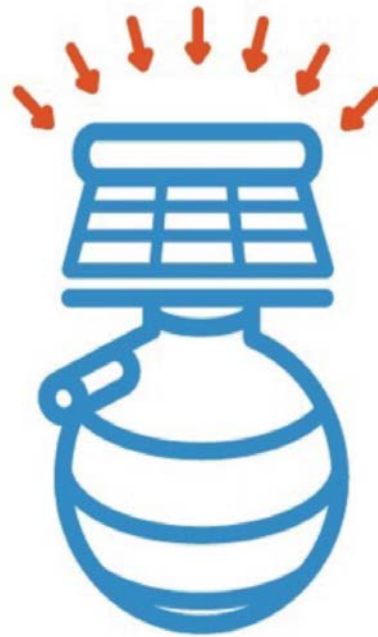




Innovative technologies developed by AIT



SOLAR SEPTIC TANK



***Solar septic tank-** an innovative on-site wastewater treatment technology that uses free energy from the sun to increase temperature inside the system.*

Components



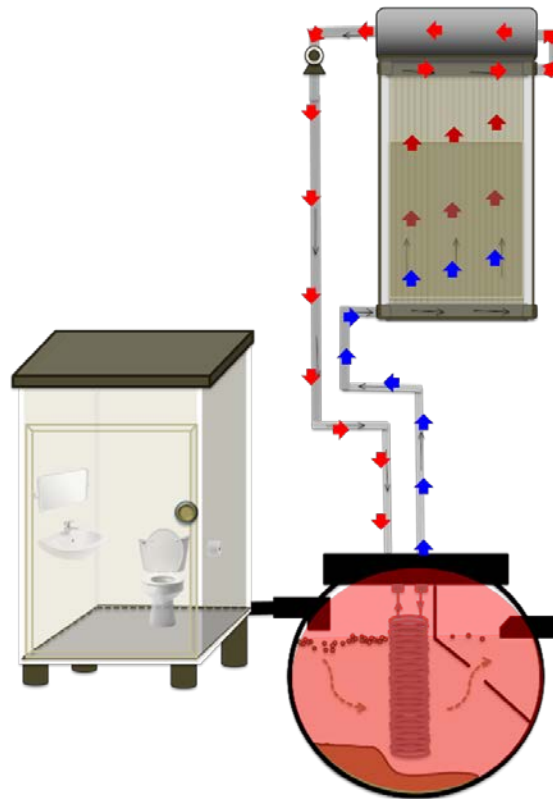
Septic tank



Disinfection chamber

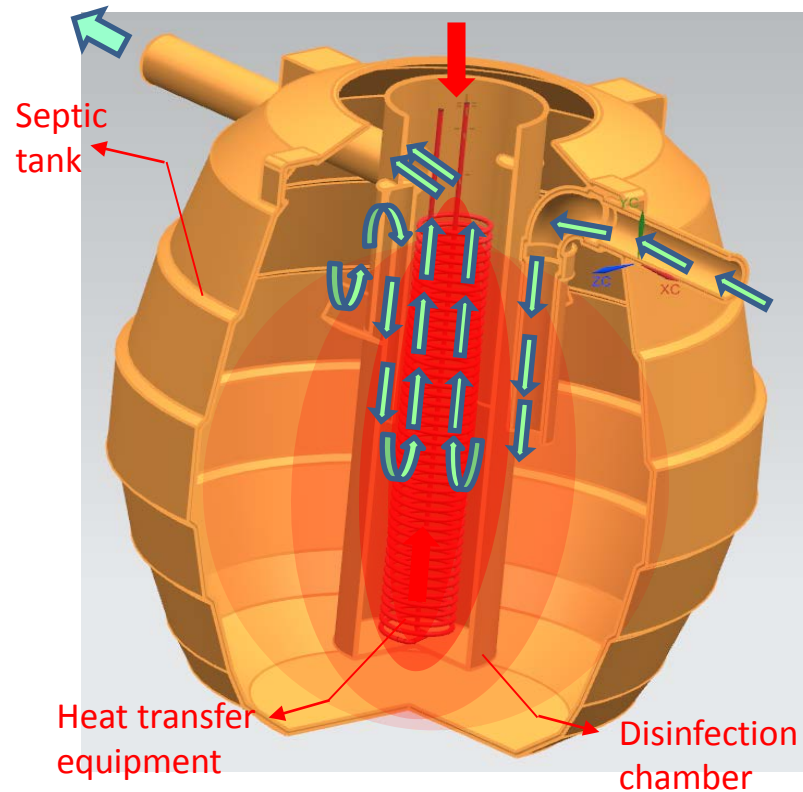


Heat transfer equipment



1. Temperature gradient
Average Temperature
 - Septic tank
= 40-45 °C
 - Disinfection chamber
= 45-50 °C
2. Controlled Wastewater
Flow Inside

Concept design of solar septic tank



Patents claim patent app 1401001214 :

- the bottom of the solar septic tank which used for sludge degradation installs heating equipment such as heater, hot coil, or an equipment using the heat from the energy resource
- there is a heating system such as heater, hot coil, or an equipment using the heat from the energy resource installed in the disinfection zone

System Performance

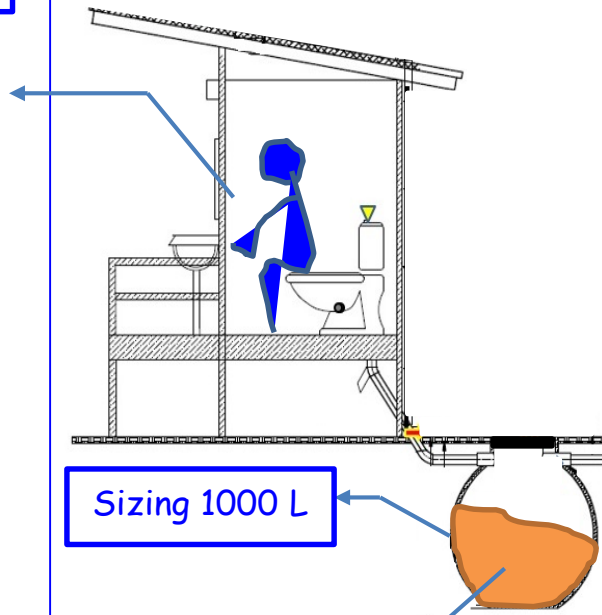


SOLAR SEPTIC TANK	
USER	6-10
SIZE	1000 L
SOLAR WATER HEATING DEVICE SYSTEM	6 m ²
COMPONENTS	1.) SOLAR WATER HEATING DEVICE 2.) HEAT TRANSFER 3.) MODIFIED SEPTIC TANK
VALUE ADDED PRODUCT	BIOGAS 30L/DAY OR 0.3 KWH/D
EFFLUENT QUALITY	REUSED IN AGRICULTURE ABOUT 100-200 L/D (WITH POST TREATMENT: MEET DISCHARGE STD.)
LIFE EXPECTANCY	10 YEAR
COST	2,580 \$
ELECTRICITY	REQUIRE FOR CIRCULATING PUMP
ACHIEVEMENT OF PRODUCT	<p>SLUDGE REDUCTION: REDUCE SLUDGE ACCUMULATION BY 50%</p> <p>PATHOGEN INACTIVATIONS IN EFFLUENTS AND ACCUMULATED SLUDGE</p> <p>TREATMENT PERFORMANCE: COD 88%, BOD 81% and TS 50%</p>

Conventional and the Solar Septic Tank

Conventional septic tank

10 user

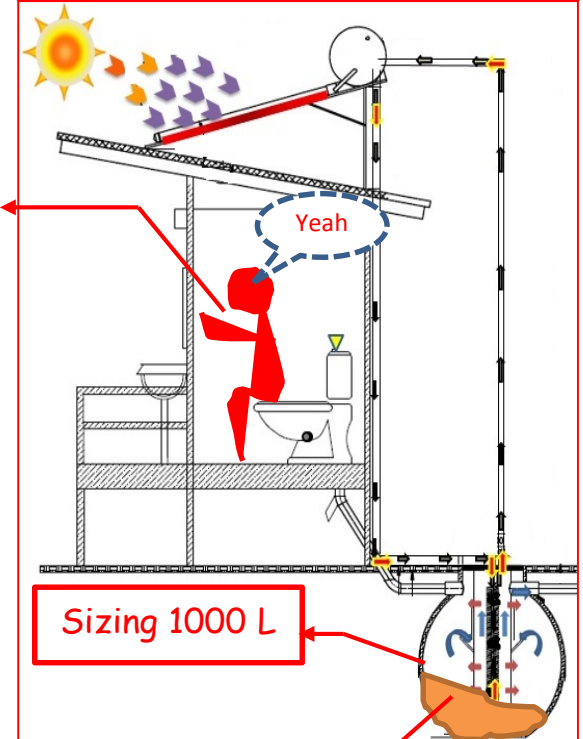


Sizing 1000 L

Desludging
period 2-3 year

Solar septic tank

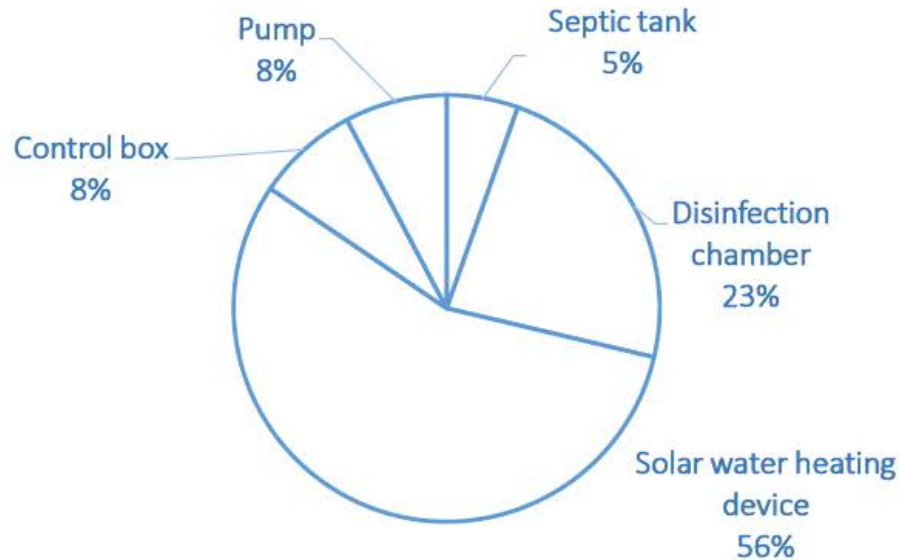
10 user



Sizing 1000 L

Desludging
period 5-6 year

Cost for the system



Septic tank	140 \$
Disinfection chamber	600 \$
Solar water heating device	1,440 \$
Control box	200 \$
pump	200 \$
Total	2,580 \$

Solar heated water





Who are the potential customers??

The potential customers for this technology are the upper middle class household and new real estate developer.



A unit of solar septic tank can serve more than 10 users per day which it would be appropriate in individual house (1-2 family), public toilet, condominium or apartment.



SOLAR SEPTIC TANK



For further information

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Thank you