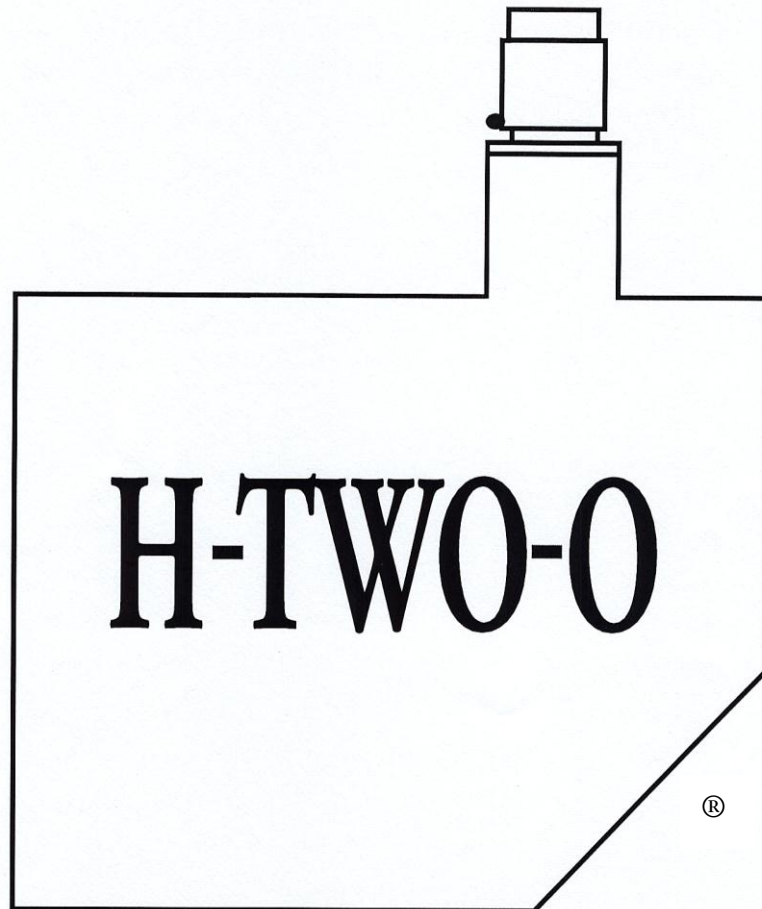


**OWNER'S, OPERATIONAL, AND
MAINTENANCE MANUAL**



**H-TWO-O SERIES 2
WASTEWATER TREATMENT PLANTS
CLASS 1 SYSTEMS
500/600/750/1,000 GALLONS PER DAY**

**CERTIFIED
ANSI/NSF 40**

**DESOTO CONCRETE PRODUCTS, INC.
P.O. BOX 336
OLIVE BRANCH, MS 38654
(662) 890-1688**

HOMEOWNER NOTES

You have purchased an H-TWO-O Series 2 wastewater treatment plant. This treatment plant houses living bacteria which must not be fed the wrong foods. Please familiarize yourself with this manual and pay special attention to the "Treatment Plant Operation" section.

TREATMENT PLANT DATA STICKER

(LOCATED ON AERATOR)

DESOTO CONCRETE PRODUCTS, INC.

P. O. BOX 336

OLIVE BRANCH, MS 38654-0336

(662) 890-1688

MODEL# H-TWO-O SERIES 2 _____

CAPACITY _____ GALLONS PER DAY

CLASS 1 PER ANSI/NSF STANDARD 40

SERIAL NO. _____

FOR SERVICE CALL:

SERVICE PROVIDER INFORMATION

Name: _____

Address: _____

Phone: (O) _____ (M) _____

System location: _____

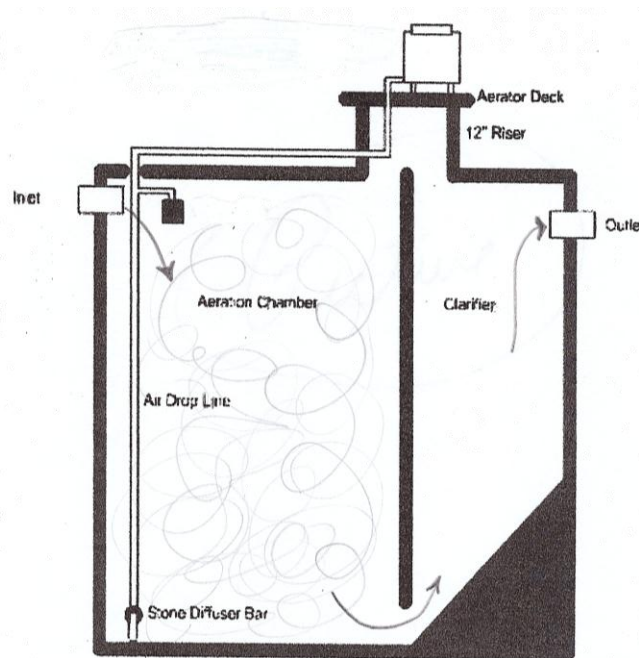
HOW YOUR SYSTEM OPERATES

You have chosen an H-TWO-O Series 2 wastewater treatment system that has been tested and listed under N.S.F. standard 40. When operated properly, this system will treat normal household sewage and turn it into a clear odorless liquid that will meet N.S.F. standard 40 Class 1.

This system utilizes a small air pump (aerator) that pumps air into the aeration chamber in the treatment tank. The air is introduced into the aeration chamber through a fine-air diffuser bar. The balance of air and organic matter in the aeration chamber promotes the growth of aerobic bacteria and other micro-organisms which digest the organic matter in the wastewater.

Upon leaving the aeration chamber, the treated wastewater enters the clarifier chamber. In this chamber, any organic matter left in the treated wastewater settles out and is returned to the aeration chamber via gravity.

From the clarifier, the treated wastewater leaves the treatment plant via the outlet pipe. It is now a clear and odorless liquid which can be safely released into the environment.



TREATMENT PLANT OPERATION

As the homeowner, you will find your H-TWO-O wastewater treatment plant very simple to operate. First, fill out the warranty registration card and mail it to the address shown. Second, make sure that the toggle switch located on the aerator is turned on and air is being supplied to the plant. If the red light on the aerator is on or if you hear a loud buzzing noise, you will need to call your service provider.

The incoming sewage combined with the air being introduced will create an environment in which the bacteria necessary to digest the sewage will thrive. The bacteria will take from four to sixteen weeks to become fully effective. Because the bacteria is a living organism that thrives on normal household sewage, you cannot allow certain materials to enter the plant. Examples of these materials are:

- 1) Strong disinfectants, detergents, or bleaches except as used per manufacturers directions for daily laundry.
- 2) Discharge from water softeners.
- 3) Non-organic items such as condoms, diapers, sanitary napkins, tampons, tobacco products, or large quantities of paper products.
- 4) Coffee grounds, oil, grease, paint, or other chemical waste.
- 5) Garbage disposal discharge should go through a grease trap before entering the plant. This trap should be maintained on a regular basis.
- 6) Laundry done all in one day – space it out over the week.

Normal household cleaning products that **will not** harm the bacteria in the treatment plant are:

Detergents: laundry detergent should be low sudsing, low phosphate, and biodegradable such as Arm and Hammer, Gain, or other comparable products. Use fabric softener dryer sheets instead of the liquid in your wash water.

Cleansers: non-toxic, non-chlorine, and biodegradable products such as baking soda, vinegar, Ivory, Cascade, Comet, or similar products.

As the homeowner you should check the system:

Daily – Make sure the aerator is running and that the alarm system is not activated. Make sure water is not standing on or around the aerator.

Weekly – Check for any offensive odors around the tank or at the discharge point. If offensive odors are found, remove the 12 inch riser cap from the riser on the treatment plant. When you look down into the treatment plant, you will see the top of a concrete wall that divides the aeration chamber from the clarifier chamber (refer to the treatment plant tank drawing in this manual). The mixed liquor (sewage) on the house side of the wall should be full of air bubbles and brown in color. The water on the discharge side of the wall should be dark in color and may have a thin layer of scum on it. The effluent at the discharge pipe should be clear.

If this part of the system appears to be functioning properly, you may have a venting problem at your house or a partially clogged discharge pipe. Make sure the end of the discharge pipe has not become clogged by dirt or other debris. Finally check the area around the aerator and make sure that ants are not building any nests. Damage caused by flooding or by ants is not covered under warranty. If a problem arises with your system that you cannot readily cure, please call your service provider or the factory.

3-6 months – Clean the air filter in the top of the aerator. Be sure to unplug the aerator before cleaning this filter. The frequency of this cleaning will be determined by how much dust and small debris that the filter is exposed to. Be careful when cutting the grass and don't install a dryer vent in close proximity to the aerator.

3-6 years – The treatment plant tank will need to be pumped out by a licensed pumper. The frequency of pumping will be determined by the hydraulic and organic loading of the treatment plant. Use of a garbage disposal will greatly increase pumping frequency. The tank can be pumped out through the 12 inch riser.

INTERMITTENT USE

If the treatment plant is to be used only on weekends or several times monthly, it is best to leave the aerator in the on position.

If the treatment plant will not be used for extended periods of time, it will be best to turn the aerator off. However, the liquids and solids may have to be pumped from the tank. Contact your local dealer or the factory for further guidance.

SAMPLE COLLECTION

Samples should be collected by qualified persons only. Sample temperature, life, and infectious bacteria must be taken into consideration.

To sample the influent, the manway at the front of the tank will need to be removed. To sample the effluent, the manway over the clarifier will have to be removed and a sample taken from the outlet T. However, the best method of sampling the effluent is through a sampling port located outside of the treatment tank and in the discharge pipe. These sampling devices are available commercially or can be homemade.

MODEL DESIGNATIONS

TREATMENT PLANT MODEL	TREATMENT CAPACITY	B.O.D. LBS/ DAY	T.S.S.	P.H.
25	500 G.P.D.	1.25	30 MG/L	6 TO 9
275	750 G.P.D.	1.85	30 MG/L	6 TO 9
2100	1,000 G.P.D.	2.5	30 MG/L	6 TO 9

SERVICE POLICY

Included in the initial purchase price of your system, there is a two year service policy. During this period, the dealer or his authorized representative will check and adjust your system every 6 months (4 visits over the 2 year period) or as necessary to ensure proper operation of the treatment plant and aeration equipment. These checks will include the daily and weekly checks in the homeowner check section and a separate sheet supplied to your service provider which will provide a check-off sheet to visually check the effluent for color, turbidity, scum, and odor (see Illustration D). These checks will be done at no charge. If a problem is found which cannot be corrected immediately, the service provider will notify you in writing as to the nature of the problem and when it will be corrected. The service provider will not be responsible for misuse or abuse to the system. If you feel that you are not receiving the proper service, please feel free to call the factory. Always have your serial number available.

EXTENDED SERVICE POLICY

After your initial two year service policy has expired, an extended service policy equivalent to or that will exceed the original service policy is available through your dealer or his authorized representative. An example of this policy can be found in this manual.

HOW TO IDENTIFY SYSTEM MALFUNCTIONS

If your system should malfunction due to low air pressure to the diffuser stones or a high water condition in the tank, an alarm located at the aerator will sound and a light will illuminate. The system could also malfunction due to inadequate treatment of the wastewater. This malfunction can be detected either visually or by smell. The smell of rotten eggs around the tank or at the discharge point indicates a problem. If the effluent at the discharge point is not clear or contains solids there could also be a problem. In either case, call your local dealer or service provider. In the event that you don't know who your dealer or service provider is, please call the factory at (662) 890-1688. Have your serial number available. This number along with other important information is located on the system data plate on the aerator.

LIMITED WARRANTY

Desoto Concrete Products, Inc. warrants the parts in each of their aerobic treatment systems, to be free from defects in material and workmanship for a period of two years. The company's sole obligation under this warranty is to repair or exchange any component part which it deems defective. All parts must be returned to the factory F.O.B. and through an authorized dealer. The warrantee must specify the nature of the defect.

This warranty does not cover any portion of the household wiring, household plumbing which precedes the treatment system, or any drainage or disposal system which proceeds the treatment system. Further, this warranty does not cover systems that have been flooded by external means, improperly installed, disassembled by unauthorized persons, subjected to external damage, damage due to improper electric wiring, or systems treating other than normal household wastewater.

Desoto Concrete Products, Inc. reserves the right to change or modify the construction or design of the aerobic treatment system or any component parts without incurring any obligations to make such changes or modifications to previously sold systems or equipment. The company may, at its discretion, reserve the right to replace any component part with a part that, in its' judgment, is equivalent to the part being replaced.

Under no circumstances will Desoto Concrete Products, Inc. be responsible to the warrantee for any other direct or consequential damages, including but not limited to lost profits, lost income, labor charges, or delays in production, which damages are caused by a defect in material and/or workmanship in its' parts.

This warranty is expressly in lieu of another expressed or implied warranty, excluding any warranty of merchantability or fitness, and of any other obligations on the part of Desoto Concrete Products, Inc.

WARRANTY REGISTRATION

HOMEOWNER'S COPY – Please retain for your records.

Serial No: _____	Model No: _____
Date of Installation: _____	
Purchaser's Name: _____	
Street Address: _____	
City: _____	State: _____ Zip: _____
Dealer's Name: _____	
Address: _____	
City: _____	State: _____ Zip: _____

WARRANTY REGISTRATION CERTIFICATION

COMPLETE CERTIFICATE, DETACH AND MAIL TO THE FOLLOWING ADDRESS WITHIN **30 DAYS** OF PURCHASE.

DESOTO CONCRETE PRODUCTS, INC.
H-TWO-O WASTEWATER TREATMENT PLANTS
P. O. BOX 336
OLIVE BRANCH, MS 38654

Serial No: _____	Model No: _____
Date of Installation: _____	
Purchaser's Name: _____	
Street Address: _____	
City: _____	State: _____ Zip: _____
Dealer's Name: _____	
Address: _____	
City: _____	State: _____ Zip: _____

PLACE
STAMP
HERE

DESOTO CONCRETE PRODUCTS, INC.
P. O. BOX 336
OLIVE BRANCH, MS 38654

HOMEOWNER NOTES

SYSTEM LAYOUT