



MAXI 5000

Environmental Sewage Systems

ECO-SEPTIC MAXI 5000

DESIGN CALCULATIONS

PROPOSED INFLUENT QUANTITIES/QUALITIES AVERAGE

FLOW RATE: 5000 litres per day

MAXIMUM FLOW RATE: 6,700 litres per day

150 litres per person per day average

$$33.33 \times 150 = 5000$$

Average daily flow rate of 5000 litres

Maximum: 200 litres per person

$$33.33 \times 200 = 6,700 \text{ litres/day}$$

BOD₅	150 – 300 mg/L
SS	150 – 300 mg/L 20
Total Nitrogen Total	– 100 mg/L 10 –
Phosphorous	25 mg/L

PROPOSED EFFLUENT QUALITY

Advanced Secondary

BOD₅	<20 mg/L
SS	<30 mg /L
Free Chlorine	>0.2 & <2.0 mg/L
Thermotolerant Coliforms	<30 cfu/100ml

SEPTIC SECTION: 6000 Litre Allowance

AERATION:

VOLUME: 4360 litres

AIR SUPPLY: 200 litres per minute

DIFFUSERS: 4 x 500 mm diffusers
2000 mm
4 Packs x 800 x 300 x 825

GROWTH MEDIA: 120m²

SUPPLIED 160 SQUARE METRES

CLARIFIER: 0.84M² / 771 litres capacity

CHLORINATION: Twin Chlorine Bath
200 gram trichlor tablets

CHLORINE DETENTION: Half hour detention time
5000 litres /10 hours
225 / hour
692 litres

SUPPLIED 500 LITRES

IRRIGATION: As per site evaluation report

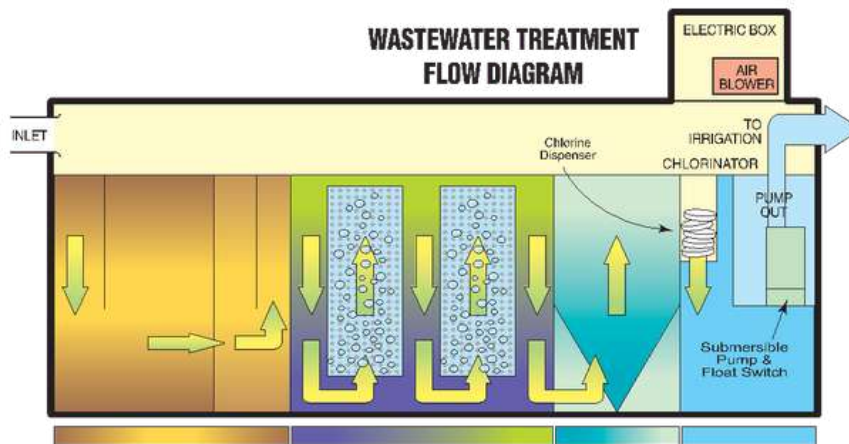
ECO- SEPTIC Maxi 5000 SPECIFICATIONS

Description	Specification
Number of persons	33 EP
Tanks	2 x 7000 litre ECO-SEPTIC Tanks
Blower	200 litres per minute
Irrigation Pump	As per irrigation requirements
Septic Section	6000 litre tanks with baffle at 2/3 – 1/3 position
Aeration Section	4360 litres of aeration divided into two sections 330 litres.
Chlorine Contact & Pump-Out Tank	Tank with internal pump out section 692 Litre
Media	4 packs x 800 x 300 x 825mm Aqua Cool CF1900 120m2
Diffusers	4 x 1 mm
Chlorinator	2 x Chlorine canister

TECHNICAL PROCESS DESCRIPTION

This is a general breakdown of our wastewater treatment unit.

The wastewater unit works on the combined principles of primary settling plus aerobic and tertiary treatment.



As you can see in the above diagram all your household wastewater and effluent enters the tank through the inlet shown here on the left side of tank.

This settles into the septic zone (identified by the orange & yellow shaded area).

Towards the top of the baffle wall which separates the septic and aeration compartments, there is an outlet which enables the effluent to trickle into the aeration / treatment zone. The aeration / treatment zone is the blue shaded area of the diagram.

From this, the effluent is filtered over a mass of growth media plates. The growth media acts as a bacteria-breeding ground, which sounds quite nasty but is actually a very important and proficient function of the wastewater unit.

The growth media (illustrated as the grey checked areas) enables the bacteria to break down.

Once the organic impurities have been absorbed within the aerobic culture of microorganisms, the water passes to the clarification zone. At this stage the water has been recycled into clean, clear, odorless water.

The clarification zone is the secondary sedimentation process.

Before the water is released from the tank it is circulated through the chlorinator. The chlorinator is as the name suggests – a chlorine based chamber that acts as a final back up and safeguard to catch and kill any nasties that may have escaped through the aeration and clarification processes.

TECHNICAL PROCESS DESCRIPTION (Cont)

The free residual chlorine concentrations are greater than 0.2mg/L and less than 2.0mg/L. This is a special grade chlorine so that when pumped onto the garden, any residual chlorine breaks down rapidly and allows for excellent plant growth.

Chlorine tablets are replenished at quarterly service interval and is the only chemical used in this process.

The wastewater units come in your choice of either a one or two tank concrete constructed unit.

The Maxi 5000 two tank system, separates the septic zone into one 4500 litre tank and the aeration, clarification and chlorinator into another 4800 litre tank.

The ECO-SEPTIC Maxi 5000 is a 33 person capacity treatment system.

Drawings – Maxi 5000

