Why to install 48 + years old *Round Reinforced Cement Concrete Pipe* Septic Tank or Brick made rectangular Tank when *LumBriko Toilet – The Breathing BioMachine*™ and BioFurnaX i-SeptoSys™ is available with ecoClean SeptoFil Effluent Filtration System?

सैप्टिक टैंक | सोक पिट

ecoClean SeptoFil Filtration Kit

सैप्टिक टैंक टेक्नोलॉजी अब बदल गयी है
सैप्टिक टैंक नहीं बायो फर्नेक्स ही सही है

BioFurnaX i-SeptoSys – जिसे कभी साफ नही करना पडता ™

RetainSol Device Inside | *ZerOxy AutoMesh Treatment*

==========

We have a rich experience of 18 + years in the field of Advanced Readymade Septic Tank installation called *BioFurnaX i-SeptoSys*™, *e-XtrAge* Soak Pit Construction, Lumbriko Toilet – Breathing BioMachine, e-BioRobiX Treatment System called Mini Sewage Treatment Plant (MSTP), *Sewer Treatment Plant*, Effluent Treatment Plant installation and *Rainwater Harvesting System.*

Technological advancement is not all about repackaging the existing products or services but it is adding value to it by using scientific and innovative features for benefit of the customers. We have done exactly the same and innovated LumBriko Toilet – The Breathing BioMachine™ and BioFurnaX i-SeptoSys™, an Advanced Anaerobic Sewer Treatment Plant.

Er P K Gupta – Innovator

Er Pravesh K Gupta

227 – Neelkanth Arcade, 43 – Rajpur Road,
Opposite St Joseph Academy
Dehradun – Uttarakhand, India – 248001
9758828989, 9058002121

www.SepticTank.in | www.TozaIndia.com

BioFurnaX i-SeptoSys™, an Advanced Readymade Sewer Treatment System

In India, wherever sewer lines do not exist, many domestic and commercial onsite sewer disposal methods are being used nowadays in India such as three Chamber brick made Sewer System or Round- shaped RCC pipe Sewer System under different trade names. When we talk about Precast or **Readymade Septic Tank** or RCC pipe precast Septic Tank, the most common shape that comes in the mind is the 'Circular one'. And the Circular-shape Readymade Septic Tank was developed long ago in 1970 and it is being widely used by many people, as the design is in public domain. Everyone knows that we live in a technological era and the technology has been changing very fast, so the human excreta disposal techniques created on or before 1970 have become almost obsolete now, hence **Toza India Pvt Enterprise** has improved the Septic Tank design as per the recommendations made by CBRI, Roorkee in 1995. Toza India has innovated and has been installing **BioFurnaX i-SeptoSys™** or EmptiNil BioFurnaX since 2000 in Dehradun and its nearby areas like Delhi NCR etc. It's an intelligent and eco-friendly Sewer Disposal System, generally called Advance Readymade Septic Tank. As per our client need and site conditions, we install three types of sewer disposal systems:-

A} BioFurnaX i-SeptoSys™ – Anaerobic Advance Readymade Septic Tank designed by **Toza India** has *ZerOxy AutoMesh Treatment* Technology, *RetainSol Device Inside* to retain solid particle in chambers, *ecoClean SeptoFil* Sewer Filtration System and *e-SurfaXX* for bacteria preservation and growth. We have innovated this design and improved its efficiency by increasing travel path of Septic Tank effluent and retention time of sewage. This Advanced Anaerobic Readymade Septic Tank called *BioFurnaX i-SeptoSys or EmptiNil BioFurnaX* may work better with *e-XtrAge* multi Soak Pit system generally called soakage well, seepage pit or drain field.

07 Features and Benefits of BioFurnaX i-SeptoSys™ that old fashioned Septic Tank doesn't have:-

1 – *RetainSol Device Inside* to retain solid particles.
2 – All components are Pre-casted so it takes little time to install them.
3 – It is based on *ZerOxy AutoMesh Treatment* Technology.
4 – *ecoClean SeptoFil* Sewer Filtration has been installed.
5 – Can be converted into **Mini Sewage Treatment Plant** easily.
6 – Install once and forget as Sludge is not accumulated inside Tank.
7 - *BioFurnaX i-SeptoSys* works better with multi *soak pit* system.

B} e-XtrAge Soak Pit System – This *e-XtrAge Soak well* or Seepage Pit developed by us absorbs more wastewater within same space, it's design is simple, cost effective, needs minimal maintenance apart from being long lasting. We utilize same space for sewer absorption many times alternatively so clogging may be delayed, provided if you choose right design. These soak pits do not need any electric power or aeration pump. You may save lot of time, money and energy if you chose to have this ***e-XtrAge Soak Pit*** in your premises. Being leading sanitation contractor and Readymade Septic Tank Construction Company in Uttarakhand - India; septic tank and soak pits as per our designs are being majorly installed in area, especially in Uttarakhand and Delhi.

C} e-BioRobiX Sewer System – These are Aerobic Treatment Systems and they use aerobic bacteria for sewer treatment, we call them *e-BioRobiX Sewer System* or **Mini Sewage Treatment Plant** (**MSTP**). They are similar to Anaerobic Septic System but they use aerobic process for digestion rather than just the anaerobic process. It is especially useful where space is limited and soil absorbing capacity is very low or say, a better effluent quality is needed. This technology may be useful for failed Septic Tank Restoration. Electricity is required to operate aerators.

BioFurnaX i-SeptoSys – जिसे कभी साफ नही करना पडता ™

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9758828989, 9058002121

Working Methodology

How BioFurnaX i-SeptoSys works: - BioFurnaX i-SeptoSys™ or EmptiNil BioFurnaX non electric or low energy consumption Treatment system is advanced Septic Tank that has three chambers and one filtration compartment. The first chamber acts as sewer settling tank, second one acts as ZerOxy AutoMesh Treatment Tank, Third chamber act as clarifier and final Tank works as filtration chamber. There is a *RetainSol Device Inside* to retain solid particle in chambers for better effluent quality. About working methodology it was postulated by Innovator, Er P K Gupta that the human excreta entering in settling tank from toilets floats over the water surface at first because of oil and fat mixed within and gradually it tries to settle down towards bottom of first settling chamber. Here excreta decomposes by anaerobic bacteria naturally; however we do seeding (adding bacteria externally to enhance this process) for enhancing bacterial decomposition process.

In this first settling tank the existing human excreta is topped by fresh excreta intake entering every day from source. This continuously accumulating night soil inside first tank start rotting / putrefying by anaerobic bacteria present at bottom of chamber. The gas produced by bacterial action and entrapped in the particles of human excreta reduces their size, divided into small particles and weight and force these broken solids to rise up throughout the water till the pressure of gas entrapped in the particle is equal to the pressure of water (Hydrostatic Pressure). But due to momentum of moving particle is rises slightly above and the pressure of gas become more than hydrostatic pressure, thereby resulting in the exploding of particles into smaller once. These smaller particles being heavier than water, again moving down and try to settle at bottom and further decomposes by anaerobic bacteria present in sewer. It's a continuous process and goes on till entire night soils gets decomposed.

These are three zones in settling tank, the top is scum layer contains fresh excreta with oil and fat, at bottom there is sludge layer where anaerobic bacteria is present and middle is clear zone. The treated effluent as per above process from this clear zone are syphoned by gravity to next chamber called ZerOxy AutoMesh Treatment Tank. Special piping arrangement inside this second tank allows partially treated sewer to form sludge mesh automatically to treat effluent further and solids remain in the chamber. Further treated effluent by up flow anaerobic sludge blanket method syphoned to the third tank for making it clearer.

The filtration tank filters effluent by enhancing travel path of effluent by installing interconnecting pipes in such a fashion that it produce clearer effluent compare to conventional Septic Tank. The gas so produces are allowed to escape through vent pipes. The effluent coming from filtration tank is quite clean with very low turbidity and foul smell. This final effluent may be directed to Breathing BioMachine for secondary treatment where earthworm do the job or multi soak pit system for better results or can be treated aerobically for drain discharge purpose. Filtered water through Breathing BioMachine may be reused for irrigation, gardening or any other purpose except drinking. BioFurnaX i-SeptoSys may be suitable from 25 people to hundreds of people.

Client List

Graphic Era University, Dehradun
Hotel Madhuban, Dehradun
Hotel Him Place, Dehradun
Doon Valley Public School, Dehradun
Indian Public School, Dehradun
Hope Town School Selaqui
Pashupati Real Estate, Dehradun
Trafalgar Housing Society, Dehradun
Steel Factory, Sikundrabad
Eminent Heights Housing Project
Bansal Associates, Delhi
Sahani Builders, Dehradun
Pacific Hotel Dehradun
Osho Resorts, Dehradun
Uttaranchal College of Technology and Biomedical
Bajaj Hostel, Dehradun
Asian School, Dehradun
Varun Constructions, Dehradun
Swift Life Science Pvt Ltd
Kalahari Retails, Dehradun
S D Constructions, Delhi
1000s of home owners …

Comparison between Conventional Septic Tank and BioFurnaX i-SeptoSys™

Conventional Septic Tank	BioFurnaX i-SeptoSys™
Has 01 to 05 chambers of Brick, Cement or plastic	It has Settling Chamber, Auxiliary, Clarifier and filtration
Plenty of land and manpower is needed	Takes very little space due to its compact design
It cannot be shifted from one place to another	Shifting from one place to another is possible
It takes 15 to 20 days for septic tank construction	Takes very little time compare to conventional design
Cost is high considering space & benefits	Cost wise it is reasonable considering the features
Capacity can't be increased if needed	Capacity can be increased by adding extra chambers
Re-cleaning is compulsory after few years of use	No Need to Re-Clean as It is completely AutoClean
People avoid its construction due to limitations	Getting popularity because of its unique Engineering
Because of its masonry; leakage is possible	Very strong and heavy due to its RCC structure
Construction is impossible in high water table	Can be installed almost in any soil conditions
May damage house if constructed near building	No damage to building foundation
Designed and developed before 1970	Developed as per latest technological pattern
Particles may travel from one to another chamber	RetainSol Inside stops solid particles
Filtration arrangement has not been attached	ecoClean SeptoFil kit fitted for sewage filtration
Up flow Sludge blanket Technology is absent	ZerOxy AutoMesh Technology has been adopted
Round RCC pipe made Septic Tank was developed by Mr Balram Singh and promoted as Shankar Septic Tank; tested by CBRI - Roorkee & found setbacks as follows:-	BioFurnaX i-SeptoSys™ is based on latest trend & technology and following advancements have been made to enhance its efficiency:-
A. Modification is needed in outlet connection	**A. Outlet has been modified as per advice**
B. No Arrangements for stopping of particle	**B. Arrangement is present for solid retention**
C. Up flow filtration should be used for treatment	**C. Filtration arrangement has been attached**
D. Septic Tank volume to be modified	**D. Has sufficient water volume**
E. Retention time is less as volume is less	**E. Retention time is sufficient**

Our Other Services

LumBriko Toilet – The Breathing BioMachine™ – It is a precise, naturally scientific, environmentally suitable and eco-friendly alternative of septic Tank. If one is thinking about alternatives of septic Tank in India he must consider this innovation called LumBriko Toilet – The Breathing BioMachine™ innovated by Toza India Pvt Enterprise, Dehradun after reviewing hundreds of research papers published by environmental Scientists around the globe. The Breathing BioMachine™ treats human excreta without electricity or with low energy consumption. It is an eco-friendly and efficient sewer treatment system and has advantages over all available conventional sewage treatment systems as other available systems are highly energy demanding, need skilled operators and costly to install. More than 80% of water used by communities proceeds as wastewater and conventional treatment methods generates sludge that need safe disposal at additional cost and under designed septic tanks or other treatment systems create pollution and contaminate underground water table. Specially selected EcoHarra – The Sewer Soldiers generally called earthworms act as Environmental Engineers and finish raw excreta naturally.

Advantages of LumBriko Toilet – The Breathing BioMachine™:-

A] – An eco-friendly biological & natural Sewer Treatment system
B] – Easy to install and any layman can operate the LumBriko
C] – Suitable for any soil conditions let it be high water table
D] – Environmentally safe alternative of conventional Septic Tank
E] – Suspended solids are eaten by EcoHarra inside LumBriko
F] – Creates aerobic environment without aeration pumps
G] – Removes chemicals and Pathogens from treated effluent
H] – Effluent become nutritive rich and fit for irrigation
G] – Desludging not required as it converts sludge into useful compost
J] – It produce clean and odour free water for reuse.

The Breathing BioMachine™ works as a Biological Filter and as per research papers and study conducted by scientists, earthworms have been found to remove the 5 days biological oxygen demand (BOD5) by over 90 %, chemical oxygen demand (COD) by 80-90 %, total dissolved solids (TDS) by 90-92 % and the total suspended solids (TSS) by 90-95 % from wastewater by the general mechanism of ingestion and biodegradation of organic wastes and also by their absorption through body walls. Worms double their population every 60-70 days, the process becomes faster with time. Given the optimum conditions of temperature (20-30 °C) and moisture (60-70 %), about 5 kg of worms (numbering approx.10, 000) can process 01 ton of waste into vermicomposting in just 30 days. EcoHarra – The Sewer Soldiers earthworms can physically handle a wide variety of organic wastes from both domestic and commercial and industrial waste. Earthworms promotes the growth of beneficial decomposer aerobic bacteria in waste biomass and also act as an aerator, grinder, crusher, chemical degrader and a biological stimulator. Earthworms hosts millions of decomposer microbes in their gut. The Breathing BioMachine™ is based on workable expertise which is economically practical, ecologically sustainable and publically suitable to manage most organic wastes like human excreta and able to treat wastewater naturally generated by society.

Toza India Pvt Enterprise – Dehradun (Uttarakhand, India) is interested in promoting innovation like LumBriko Toilet, The Breathing BioMachine™ that can offer environmentally safe alternative of conventional Septic Tank and have full capacity to change the way we experience the world. We are keen for working on the combinations of technologies which are self-promoted, self-regulated, self-improved & self-enhanced, low or no-energy requiring zero-waste technologies, easy to construct, operate and maintain. By promoting the use of earthworms in industrial and domestic wastewater treatment we are also providing them a habitat to grow and populate. They excel all bio-conversion, bio-degradation & bio production technologies by the fact that they can utilize organics that otherwise cannot be utilized by others. EcoHarra – The Sewer Soldiers generally called Eisenia Fetida earthworms have over 600 million years of experience as environmental engineers. The world knew about their role as waste & soil engineers and plant growth promoters for long time. We adopt the technologies that can together maintain the global human sustainability cycle and circular economy by using natural science to produce valuable compost from excreta for the society again. Vermi compost can replace the chemical fertilizers for production of safe organic foods which has now been proved worldwide. It will be a great step towards achieving global social, economic and environmental sustainability. We welcome people from various background on our Board for promoting the sustainable society.

e-FertiboX Compost Toilets – People may use this as septic Tank alternative. Human excreta as a compost or fertiliser from waste matter have been used since thousands of years but with latest treatment processes like **e-FertiboX**, this is now safer, fast and eco-friendly according to our own research. To save our environmental assets like water, soil and air; it is now necessary to treat night soil in a proper manner and composting human waste sometimes known as humanure is best economical option. The topic of human excreta composting is highly debatable but most environmentalist agree that converting human waste as compost is good idea. We, too believe that human waste composting can be effective, but only when it is done according to scientific practise and with strict safety guidelines.

We teach people how to make compost from excreta easily by using our **e-FertiboX** composting system. Actually, old fashioned septic tank may be unsafe because of poor design and weak performance and they may pollute our resources like soil or ground water and poor sanitation practices may contaminate surface water too, in urban and rural areas. Improper design and wrong sewer treatment practices can cause water borne disease like diarrhoea etc and infect soil and drinking wells. If we mix compost made by human excreta into soil it enhance reproductive capacity of soil and stop depleting soil. The origin of human waste is the earth and if all human waste will ultimately be converted properly into fertilizer and send back into the earth then resulting compost can be safely used to replace the nutrients in soil. Compost made by excreta may help to aerate the soil microorganism, retain their moisture, helps to increase soil capacity. We use EcoHarra Sewer solders that are Eisenia Fetida worms to convert into compost.

Rainwater Harvesting:- We take pride to introduce ourselves as a company involved in construction works based on technologies/work methods aiming to 'saving environment'. As we go along with our works, we make people to realize and appreciate the importance of clean water needs and how by re-using the fresh water or by harvesting rainwater, many benefits can be realized. The benefit of rainwater harvesting is that it is quite a flexible system based on the type of need and size of the system and can be realized by installing simple technology and can go up to real advanced technologies. However, the major benefit is that it is a sustainable water management method which anyone can implement and at any level based on his/her needs. One has to think about how much water he/she needs to cater to some of non-critical requirements or for total needs by using water from rainwater harvesting. Moreover, rainwater harvesting system could be just storing rain water in an underground tank for your personal and limited use or it could be a full-fledged system having bore wells, piping work and so on which may connect to an irrigation system and providing water supply to a colony in off season hot days when govt. supply water is reduced. We keep hearing in government advertisements that "Water is Precious", "Save Water", "Jal hai to Kal hai"… This is real and if we do not wake up now, it might be very late… Have you ever thought that one should not use clean water for watering gardens, for washing cars and so many other non-essential uses which do not need clean water. If we want to do our duty towards the nation and want to keep our consciences clear, rainwater harvesting is the right answer for such water uses. Govt supplied water is expensive not only for our pockets but for natural resources such as River, reservoirs etc… Hence to reduce our dependence on this water, we must use rainwater harvesting systems to cater to our water needs either partially or fully as practical or economic. Overall, **rainwater harvesting** is a practice which instils confidence and satisfaction in us that we are doing our duty to safeguard environment, natural resources, society and the icing on the cake is that we are promoting self-sufficiency and better economy.

Sewage Treatment Plant: - To save our resources like rivers, ponds, other water bodies and soil; it is now necessary to treat sewer properly; produced by housing societies, hotels, school, college, and other commercial buildings, manufacturing plants and industries. **Toza India** install Sewage Treatment plant and Effluent Treatment plant to treat waste water generated by household or industrial process and make the waste water free from pollutants and clean. This properly treated waste water now may be discharged to water body without any health danger. Physical treatment like sedimentation or settlement, chemical dosing, ecological and biological processes are involved to remove waste water impurities and produce ecologically safe treated wastewater or effluent that may be reused for gardening, car washing, toilet flushing or any other suitable purpose. The slurry or semi solid, normally called residue waste need to be treated further for land application or disposal in agro fields. Waste Water Treatment Plant is broader term that generally we use for **Sewage Treatment** Plant. In most cities, there is a huge need of sewer treatment system to save rivers, ponds, other water bodies and soil contamination. Sewage water or waste water can be treated by electro mechanical process or by ecological process like using certain types of plants. We have a team of experts and provide our services related to Sewage Treatment Plant in Dehradun, Rishikesh, Haridwar, Roorkee – Uttarakhand, Delhi NCR and in nearby areas.

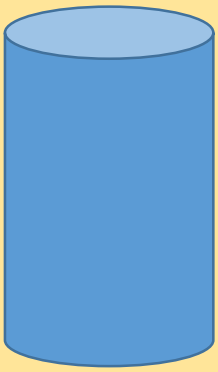
Other Services ... Continued

Effluent Treatment Plant: - Effluent treatment plants are designed to treat both municipal and industrial effluent, which consists of wastewater, sludge or sewage. These effluent treatment plants are tailored to remove harmful pathogens, clear hazardous chemicals, detergents and toxins and separate and extract valuable substances from effluent. Toza India install Effluent Treatment Plant or waste water treatment plant in Dehradun, Rishikesh, Haridwar, and Roorkee – Uttarakhand and nearby areas like Delhi NCR. The recent concept of industrial ecology in which waste generated by one industry becomes the raw material for another industry, is an ideal principle in siting industries in an industrial estate. The industrial ecology concept results in minimum net production of industrial pollution to be handled. Ultimately, waste from some industries will have no secondary use and hence must be treated before disposal. On an industrial estate, the use of a common effluent treatment plant reduces the cost to each industry and controls the overall quality of the treated effluent. It has also been shown that wastewater from particular industries can be treated using a combination of pre-treatment followed by treatment in a common effluent plant.

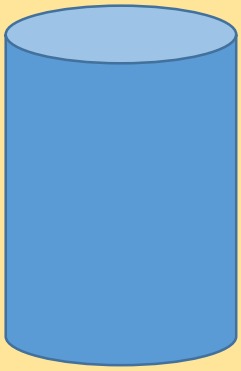
An industrial estate is a composition of several different types of industries located in one area, each producing effluent of varying wastewater characteristics. In a scheme of unplanned development, it is common practice for each company on an industrial estate to develop their individual Effluent Treatment Plant. When the industrial estate is considered as a whole, one observes that, because of this practice, valuable resources are wasted on effluent treatment. These resources include capital cost, land space, and maintenance costs. A common effluent treatment plant and industrial ecology offer an alternative to the practice of having individual Effluent Treatment Systems and makes better overall use of the resources of an industrial estate. Industrial ecology calls for the waste of one industry to become the raw material of another industry. In this way, there is a net minimum production of industrial pollution to be handled. At some point, however, the waste from some industries will have no secondary and must hence be treated before final disposal. In a common effluent treatment plant, the effluents from the different industries are treated using one universal treatment system. Common effluent treatment plants eliminate duplicity of treatment systems among the industries on the industrial estate and hence results in a reduction in the total capital required for construction of the industrial estate. In some cases, wastewater from some industries may require pre-treatment before it is allowed to enter may enter the common effluent treatment plant. This may be necessary because of a high pollution concentration produced by a specific industry or perhaps the presence of a specific group of toxins not treated by the common effluent plant.

Water Tank Cleaning:- Toza India Pvt Enterprise, Dehradun – Uttarakhand (India); is a reputed organization and offering services in field of Rainwater Harvesting, e-FertiboX composting Septic Tank, LumBriko toilet – Breathing BioMachine, BioFurnaX i-SeptoSys Advanced Readymade Septic Tank installation and Sewage Treatment Plant and Water Tank Cleaning in Dehradun, Rishikesh, Haridwar, Roorkee – Uttarakhand in and nearby areas. Overhead or underground water tank is one of the most important part of building as it is main source of water for numerous purpose, like cooking, washing cars, bathing, gardening and drinking etc. If one want to avoid water borne disease and take care of people using water; he must ensure that the water tank is clean and tidy frequently. Overhead or underground water tank cleaning may sound like too much of work but it's as important as taking bath. We follow standard steps for cleaning the water tank:

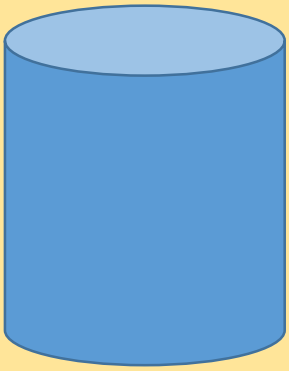
The water that is stored in the tank, drained out by using dewatering pump however we suggest that client should use the water of the tank in some household / commercial chores, in this way water can be saved. In very summer, there is a prevailing scarcity of water so we suggest use up the water, thus one can empty the tank. We make sure, before we start to clean the water tank walls and bottom, the surroundings of the tank and the exterior of the tank has to be cleaned. Interior walls and bottom to be rubbed by clean hard wire brush. After we empty the tank, we will have to clean the floors and the walls of the tank by manual scrubbing. By scrubbing, we can remove the dirt, sediments, fungus and the stains. After the scrubbing, the floors and bottom of the tank is washed using clean water. We use potassium permanganate solution to apply on surface inside the tank to kill bad bacteria. The solution we apply with the help of clean cloths and brushes as per need. We do again dewatering, floor mopping and wall cleaning with the help of clean clothes to remove remaining disinfecting residue. After using disinfectants we make tank surface and bottom dry by using suction machine. We take at most care of hygiene of the person who operate this machine. Ultraviolet light to be used to kill bacteria inside water tank. This light make water tank free from bad bacteria and create hygienic condition and safe for human health. Now water tank is ready to refill.



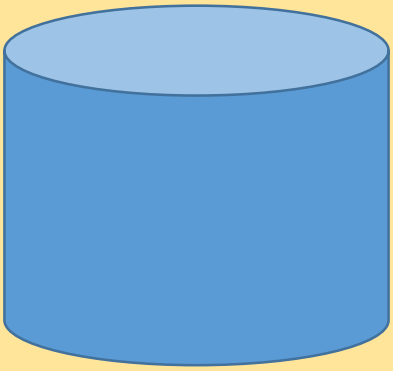
2 F D - 27 inch - 600 MM Dia
636 / 282 Litres
Rs 14969 / Rs 7484



35 inch - 800 MM dia
1132 / 500 Litres
Rs 38728 / Rs 19364



3 F D - 39 inch – 900 MM dia
1434 / 634 Litres
Rs 42332 / Rs 21166



4 F D - 53 inch – 1200 MM Dia
2500 / 1126 Litres
Rs 59968 / Rs 29984

25 Uses Septic Tank in Dehradun including Excavation, Supply and Installation

Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	2 F D + ½ 2 F D	918	9	21900/-	28000/-	49900/-
Old Design 2.0 CST	2 F D + 2 F D	1272	12	29900/-	30000/-	59900/-
Old Design 3.0 CST	2 F D + 2 F D + 2 F D	1908	18	44900/-	35000/-	79900/-
BioFurnaX 4.0 CST	2 F D + 2 F D + 2 F D + 2 F D	2544	24	59900/-	40000/-	99900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			99900/-	**N A**	**99900/-**

40 Uses Septic Tank in Dehradun including Excavation, Supply and Installation

Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	3 F D + ½ 2 F D	1716	10	49900/-	30000/-	79900/-
Old Design 2.0 CST	3 F D + 2 F D	2070	12	56900/-	33000/-	89900/-
Old Design 3.0 CST	3 F D + 2 F D + 2 F D	2706	16	71900/-	38000/-	109900/-
BioFurnaX 4.0 CST	3 F D + 3 F D + 2 F D + 2 F D	4140	24	113900/-	46000/-	159900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			159900/-	**N A**	**159900/-**

55 Uses Septic Tank in Dehradun including Excavation, Supply and Installation

Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	3 F D + ½ 3 F D	2068	9	62900/-	33000/-	95900/-
Old Design 2.0 CST	3 F D + 3 F D	2868	12	84900/-	35000/-	119900/-
Old Design 3.0 CST	3 F D + 3 F D + 2 F D	3504	15	99900/-	40000/-	139900/-
BioFurnaX 4.0 CST	3 F D + 3 F D + 3 F D + 3 F D	5736	24	168900/-	48000/-	216900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			216900/-	**N A**	**216900/-**

70 Uses Septic Tank in Dehradun including Excavation, Supply and Installation

Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	4 F D + ½ 2 F D	2782	9	66900/-	33000/-	99900/-
Old Design 2.0 CST	4 F D + 3 F D	3934	13	101900/-	38000/-	139900/-
Old Design 3.0 CST	4 F D + 3 F D + 3 F D	5368	18	144900/-	45000/-	189900/-
BioFurnaX 4.0 CST	4 F D + 4 F D + 3 F D + 2 F D	7070	24	176900/-	53000/-	229900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			229900/-	**N A**	**229900/-**

100 Uses Septic Tank in Dehradun including Excavation, Supply and Installation

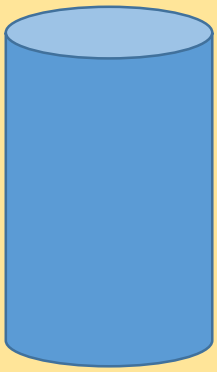
Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	4 F D + ½ 4 F D	3626	9	89900/-	40000/-	129900/-
Old Design 2.0 CST	4 F D + 4 F D	5000	12	119900/-	45000/-	164900/-
Old Design 3.0 CST	4 F D + 4 F D + 4 F D	7500	18	179900/-	50000/-	229900/-
BioFurnaX 4.0 CST	4 F D + 4 F D + 4 F D + 4 F D	10000	24	239900/-	60000/-	299900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			299900/-	**N A**	**299900/-**

Chamber Volume Calculation – Formula / Considerations:-

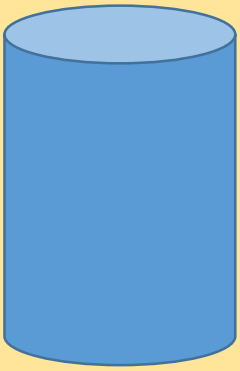
Volume (Cu Feet) = 3.14 X Radius x Radius X Height | Volume (litres) = 3.14 x Radius x Radius X Height X 28.317
Effective height of Full Length chamber = 8 feet = 8 X 12 = 96 inch – 10 inch = 86 inch = 7.16666 feet
Effective height of half Length chamber = 4 feet = 4 X 12 = 48 inch – 10 inch = 38 inch = 3.16666 feet
Example: - Volume of 2 feet dia chamber of full length = 3.14 x 1 X 1 X 7.16666 = 25.50 Cu Feet approx. = **636 Litres**
Volume of 2 feet dia chamber of ½ length = 3.14 x 1 X 1 X 3.16666 = 09.94 Cu Feet approx. = **282 Litres**

Retention Time Calculation (Example of 100 Uses Tank)

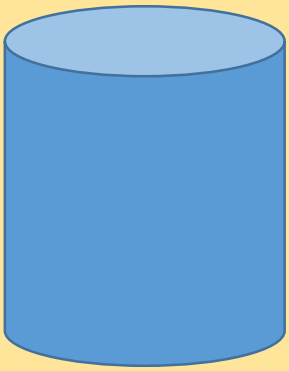
Water Discharge / Day = 100 litres per day per person X 100 people = 10000 L = 10 Cu M
Capacity of Tank (Litres) = Water Discharge 10000/24 Hours Multiply by Rt (Retention Time)
Rt (Retention Time) = Tank Volume / Water discharge multiply by 24 (15000/10000 multiply by 24 = 36 Hours)



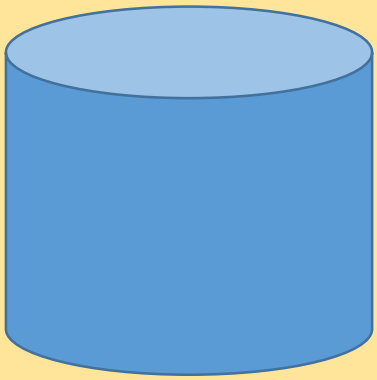
2 F D - 27 inch - 600 MM Dia
636 / 282 Litres
Rs 17962 / Rs 8981



35 inch - 800 MM dia
1132 / 500 Litres
Rs 46474 / Rs 23237



3 F D - 39 inch – 900 MM dia
1434 / 634 Litres
Rs 50798 / Rs 25399



4 F D - 53 inch – 1200 MM Dia
2500 / 1126 Litres
Rs 71962 / Rs 35981

25 Uses Septic Tank at Outside Dehradun including Excavation, Supply and Installation

Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	2 F D + ½ 2 F D	918	9	26900/-	28000/-	54900/-
Old Design 2.0 CST	2 F D + 2 F D	1272	12	35900/-	30000/-	65900/-
Old Design 3.0 CST	2 F D + 2 F D + 2 F D	1908	18	53900/-	35000/-	88900/-
BioFurnaX 4.0 CST	2 F D + 2 F D + 2 F D + 2 F D	2544	24	71900/-	40000/-	111900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			111900/-	**N A**	**119900/-**

40 Uses Septic Tank at Outside Dehradun including Excavation, Supply and Installation

Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	3 F D + ½ 2 F D	1716	10	59900/-	30000/-	89900/-
Old Design 2.0 CST	3 F D + 2 F D	2070	12	68900/-	33000/-	101900/-
Old Design 3.0 CST	3 F D + 2 F D + 2 F D	2706	16	86900/-	38000/-	124900/-
BioFurnaX 4.0 CST	3 F D + 3 F D + 2 F D + 2 F D	4140	24	137900/-	46000/-	183900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			183900/-	**N A**	**183900/-**

55 Uses Septic Tank at Outside Dehradun including Excavation, Supply and Installation

Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	3 F D + ½ 3 F D	2068	9	75900/-	33000/-	108900/-
Old Design 2.0 CST	3 F D + 3 F D	2868	12	99900/-	35000/-	134900/-
Old Design 3.0 CST	3 F D + 3 F D + 2 F D	3504	15	119900/-	40000/-	159900/-
BioFurnaX 4.0 CST	3 F D + 3 F D + 3 F D + 3 F D	5736	24	202900/-	48000/-	249900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			249900/-	**N A**	**249900/-**

70 Uses Septic Tank at Outside Dehradun including Excavation, Supply and Installation

Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	4 F D + ½ 2 F D	2782	9	79900/-	33000/-	112900/-
Old Design 2.0 CST	4 F D + 3 F D	3934	13	122900/-	38000/-	160900/-
Old Design 3.0 CST	4 F D + 3 F D + 3 F D	5368	18	173900/-	45000/-	218900/-
BioFurnaX 4.0 CST	4 F D + 4 F D + 3 F D + 2 F D	7070	24	212900/-	53000/-	265900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			265900/-	**N A**	**265900/-**

100 Uses Septic Tank at Outside Dehradun including Excavation, Supply and Installation

Septic Tank	Design Arrangement	Volume (Litres)	Retention Time (Hrs)	Cost (Rs)	ecoClean Kit	Total cost
Old Design 1.5 CST	4 F D + ½ 4 F D	3626	9	107900/-	40000/-	147900/-
Old Design 2.0 CST	4 F D + 4 F D	5000	12	143900/-	45000/-	188900/-
Old Design 3.0 CST	4 F D + 4 F D + 4 F D	7500	18	215900/-	50000/-	265900/-
BioFurnaX 4.0 CST	4 F D + 4 F D + 4 F D + 4 F D	10000	24	287900/-	60000/-	347900/-
LombriCo BioPit	**EcoHarra Sewer Solders eat raw human excreta immediately.**			347900/-	**N A**	**347900/-**

Chamber Volume Calculation – Formula / Considerations:-

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Volume of 2 feet dia chamber of ½ length = 3.14 x 1 X 1 X 3.16666 = 09.94 Cu Feet approx. = **282 Litres**

Retention Time Calculation (Example of 100 Uses Tank)

Water Discharge / Day = 100 litres per day per person X 100 people = 10000 L = 10 Cu M
Capacity of Tank (Litres) = Water Discharge 10000/24 Hours Multiply by Rt (Retention Time)
Rt (Retention Time) = Tank Volume / Water discharge multiply by 24 (15000/10000 multiply by 24 = 36 Hours)