidated Treatment Systems, Inc., sole obligation under this warranty is as follows: Consolidated Treatment Systems, Inc., shall fulfill this warranty by repairing or exchanging any component part, FOB Factory, that shows evidence of defects, provided said component part has been paid for and is returned through an authorized dealer, transportation prepaid. The warrantee must also notify Consolidated Treatment Systems, Inc., of the defect complained of. There is no informal dispute settlement mechanism available under this LIMITED WARRANTY.

No warranty is made as to the field performance of any unit. This LIMITED WARRANTY applies only to the parts manufactured by Consolidated Treatment Systems, Inc., does not include any portion of the household plumbing, drainage, or installation of disposal system. Components or accessories supplied by Consolidated Treatment Systems, Inc., but manufactured by others, are warranted only to the extent of and by the terms and conditions of the original manufacturer's warranty. In no event shall Consolidated Treatment Systems, Inc., be responsible for delay or damages of any kind or character resulting from, or caused directly or indirectly by, defective components or materials manufactured by others.

Recommendations for special applications will be based on the best available experience of Consolidated Treatment Systems, Inc., and published industry information. Such recommendations do not constitute a warranty of satisfactory performance.

This LIMITED WARRANTY extends to the consumer of the product. As used herein, "consumer" is defined as the purchaser who first uses the unit or the subsequent user(s) for the first 2 years after its initial installation. It is the first user's or servicing dealer's obligation to make known to the subsequent user(s) the terms and conditions of this warranty.

This warranty is a LIMITED WARRANTY and no claim of any nature shall be made against Consolidated Treatment Systems, Inc., unless and until the consumer, or his legal representative, notifies Consolidated Treatment Systems, Inc., in writing of the defect complained of and delivers the product and/or defective part(s), freight prepaid, to the factory or an authorized service station.

Consolidated Treatment Systems, Inc., reserves the right to revise, change, or modify the construction and design of the aerobic treatment units for household wastewater, or any component part or parts thereof, without incurring any obligation to make such changes or modifications in equipment previously sold. Consolidated Treatment Systems, Inc., also reserves the right, in making replacements of component parts under this warranty, to furnish a component part which, in its judgment, is equivalent to the part replaced.

**UNDER NO CIRCUMSTANCES WILL CONSOLIDATED TREATMENT SYSTEMS, INC., BE RESPONSIBLE TO THE WARRANTEE FOR ANY OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOST INCOME, LABOR CHANGES, DELAYS IN PRODUCTION AND/OR IDLE PRODUCTION, WHICH DAMAGES ARE CAUSED BY A DEFECT IN MATERIAL AND/OR WORKMANSHIP IN ITS PRODUCT OR PARTS. 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 IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS, AND OF ANY OTHER OBLIGATION ON THE PART OF CONSOLIDATED TREATMENT SYSTEMS, INC. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIAL LEGAL RIGHTS AND YOU MAY HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.**

## Recommended Prohibitions in an On-Site System

The following is a collaborative effort of wastewater professionals to list items which can cause on-site treatment systems to operate below their potential. These items are known to have caused failures of on-site treatment systems and must be considered if the waste generated by from a particular site will contain them in excessive quantities. Since excessive is a subjective word, it is highly recommended by NOWRA to share these concerns with a Professional Engineer or Designer to identify a treatment strategy for the particular needs.

**Inert Materials:** Plastics, Rubber, Souring Pads, Dental Floss, Cigarette Filters, Bandages, Hair, Mop Strings, Lint, Rags, Cloth and Towels do not degrade in an on-site treatment system. Inert Materials will build up solids, and lead to system malfunction, clogging or increased pump out frequency.

**Paper Products:** Disposable Diapers, Paper Towels, Baby Wipes, Facial Tissues, Moist Toilet Paper are not designed to dissolve in an on-site treatment systems. Excessive Amounts of toilet tissue will not decompose. All can lead to system malfunction, back-up or increased pump out frequency.

**Food Wastes:** Do not put Animal Fats & Bones, Grease, Coffee Grounds, Citrus & Mellon Rinds, Corn Cobs, Egg Shells, down the sink. Garbage disposal use should limited to waste that cannot be scooped out and thrown in the trash. Spoiled Dairy Products and Yeasts from home Brewery or baking may cause excessive growth of microbes that do not degrade sewage.

**Medicines:** Do not flush Baby Wipes, Lotion, Scented or Quilted Toilet tissue, Female Sanitary Products, Cotton balls or swabs, Condoms or expired Medicines/Antibiotics. Septic Tank additives generally do more harm than good. Automatic Disinfection Tablets (blue, clear or otherwise) will kill the organisms needed to consume waste.

**Chemical & Toxins:** Kill the microbes necessary for treatment. Paint, Paint Thinner, Solvents, Volatile Substances, Drain Cleaners, Automatic Fluids, Fuels, Pesticides, Herbicides, Fertilizers, Metals, Disinfectants, Sanitizers, Bleach, Mop water, Excessive use of Household chemicals, and Backwash Water Softener regeneration.

**Laundry Practices:** On-site systems must process the water as it enters the systems. Laundry should be spread out over the week, not all run at one time. Excessive use of Detergents, especially those containing bleach, can affect system performance. Liquid detergents are recommended over powders. Fabric Softener sheets are recommended over liquid softeners. Bleach should be used sparingly and at half the rate indicated on the container.

**Clear Water Waste:** From A/C Discharge lines, Floor Drains, Gutters, Whole House Water Treatment Systems Sump Pumps can increase the flow to your treatment systems. These flows can at least disrupt, if not destroy your treatment process.



## **MULTI-FLO WASTE TREATMENT SYSTEM GENERAL OPERATIONAL TIPS**

**UNIT MUST RUN 24 HOURS PER DAY:** If leaving residence unoccupied for long periods of time, contact your servicing dealer. Timers should not be installed unless specifically authorized by the servicing dealer.

**DETERGENTS:** Low sudsing detergents should be used. If powdered detergents are used, only the concentrated forms are recommended. Filler materials used in the "economy size" containers do not dissolve readily. Below are a few suggestions:

Ultra Cheer with advance color guard powder  
Liquid Tide with bleach alternative  
Ultra ERA liquid  
Arm and Hammer Powder with Bleach  
Lanosoft (available thru your dealer)

**NEVER USE MORE THAN THE MANUFACTURER'S RECOMMENDED AMOUNT OF DETERGENT:** If excessive sudsing or foaming occurs during laundry, reduce the amount of detergent used to 1/2 of the recommended amount.

**BLEACH:** Chlorine bleach should not be used. Oxygen bleaches are recommended. Oxygen bleaches can be used in any form, liquid, powder, or pellets. Most laundry detergents contain sodium perborate or bleach which releases boron as it breaks down. Boron has a bactericidal effect which in excessive quantities could damage your treatment plant so that it is wise to keep bleach levels to a minimum.

**DRAIN CLEANERS:** Non-caustic biodegradable drain and toilet bowl cleaners are recommended when available. **DO NOT USE TOILET BOWL CLEANERS SUCH AS 2000 FLUSHED; OR DRAINE CLEANERS SUCH AS DRANO.**

**GARBAGE DISPOSAL:** Care should be taken not to dispose of grease or fat in the disposal. Food scraps should be scraped into the garbage container and not flushed down the disposal.

**NEVER** flush paper towels, newspapers, wrapping paper, feminine articles, and rags into the system.

**NEVER** allow large, irregular, intermittent or constant volumes of clear water into the system as with a leaking toilet or faucet. Do not allow the water softener waste discharge line to be connected to the aerobic system.

**WASHING MACHINES** are responsible for large volumes of water entering the system all at once. This surge of water can hydraulically overload the unit and interfere with the smooth operation of the system. Space washings throughout the week rather than doing several loads in one day.

**COOKING OILS AND GREASE** are troublemakers. The type of bacteria found in aerobic systems do not live well in solidified grease. **GREASE AND COOKING FATS SHOULD NEVER BE PLACED DOWN ANY DRAINS.**

Under no circumstances should you put any of the following products down the sink, toilets or drains as they will significantly affect the efficiency of your sewage plant: medicines, cooking oil or melted fat, motor oils or other car products, garden chemicals, paints, paint thinners and other solvents.

Please read the owners manual and the conditions of the warranty. Your aerobic system is a biological treatment system designed to achieve a high degree of treatment of domestic sewage. Providing routine maintenance and following the recommendations of the owner's manual and your authorized servicing agent will help insure optimum performance as well eliminate the cost of unnecessary service calls.

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