

## TECHNICAL INFORMATION – CLEANSTREAM TXR-1

The Cleanstream TXR-1 is a complete, one tank textile media treatment system. Its multi-chambered design consists of 2 septic stages, a textile filter stage and irrigation and recirculation stages.

- 8400 litre total capacity
- Emergency storage (without cross contamination - 3500 litres)
- Alarm system (to notify the homeowner of any faults)
- Comprehensive maintenance by Duracrete



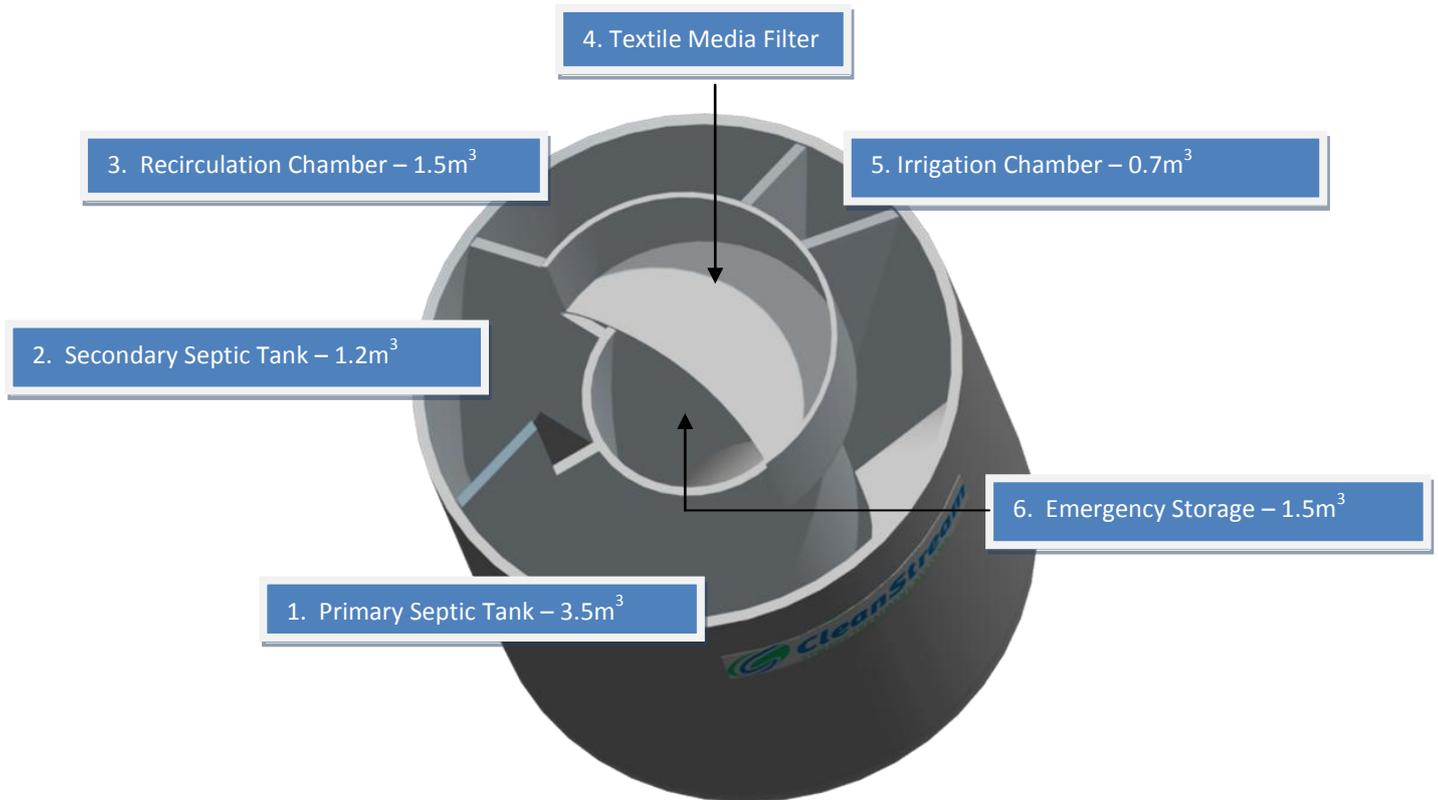
- The TXR-1 tank, roof and walls are constructed from galvanised, steel reinforced concrete (70MPa at 28 days) and come with a manufacturer's warranty of 10 years from the day they leave the factory. The mechanical components of the system (pumps) also come with a 2 year warranty from the date of commission. Electrical components come with a 1 year manufacturers warranty.
- The textile filter and recirculation stages are designed so that effluent is filtered multiple times through the textile media leading to much higher effluent quality than conventional aerobic systems.
- Separate septic stages mean there is always a working septic tank even after periods of non use, this allows the system to stay in a relatively active state.
- The system comes fully constructed, making installation a plug and play operation which provides for a faster turnaround while minimizing installation problems.
- Large emergency storage reduces problems during pump or power failure. The system has approximately 2.5 days of emergency capacity without cross contamination (based on typical flow through 1200L/day)

## TREATMENT PERFORMANCE

12 monthly servicing is required to maintain efficient and effective treatment of household waste. This service must be performed by suitably trained personnel.

Expected treatment for medium size homes with daily flows up to 1500L is BOD5 10 mg/L, TSS 10 mg/L. However the system can treat up to 2000L per day whilst still complying with ARC TP58 effluent quality of BOD <15mg and TSS <15 mg/L for Advanced Secondary Treatment Systems – Packed Bed Reactors. Provision for 6 monthly service is required to achieve these larger daily flows.

## TREATMENT OVERVIEW



1. The primary septic tank receives the wastewater. It acts like a conventional septic tank and reduces BOD and suspended solids. Effluent then passes through a particulates filter designed to stop large objects from inhibiting the treatment process further on.
2. The secondary septic provides an anoxic environment which aids in nitrate removal converting ammonia into nitrate, while reducing BOD and suspended solids. At the completion of this stage effluent passes through an attached growth filter, which provides an environment for denitrifying bacteria to flourish.
3. The Recirculation Chamber contains a large amount of emergency capacity and is a storage place for effluent before it passes through the textile filter.
4. From the Recirculation chamber treated wastewater is pumped onto the textile filter, this effectively aerates the effluent. Organic Nitrogen is converted to Ammonia by nitrifying bacteria. This process increases effluent quality as it passes through the textile media in the textile filter. The effluent then flows back into the secondary septic tank, unless there is sufficient forward flow to warrant irrigation in which case it drains into the irrigation chamber. Recirculation generally happens multiple times before irrigation is needed.
5. From the irrigation chamber the effluent is passed through a 130 micron Arkal Filter and then dispersed through self compensating drip irrigation.
6. In the event of pump failure emergency storage is provided in the central and recirculation chambers.