

PERMAPRETA®



THE ECO TOILET

The dry toilet system that does not need
any water to function.

PRESENTATION & CONCEPT



Permapreta® is the combination of the principles of permaculture and 25 years of constant research on the part of the UIP (International University of Permaculture) which studied the way of life of the Amerindian cultures who even today recycle their waste (terra preta) turning it into a natural fertilizer of enormous quality.

The partnership with ARCH Valadares made the project reality with the creation of the porcelain toilet.



The Permapreta® WC is a dry toilet that, as the name suggests, does not need any water to function. The human waste is deposited in a closed chamber with easy access and is quick to install. Biotechnology then kicks in and enhances the natural biological decomposition process creating a humus with enormous fertilizing properties.

ADVANTAGES

- Active Biological process
- Healthy without the need of chemical additives
- Zero impact on the environment
- No smells
- No need for a specialized technician
- It produces natural fertilizers with high nutrition values.

HOW IT WORKS

The toilet is made up of two independent circuits, one for manure and the other for urine and they are channelled from the start towards separate containers.

The biochemical reaction will then transform the manure into a fertilizer which does not need any particular drainage process to be extracted.



The waste product is odourless and can be retrieved with a normal vacuum cleaner or an auger that can be readily provided.

The time for each extraction is estimated at 3 years for an average household of 3-4 people.

REVOLUTIONARY



The use of water as a transport vehicle has always created serious problems upstream and downstream of a toilet because of the necessary infrastructure for the sanitation system.

The separation of faeces and urine right from the start in the toilet solves this age-old problem, eliminating the need for municipal sewage systems or septic tanks and avoiding the associated annual consumption of close to 40,000 liters person/year.

The Permapreta® toilet consists of two independent circuits, for solids and liquids, which allows them to be redirected to independent containers where the biochemical reactions will take place that will transform our waste into a useful final product, which does not need drains to be extracted.



SAVINGS

With this toilet there is an almost total elimination of waste.

In conventional toilets, an average of 15 liters per day is used per person as a mere dilution and transport instrument, which represents close to 16,000 liters per year for a typical household (3 people).

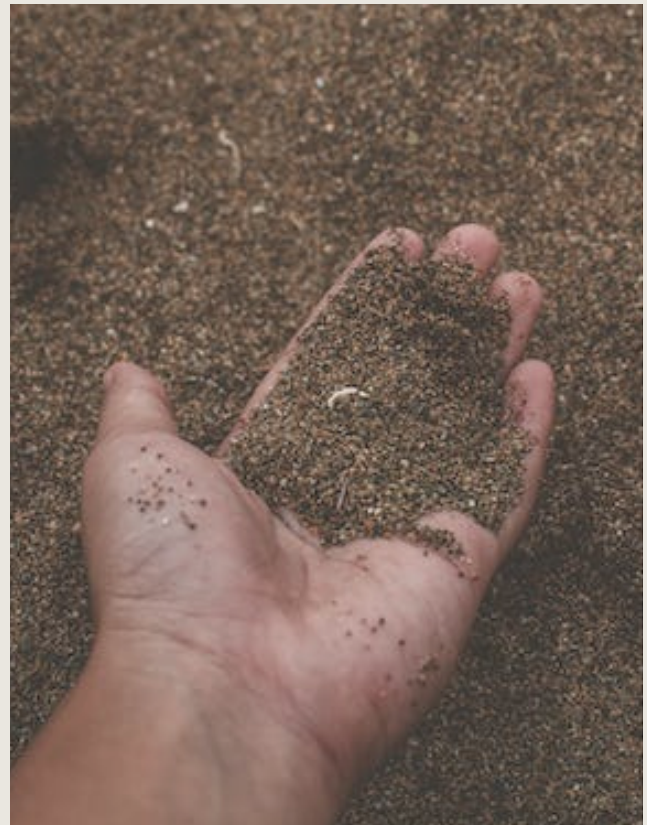
Our system practically eliminates this consumption in its entirety.

ENVIRONMENTAL WEALTH

The developed system, through a natural decomposition by microbiological and physical-chemical degradation, manages to reduce this value to around 2Kg/year of humus.

This humus, created by this composting system, is of the highest quality and is also a natural fertilizer that can be used without any kind of danger to the environment.

In fact, compared to the system used in dry toilets on the market, the Permapreta system prevents each individual from producing around 1200 kg/year of solid waste.



BIOMECHANICAL PROCESS

The process is triggered by the addition of microorganisms and worms and should be aided by the occasional inclusion of straw, molasses and wind. The addition of worms is only done only once at the beginning whereas the molasses and straw are added sporadically. This natural processing system makes possible the synergistic transformation of manure into a very special Humus representing an invaluable fertilizer.

This black gold, as it is known, is then ready to collaborate in the restoration of the planet by promoting a virtuous circle of fertilizer generation that produces more humus and transforms soil into highly fertile ground enabling the nourishing of fields for food production.



ODOURLESS

The reason why this system creates no smells is twofold. First of all is due to the presence of a hybrid wind/electric ventilations system which works 24 hours a day. The system has built-in wind sensors that enable to decide when the extractor fan should be powered by either wind or electric energy. There is a small battery which activates automatically in the case of absence of wind.

The second reason is the innovative design of the toilet seat which was fitted with a built-in special sealing in order, not only to avoid the entrance of insects but also, and most importantly, to create a depression atmosphere within the system thus facilitating a rapid and continuous ventilation.

INSTALLATION



The whole system just requires a small excavation area which can accommodate a 500-700 liter tank and the normal preparation of the surface (tiles etc) in order for the WC to be installed.

The structure surrounding the system is the same as in a normal house. There is no need for any sewage or even electrical supply.

It is the first time that a dry toilet can be applied on the ground floor since the emptying process is carried out from the top part of the system. This allows for the WC to be used by people with reduced mobility.

WHERE TO USE PERMAPRETA®



The Permapreta® system can be used in remote places such as national parks or recreational public spaces where no infrastructure is present as well as homes, factories, schools and refugee camps.

FOR A MORE SUSTAINABLE WORLD



Valadares

ORIGINAL BATHROOMS

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