

System O))^{MD}

USER'S GUIDE AND GOOD PRACTICES

Version: System O)) basic secondary treatment

Congratulations, new owner of a System O))! You have chosen an autonomous and passive sanitation system that offers a purification performance that surpasses the established norms and standards. In order to ensure its proper functioning and longevity, you must follow a set of instructions and good practices. **A well-designed, properly installed, operated and maintained System O)) solution will have an optimized life span while ensuring environmental protection.**

This document outlines your key obligations, the actions you must take, and behaviors you must adopt or avoid as an owner and user. Please note that it is the owner's responsibility to ensure that the system is used properly and within its intended capacity. Your system must be designed by an engineer and installed by a DBO International certified installer or authorized distributor.

Please contact our customer service department if additional information is required. Here are the contact details to reach us:

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Important safety instructions

It is extremely dangerous and even potentially fatal to enter a septic tank, a collecting station, or any confined space that is part of a wastewater treatment system. This task must be performed by a person trained in confined space work and rescue procedures and equipped with the proper equipment.

The action of bacteria on organic matter in wastewater results in the production of gases, such as carbon dioxide (CO₂), methane (CH₄) and hydrogen sulfide (H₂S). The H₂S present in the septic tank or in a lift station can cause unconsciousness and death in a matter of minutes. Therefore, this task must be performed by a competent person.

Pipes and electrical cables may be buried near your septic system. Please contact your installer or DBO International's technical department to take the necessary precautions before digging or excavating in the vicinity of your septic system.

Please ensure that the covers of the septic tank, lift station, manholes, piezometers and sampling device are always in place and remain accessible at all times to facilitate periodical inspections and interventions when required (e.g. septic tank pumping).



Instructions for use

Volume of wastewater

Large amounts of water leaving the home or building and entering a septic system in a short period of time have a negative impact on treatment efficiency and waste water infiltration seepage. A large amounts of water will cause agitation in the septic tank. A certain amount of sludge or scum may be resuspended in the water and then carried to the Advanced Enviro))Septic pipes and the infiltration bed. Therefore, the frequency of this phenomenon should be minimized.

You must ensure that the volume of wastewater discharged to the septic tank and the System O)) is reasonable in relation to the total expected daily flow.

If the purpose of the residence or building changes from what it was when the system was built, be sure to contact a qualified person to ensure that your septic system has the required capacity to treat and infiltrate the pollutant loads and wastewater volumes that will be generated.

In the bathroom

You must:

- Repair any leaking faucets or toilets as soon as possible;
- Use a reasonable amount of toilet paper;
- Use ecologically friendly cleaning products.

You should not:

- Use a toilet bowl sanitizer tablet, whether it is placed in the toilet bowl or in the tank;
- Flush cigarette butts or medicine down the toilet;
- Dispose of tissues, paper towels or other personal hygiene products down the drains.

In the kitchen

You must:

- Repair any leaking faucet immediately;
- Use low phosphate (0-5%) dishwashing soap;
- Use only the amount of soap required to do the job. Note that the amount required is often less than the amount suggested by the manufacturer;
- Use ecologically friendly cleaning products.

You should not:

- Use a food waste disposer that is connected to your septic system;
- Dispose of vegetables, meats, fats, oils, coffee beans or any other product not previously assimilated directly into your septic system.

For laundry

It is recommended:

- Use phosphate-free laundry soap. Preferably, use liquid soap or, if this is not possible, quickly biodegradable powdered soap;
- Use only the amount of soap required to do the job. Note that the amount required is often less than the amount suggested by the manufacturer;
- Minimize the volume of water used for washing as much as possible according to the quantity of clothes to be washed;
- Spread the wash loads out over the week rather than doing all the washing on the same day;
- Use eco-friendly cleaning products.

Elsewhere, in and around the residence or building

You must:

- Keep drainage water away from the Advanced Enviro))Septic pipes;
- Always use environmentally friendly cleaning products.

You should not:

- Connect the outlet of a water softener (used for cleaning cycles) to the septic system;
- Connect the outlet of any other type of drinking water treatment device without the approval of DBO International or the authorized distributor;
- Connect the outlets of pool filters, whirlpools or other devices that discharge chlorine-treated water to the septic system;
- Connect to the septic system the outlet of the gutters, drainage pipes or sump pump;
- Dispose of solvents, paints, antifreeze, motor oil, floor wax, carpet cleaner, drain cleaners or other toxic or flammable products into the septic system. Also, do not allow brush or roller washing water from latex paint applications to enter the septic system (latex paint contains elements that are harmful to the septic system);
- Dispose of pet litter, tea bags, coffee grounds, eggshells, cigarette butts, paper towels, condoms, diapers or sanitary napkins into the septic system;

Chemicals for septic systems

The System O)) does not require any chemical starters or cleaners or any other additives. The bacteria that perform the treatment are naturally present in the wastewater of an unserviced residence or building. Any chemicals or additives added to the system may interfere with the proper functioning of the bacteria.

Ventilation

Proper ventilation is essential for the septic system to function properly. The vent(s) installed at the ends of the treatment system will help provide this ventilation. It is important to ensure that the opening is not obstructed and that air can circulate freely at all times. Air enters through the vent, travels through the rows of pipes and the septic tank, and then exits through the plumbing in the home or building and the roof vent.

The owner must ensure that a roof vent is provided and that the vent is kept unobstructed at all times. Where a pumping station is used, a diversion line or vent must be added to ensure the vented system.

Motorized traffic and heavy vehicles

No heavy vehicles should pass over a septic system, either before, during or after its construction. The effectiveness in draining wastewater into the soil, depends on the presence of natural, uncompacted, water unsaturated soil conditions. The passage of heavy vehicles seals the natural pores of the soil, reducing its permeability and promoting water accumulation.

Vegetation

The surface of the treatment system should be covered with herbaceous vegetation. This vegetation cover should be mowed regularly to stimulate regrowth without the use of fertilizers. The vegetative cover contributes to the elimination of nitrogen and phosphorus.

However, trees or other plants with invasive roots should not be planted in the vicinity of the treatment system (minimum distance of 2 metres).

Owner's responsibilities

The owner is responsible:

- To use its System O)) according to the instructions presented in this user's guide;
- To have the septic tank drained when the total thickness of sludge and scum exceeds 40% of the height of the liquid in the tank or according to the current local regulations;
- To have the prefilter, lift station, low pressure distribution system or ratchet valve serviced according to the manufacturer's instructions and recorded in a maintenance log (if a part of the system);
- To ensure the vent opening is always unobstructed;
- To provide access to the System O)) (covers of piezometers, samplers, distribution boxes and vents) at all times;
- To comply with the requirements of applicable laws and regulations, including compliance with system discharge standards and any environmental disposal;
- To periodically check the water level in the piezometers (see water level measurement procedure) or have this work done by a qualified person.
- To replace the components that might have been damaged (piezometer cap, distribution box cover, ventilation, etc...)

Additives for septic tanks

DBO International does not recommend the use of additives. In fact, studies indicate that the use of additives does not prevent the accumulation of sludge. Their use does not exempt the owner from emptying the sludge from the septic tank serving the residence or building. In addition, some types of additives promote the solubilization of fats, while others interfere with the settling of solids. Fats and solids that are not intercepted in the septic tank are carried by the water to the other components of the septic system, which can affect their performance and life span. Bacteria added to the septic tank can also destroy the bacteria already present in the domestic wastewater, reducing the efficiency of the septic tank.

Drains

It is important to remember that only domestic wastewater should be canalized to the septic tank. Gutters and foundation drains should not be connected to your septic system. If they are, it is important to disconnect them so as not to overstress your septic system.

If a floor drain in a residential garage is connected to the septic system, it is important not to discharge large quantities of water into it (beware of the large volume of water generated by car washing). It is also important to avoid disposal

down the residential garage drain of products that could affect the septic installation, such as fuel, oil, solvents, antifreeze, paint, pesticides or fertilizers.

Precautions to be taken above the septic system

In order to keep your septic system running smoothly and to avoid breakage, certain precautions can be taken outside the isolated residence or building. Some of these precautions are designed to prevent soil compaction or to maintain a good oxygen supply to the treatment system.

Above your septic system, it is important not to :

- Construct or build a pool, patio, shed, parking lot or any other structure without first consulting DBO International or its authorized distributor;
- Dig;
- Backfill;
- Plant trees (their roots could obstruct the System O)) and impede the water flow).

To help your septic system function properly, you should:

- Divert runoff (gutters, slopes, etc.) away from your septic system so as not to overload it;
- In countries where snow is present, leave the snow cover in place as a natural insulator for your septic system. However, it is important not to compact the snow in order to maintain maximum ventilation;
- Leave a vegetation cover (type of vegetation whose roots will not obstruct the pipes).

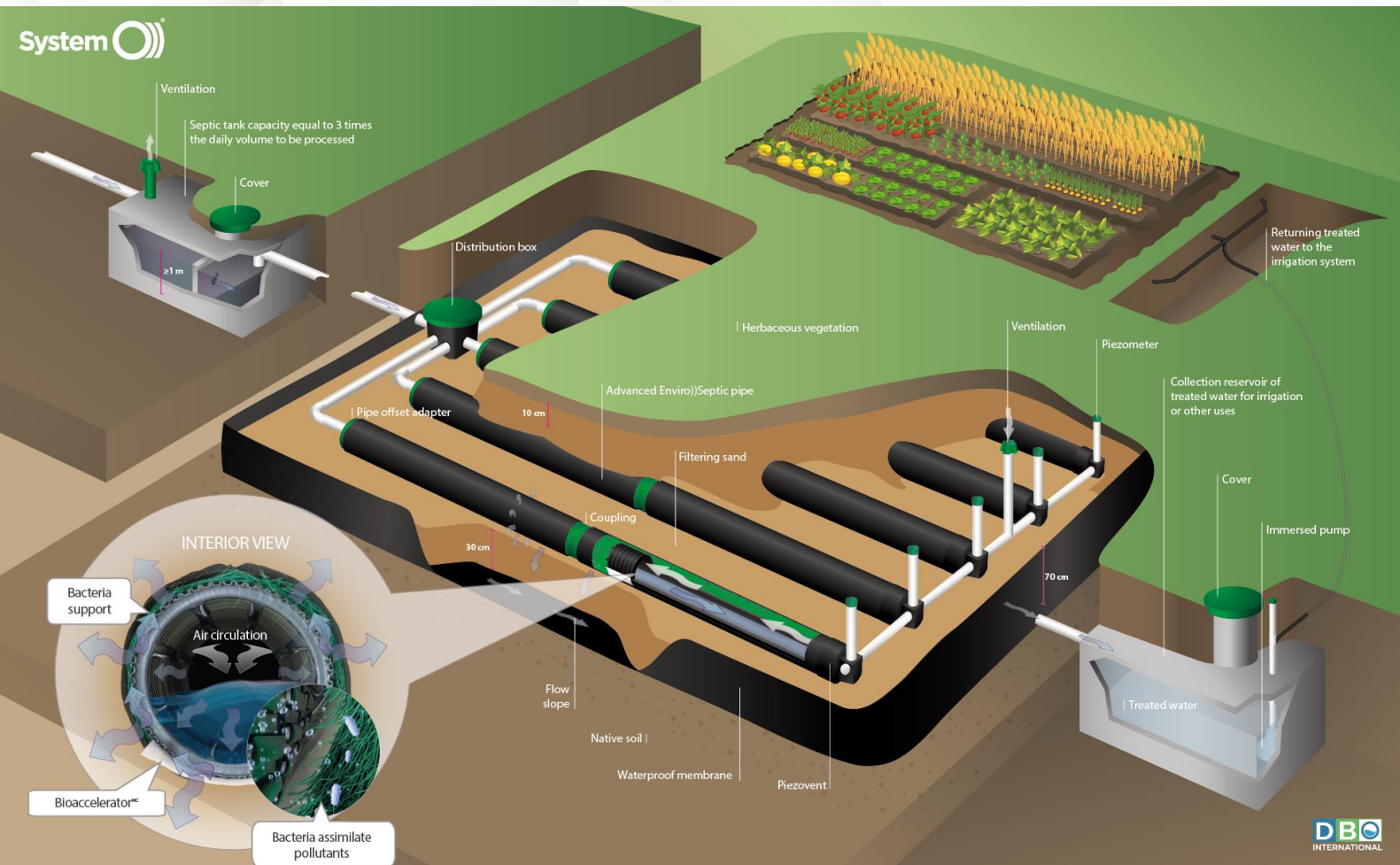
If, during the normal use of the treatment system, any of the following phenomena are observed:

- Presence of abnormal odours in the residence or building, around the septic system or from drinking water sources
- Unusual wet soil, persistent puddles, or odor around the septic tank or System O)) location);
- Backflow into toilets or other sanitary facilities in the residence or building;
- Presence of abnormally abundant vegetation on the surface and around the septic tank or System O));
- Flooding of the land where the System O)) is installed;
- Erosion of the embankments above or around the System O));
- Pumping station alarm goes off, if such a device was added to the installation...

...immediately contact your installer, or the customer service department of the DBO International distributor.

Know the different components of System O))

Here is a diagram of a basic drained secondary treatment with discharge to a garden



Manhole covers and equalizers

Under normal use, the septic system distribution box does not require adjustment. The initial adjustment and the self-leveling (natural adjustment) capacity of the equalizers combine to maintain a good water distribution to the Advanced Enviro)Septic pipe rows. However, a variation of more than 100 mm in the piezometers between the lowest and highest water levels during two consecutive measurements indicates that the equalizers should be adjusted. A qualified person must then make the adjustment.

If an adjustment is required, the technician should perform the following corrections:

- Loosen and remove the distribution box cover;
- Remove the equalizers from the distribution pipes and wash them with plenty of water to remove any silt build-up;
- Remove any sludge that may have accumulated in the bottom and walls of the distribution box;

- Replace the equalizers located over the openings of the distribution pipes so that the adjustment knob is at the top;
- Turn the adjustment knob on each equalizer clockwise until the mobile weir plates are in the highest position;
- Add enough water inside the box until water flows through the equalizers;
- Once the water level has stabilized, using the water level as a reference, determine which opening is the lowest;
- Turn the knob on each of the other equalizers so that all openings are level with the lowest outlet;
- Complete the adjustment by slowly adding water to ensure that all apertures are leveled;
- Repeat these steps once or twice until you have achieved the correct distribution level for all equalizers.

Advanced Enviro))Septic pipe

Under normal use, Advanced Enviro))Septic pipe rows do not require maintenance.

It is normal to find some fluctuation in the water level inside the pipes. If, however, the water level reaches 260 mm, a regeneration of the System O)) must be considered. This procedure must be performed by a qualified person.

Piezometers

There is no maintenance required on the piezometers. However, it is important to ensure that the covers are in place at all times.

Ventilation (vent)

The vent requires no maintenance. However, the owner must ensure that nothing interferes with the airflow. In countries where snow is present, the vent opening must be high enough so that snow does not block the airflow. There must also be, at all times, a difference of 3 meters minimum between the inlet vent located at the end of the System O)) and the exit vent usually located on the roof.

If a shorter vent is used, it must be replaced with the longer vent at the change of season to prevent snow build-up from blocking the airflow.

Filtering sand

There is no maintenance to be done on the filtered sand during normal use of the System O)).

Surface of the fill above the System O))

The filling surface above the System O)) should be covered with herbaceous vegetation. A slight slope should be given to the surface to encourage stormwater running away from the system. The vegetation cover must be cut regularly. Finally, any depressions that may develop over time should be filled in, to prevent water from accumulating above the system and to control erosion.

If any deep-rooted plants become established on the treatment system, they must be removed as they could damage the system.



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