TREATMENT PLANT APPROVAL 15/2023
Plumbing and Drainage Regulation 2019, part 4.

Approval

1. The **EnviroTAS AS** ("the system") described in the Specifications and Drawings in the attached Schedule and manufactured by **PJ & PA Development Trust** (ABN 47 550 583 561 ("the manufacturer") has been assessed in accordance with the Queensland Plumbing and Wastewater Code (QPW Code).

2. Approval is granted for the system as an advanced secondary quality wastewater treatment system with nutrient reduction, subject to compliance by the manufacturer with the requirements of the *Plumbing and Drainage Regulation 2019*, part 4 and the conditions of approval detailed below.

3. This approval, the conditions of approval and the Schedule comprise the entire Chief Executive Approval document.

4. Any modification by the manufacturer to the design, drawings or specifications scheduled to this approval must be approved by the Chief Executive.

Conditions of approval

5. The manufacture, installation, operation, service, and maintenance of the systems must be in conformity with the conditions of this Treatment Plant Approval.

6. The system when tested by a certification accreditation body in accordance with AS1546.3:2017 was found to comply with the advanced secondary 11 EP/1600 L level with nutrient reduction effluent criteria and must continue to meet the following requirements:

   (a) Advanced secondary treatment

Table 2.1 (Abrev) AS1546.3:2017 Advanced secondary effluent compliance criteria for an STS

Parameter	Advanced secondary effluent	
	90% of Samples	Maximum
BOD^5	≤ 10 mg/L	20 mg/L
TSS	≤ 10 mg/L	20 mg/L
*E. coli**	≤ 10 cfu/100 mL	30 cfu/100 mL
FAC[Þ]	Minimum 0.5 mg/L[†]	N/A
Turbidity [§]	N/A	10 NTU

* Where disinfection is required
Þ Where chlorine disinfection is required
† Minimum level, not 90% of samples
§ Where UV light is used for disinfection

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Department of Energy & Public Works

(b) Nutrient reduction capacity

During the testing of the EnviroTAS AS, the treated effluent was tested for total Nitrogen (TN) and total Phosphorus (TP) concentrations. The treatment process has the capacity to reduce the TN and TP concentrations as follows:

- Total N an average of 69.54 mg/L to 55.45 mg/L which represents a **reduction of 20.26%.**
- Total P an average of 11.03 mg/L to 9.14 mg/L which represents a **reduction of 17.14%.**

7. Each system must be serviced in accordance with the accreditation certificate issued by Global Certification Pty Ltd (certificate number 3576-2779-03) on 29 June 2022, and details supplied in the owner's operation and maintenance manual.

8. Each system must be supplied with,

a. a copy of this Treatment Plant Approval document.
b. details of the system.
c. instructions for authorised persons for its installation.
d. a copy of the owner's manual to be given to the owner at the time of installation.
e. detailed instructions for authorised service personal for its operation and maintenance.

9. At each anniversary of the Treatment Plant Approval date, the supplier must submit to the Chief Executive a list of all systems installed in Queensland during the previous 12 months. Where the Chief Executive is notified of any system failures the Chief Executive may randomly select a number of installed systems for audit. The Chief Executive will notify the supplier's nominated NATA accredited laboratory which systems are to be audited for BOD^5 and TSS. The sampling and testing of the selected systems, if required, is to be done at the supplier's expense. The following results must be reported to the Chief Executive;

a. Address of premises.
b. Date inspected and sampled.
c. Sample identification number.
d. BOD^5 for influent and effluent.
e. TSS for influent and effluent.

10. The Chief Executive may, by written notice, cancel this approval if the manufacturer/supplier fails —

a. to comply with one or more of the conditions of approval, or
b. within 30 days, to remedy a breach, for which a written notice been given by the Chief Executive.

11. This approval may only be assigned with the prior written consent of the Chief Executive.

12. This approval expires on **17 October 2028** unless cancelled earlier in accordance with paragraph 10 above.

Lindsay Walker

Director
Plumbing, Drainage and Special Projects
Date approved: 16 October 2023

Level 15,
53 Albert Street Brisbane
GPO Box 2457, Brisbane Qld 4001
Telephone +61 7 3008 2557
Website www.hpw.qld.gov.au
ABN 61 331 950 314

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SCHEDULE

Specification & drawings for the

EnviroTAS AS

Attachment 1 – EnviroTAS AS CAB Certificate number 3576-2779-03
Attachment 2 – EnviroTAS AS Handbook (Operator's manual)
Attachment 3 – EnviroTAS AS Schematic diagrams

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Attachment 1 – EnviroTAS AS CAB Certificate

PRODUCT CERTIFICATE OF REGISTRATION

Enviro-AS

31 Davey Street, Hobart, TAS 7000, Australia

Product Performance Testing

AS 1546.3:2017
Advanced Secondary Quality at 1600 L/day (10.67EP level) with nutrient reduction in nitrogen 20.26% and phosphorus 17.14%

Concrete Model	Disinfection	Average Results over the Test Period	Servicing Frequency	Discharge	Manufactured and assembled
EnviroTas AS	Yes/if above ground	TSS 6.37mg/L BOD5 2.19mg/L Nitrogen 55.45mg/L Phosphorus 9.14mg/L E coli 1.26CFU/100mL	3 monthly if above ground disposal and 6 monthly if below ground disposal	Pumped via a disinfection/pump chamber with chlorine dispenser	Manufactured and Assembled: 21 Pothana Road, Electrona, TAS 7054, Australia
The system took 2 weeks to achieve advanced Secondary Level. Chlorine was added during the test period.					

This Certificate of Conformance to the Product Certificate Scheme for "Domestic Wastewater Treatment Units (AWTS)" remains the property of Global Certification Pty. Ltd. and is granted subject to the terms and conditions of the Contract Application, in respect of the Product certified on this page and the attached schedule to the Certification of Conformance, bearing the same number as this certificate.

Managing Director

JAS-ANZ

CERTIFICATION DATE:	DATE OF ISSUE:	EXPIRY DATE:	CERTIFICATE #:
9 March 2022	29 June 2022	9 March 2027	3576-2779-03

GLOBAL CERTIFICATION

Global Certification Pty Ltd
Level 1, 135 Queen Street, Cleveland, 4163 QLD
1300 495 855 | www.globalcertification.com.au

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Attachment 2 – EnviroTAS AS Operator's manual

EnviroTas-AS
Homeowners Handbook
Queensland

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CONTENTS

NOTICE

- The information in this Handbook is provided as a guide only.
- The contents are subject to change without notice.

FOREWORD

ENVIROTAS-AS (Ten Person Capacity/Nitrogen & Phosphorus Reduction)

Dear Customer

The EnviroTas-AS is one of the most advanced Secondary Treatment Systems (STS) in the world. The EnviroTas-AS will produce an effluent quality that is second to none. The quality of the effluent is so good that it will assist in reducing size of costly irrigation areas in most regions of Australia.

ENVIROTAS-AS Has revolutionised the AWTS industry by offering a nutrient reduction process reducing

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total nitrogen and phosphorus outfalls while still retaining the same superior bacterial treatment process of its predecessor without significant additional cost. The EnviroTas-AS is a superior to a point where the wastewater might one day be classified “Class A” allowing for non-potable application such as toilet flushing within the household. The real bonus is the nutrient reduction technology duplicates nature at work thereby eliminating chemical dosing.

ENVIROTAS Is responsible for the development of this “NEW AGE” of Enviro’s and are now producing systems that in the future will be used as an alternative to sewer, septic tanks. The EnviroTas-AS is one of those systems that is suitable for such a mammoth challenge. Not only is the system superior in the reduction of bacteria but it is even now more environmentally friendly by removing a high proportion of nitrogen and phosphorus from treated effluent.

This handbook has been produced to assist your understanding of the EnviroTas-AS system.

Please keep it in a safe place for easy reference in case you have any questions or have any problems that you may wish to address. If you have any questions, please do not hesitate to call.

On behalf of EnviroTas, thank you for your support and look forward to your co-operation towards a cleaner and healthier environment.

PAUL BOTTOMLEY

DIRECTOR

ELECTRICAL CIRCUIT SPECIFICATIONS FOR ENVIROTAS-AS

IMPORTANT: This sheet and alarm plate must be handed to your licensed electrical contractor

The conduit must run to the electrical module mounted on the inside of the electrical box (usually green) positioned on the treatment tank. ***Ensure you glue all joints in your conduit run*** in order to prevent water entering your conduit and the EnviroTas-AS electrical module thereby causing damage. Water incursion in NOT covered under warranty.

A dedicated single-phase circuit protected by earth leakage is required. (16amp min) Minimum size circuit breaker of 6Ka suitable for motor start should be used. Minimum cable size is 2.5mm, this is connected to, and run from, an external building switchboard (to allow for maintenance when the house is unattended), to the EnviroTas terminal box. Alarm wiring run can be two-core switch wire. Circuits should be labelled “EnviroTas System”

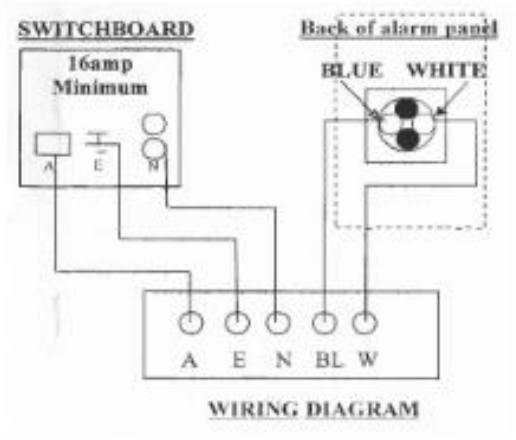
The above circuits must be connected to the terminals as labelled in the EnviroTas terminal box. NOTE: electrical work must be carried out in accordance with A.S/NZ. 3000 and supply authority rules. A Notification of electrical work” must be lodged with the supply authority.

Continuous running current is 0.6amps with a maximum intermittent current up to 3.1 amps (dependant on submersible pump size)

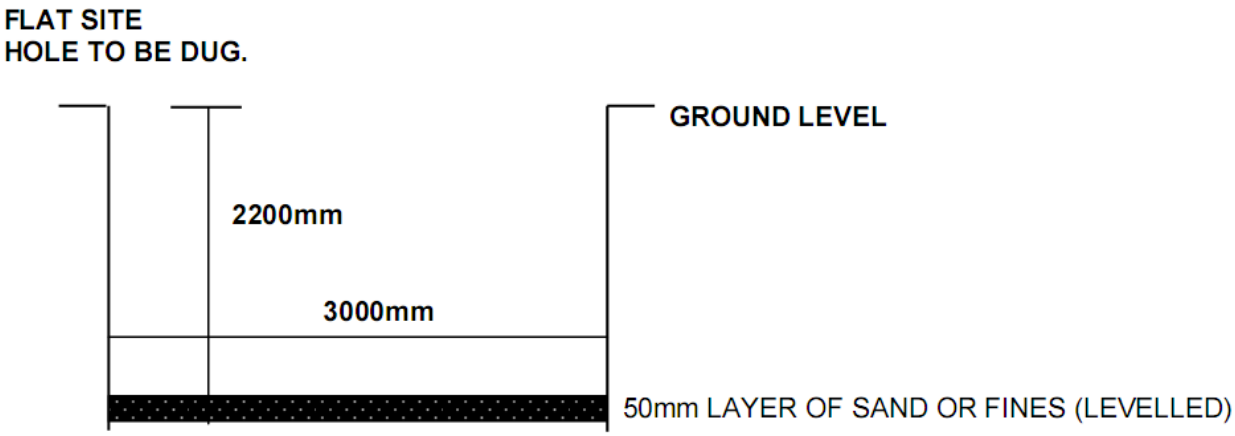
Upon initial energising of the circuit to the system, the alarm panel may sound. This may be caused by the high-

water level and is cause for concern. If the power is left on, the level will return to normal within 30 minutes and the alarm will automatically reset.
Alarm Panel: If the alarm panel is more than 30m away from the EnviroTas control box, use shielded cable for the SW to Alarm Panel to avoid any induced voltage from the active cable.

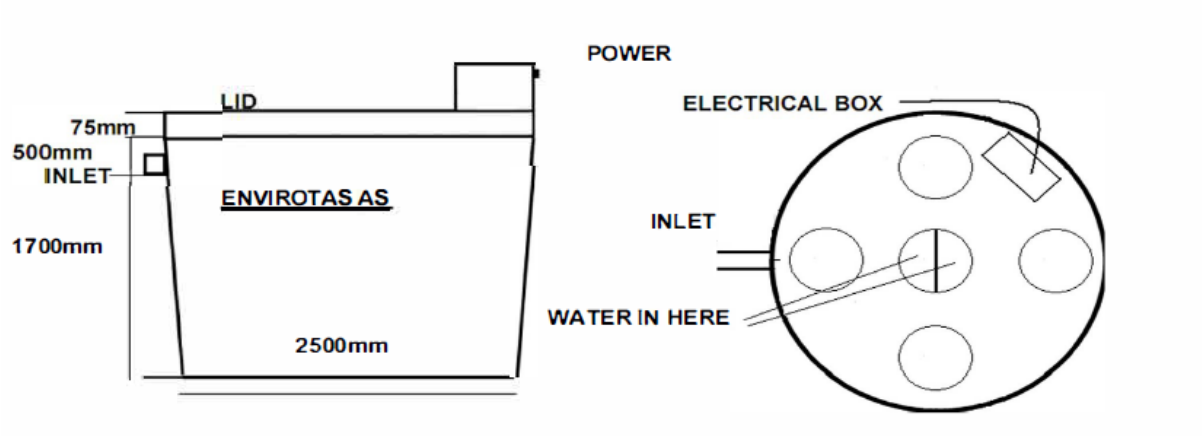
Fault conditions:
Yellow light and buzzer = low air pressure.
Red light and buzzer = high water.
When button is pushed alarm sound only is muted for 12 hours. The alarm will reset if the fault has not been cleared. Technicians have up to 48 hours to attend to faults but commonly will be quicker than this.



SITE PREPARATION – ENVIROTAS-AS



The base of the tank should be placed on 50mm layer of sand or fines. To this an area of 3 Metre Square should be dug to a **finished** depth of 2200mm below ground level.



IMPORTANT:

AFTER INSTALLING, FILL TANK WITH 5300 LITRES OR UNTIL BOTH LOTS OF MESH ARE COVERED ON EACH SIDE OF CENTRE PANEL, MUST USE POTABLE WATER.

NOTE: - If tank is not filled with water it could hydraulically lift out of the ground during wet conditions. Water is also required for the EnviroTas-AS system to be commissioned.

Filling the tank with water should be done by the installer and the company will not accept any responsibility if this action is not carried out.

Ensure that the excavated ground or base material is capable of carrying loads of approximately 3.0 ton/m².

Excavation drawing shows excavation walls to be perpendicular. However, depending on soil conditions, the excavator may need to angle and/or retain the side walls such that they don't cave in before the tank is installed. Do not act solely on the basis of material contained above. Items herein are general comments only and do not convey advice per se. We therefore recommend that formal advice be sought before acting on any of the above.

IMPORTANT

DELIVERY AND INSTALLATION INSTRUCTIONS

ENVIROTAS-AS

- In most areas' tank will be delivered by a truck equipped with a crane located at the rear of the vehicle.
- Such vehicles will back up to the tank site, lift and slew the tank into position behind the vehicle before placing it in to the prepared hole. Maximum reach from the rear of the vehicle is 3M to centre of tank.

Make sure the truck has access to your site and observe the following requirements:

- 4.8m needed to pass under trees and power lines.
- 3.0m needed between gate posts.
- Site conditions should be dry and stable under foot.
- To enable the tank to be unloaded, a distance of 6m will be required.

That is:

- 2.44m of truck
- 2.48m of tank
- 1.00m clearances

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This also allows enough distance for the crane's outriggers (legs). This diagram also applies for right-hand side unloading.

Figure 1:- Rear Unload Setup

Tanks will not be lifted over houses, sheds or other property of value, nor will they be lifted under low power lines.

Tank sites that are cut out of slopping hills will require enough flat area for the truck to unload.

Unloading on awkward and dangerous sites will be at the driver's discretion. Safe and clear access is total responsibility of the customer.

TANK DIMENSIONS

Electric box Height	0.420m
Outside Diameter	2.480m
Overall Height	2.210m (plus box).

Height to 100mm inlet 1710mm (measured from tank bottom to bottom inlet pipe)

Backfill, sand or excavated material/spoil with maximum particle size of 50mm. Ensure that sand or excavated material does not fall on the lid of the tank, as this will fall into the system through the manholes and clog the system and irrigation pump. Ensure that the backfill material is kept at least 70mm below the surface of the tank lid.

1. Ensure that the excavated ground or base material can carry loads of approximately 3.0 ton/m²
2. Site preparation drawings shows excavation walls to be perpendicular. However, depending on soil conditions, the excavator may need to angle or retain the sidewalls such that they don't cave in during installation.
3. Except for the person/s responsible for lifting and positioning of the tank in the excavated site, there must not be any person within 20m of the installation site during lifting and positioning of the tank.
4. Tank must be level in both inflow/outflow direction and 90o to the inflow/outflow direction (< 1° deviation). Note: Do not act solely on the basis if the material contained above. Items herein are general comments only and do not convey advice per se. We therefore recommend that our formal advice be sought before acting in any of these areas.

1. Organise electrical and drainage contractor to connect the EnviroTas-AS system to services.

2. The electrical contractor must follow the electrical specification supplied with the EnviroTas-AS alarm panel at the time of delivery.

3. The drainage connection is a standard 100mm sewer inlet.

4. Commission – The EnviroTas-AS is ready for commissioning once the electrical power is provided to the system.

IMPORTANT: THE SYSTEM CANNOT BE COMMISSIONED UNLESS POWER IS CONNECTED AT THE TANK.

Commissioning Checklist-

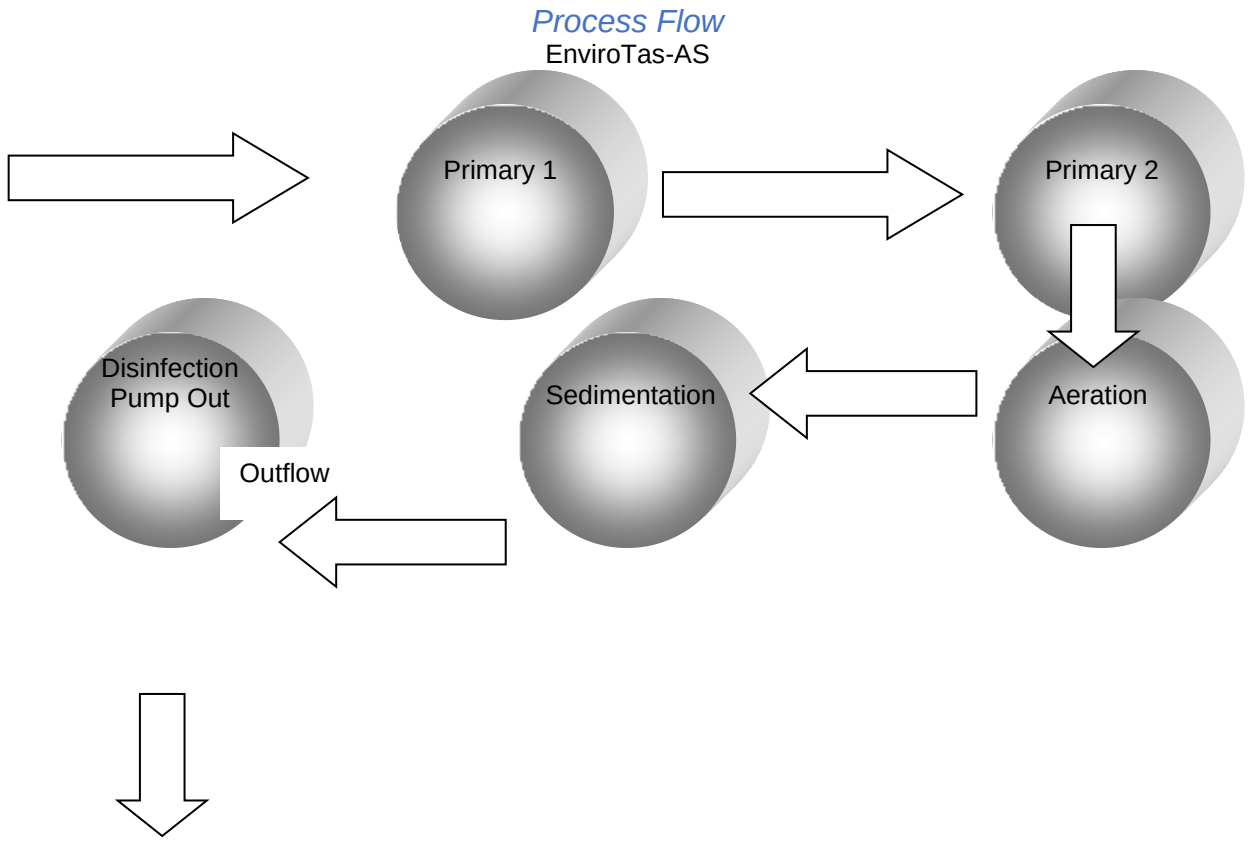
PLEASE ENSURE THE FOLLOWING IS COMPLETED PRIOR TO COMMISSIONING.

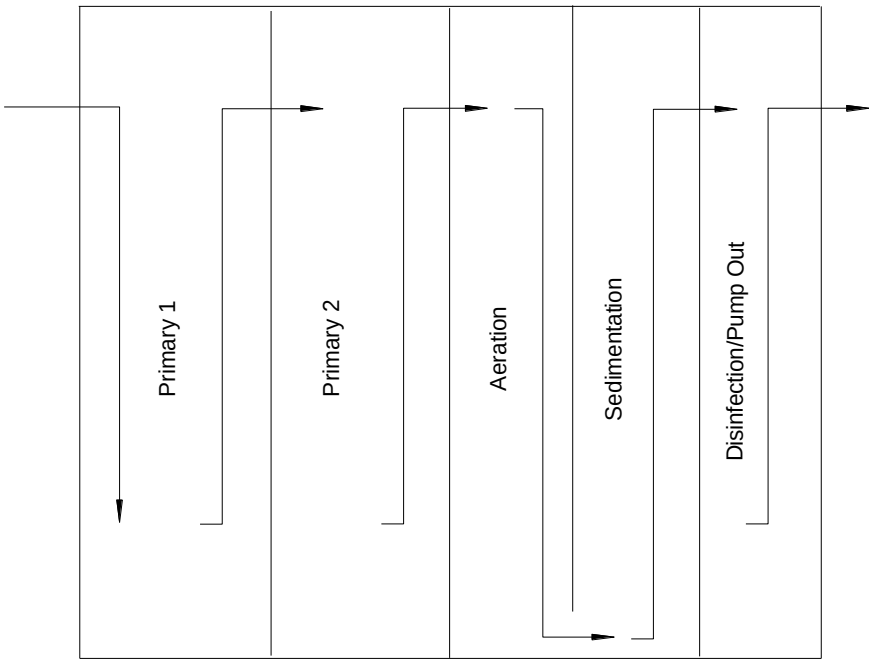
Owners Responsibility

- EnviroTas-AS is filled with 5300 litres (minimum) or to a depth of 1300mm in Primary Chamber (first chamber) of potable water.
- Irrigation area is completed and approved.
- Irrigation line is connected to tank.
- Electrical power is connected.
- Drains connected.

The EnviroTas-AS system will then be switched on (commissioned) by an Enviro Tech.

FLOW DIAGRAM





General Description and Function of the Plant

PRIMARY TREATMENT

The first stage of treatment is to separate the solids from the liquids. The solids mainly toilet wastes, remain in the first compartment where a digestion process takes place. The digestion is accelerated by the presence of anaerobic micro-organisms which multiply rapidly under ideal conditions and which will ensure that the offensive faecal solids are turned into an inert waste. Hence, the microbial action in the first tank should not be hindered by the discharge of chemicals through household drainage fittings, e.g. chemical toilet cleaners and other antibacterial cleaning products.

SECONDARY TREATMENT

The subsequent treatment stages are mainly concerned with the aeration of the liquid wastes. Once more, microbes present in these liquids are used to assist in the aeration process. The micro-organisms are called aerobes and will thrive and multiply in the presence of oxygen. It is therefore important that a constant air supply is always being maintained. The air is supplied from a small blower located near the system.

SETTLING

Following aeration, the liquid wastes can settle under quiescent conditions. Any solid particles, which are suspended in the aerated effluent, will settle out and are returned automatically to the first or second treatment stage. The clarified water, although it looks reasonably clean, may still contain some bacteria which will have to be removed.

TERTIARY TREATMENT

Any remaining bacteria are removed by a final chlorination process. If your system distributes the outfall above ground then chlorination is required by law AS/NZS 1546.3:2017 Appendix B. Due to the quality of the outfall, sub surface irrigation does not require chlorination. However, a mild dose is used for maintaining the internal dripper system.

NUTRIENT REMOVAL

The aerated, clarified and disinfected water contains natural nutrients such as phosphates and nitrates, which are a bonus for the garden, thus completing the cycle. The EnviroTas-AS reduces the nitrate concentration with its process a further 75%.

OPERATION

Once all your household drainage fittings have been connected correctly to the unit, it can be used for its intended purpose immediately; provided your garden area has been landscaped to the satisfaction and *'Signed Off'* by your local Council.

The landscaping requirements are very essential as you cannot irrigate on barren dirt. The entire operation of the EnviroTas-AS is automatic. Please refrain from making any adjustments to the air supply or pumping equipment. Should you require further information on the operation of the system, please contact your local EnviroTas-AS office.

GENERAL

1. ELECTRICITY CONSUMPTION - Our electrical consultants advise that the annual usage of electricity for the total system is similar to an average household refrigerator; however, you can use the following as a guide.

   AIR BLOWER (per day):- 60 watts x 24* hours = 1.4kW usage
   1.4kW x $0.25** per kW = $0.35 cents (per day) approx.

   SUBMERSIBLE PUMP (per day) :- 400 watts x 1.5 hours per day = 0.6kW usage
   0.6kW x $0.25** per kW = $0.15 cents (per day) approx.

   As you can see, the running costs of your EnviroTas AS are very low, costing only around $0.50 cents per day to run

   *The EnviroTas AS is approximately 30% more energy efficient than its older cousin the model 10ANR due to controlled treatment technology

   **The costs noted are approximate only; refer to your electricity supplier for the correct tariff before calculating your daily running costs.

SEPTIC TANK/COMPARTMENT (DE-SLUDGING) - Dependant on individual household usage, it will be necessary to periodically remove the contents. This is the homeowner's responsibility. Our company will attend & coordinate, but all costs are borne by owner. This service must be carried out by a person or organisation licenced by the Health Department. De-sludging is required every 5 years by accreditation.

HELPFUL HINTS

Hereunder are recommendations to maintain performance of your system within standards set by the regulating bodies. With a little care you will have trouble-free use for a long time.

AVOID - Disposing of newspaper, disposable or sanitary napkins. - The use of garbage disposal units in sinks.

DO NOT - Use strong caustic, alkalis, oils, acids, bleaches, disinfectants or chemical detergents. These items kill the purifying bacteria, cause bad odours and damage the workings of the system.

DO NOT - Exceed the maximum design load or subject the system to hydraulic shock loads.

DO - Use biodegradable detergents.

SPREAD - Your wash loads over six or seven days where possible.

NEVER - Switch off power.

CHECKLIST - In the unlikely event of anything going wrong "*PLEASE DO NOT PANIC*". Please refer to the fault-finding section below.

USE - Cleaning products that specify "Safe for Septics".

MAINTAIN - Your Irrigation area.

RENEW - Your Service Agreement.

QUESTION - If you have any problems or questions contact our service department.

REACT - If the alarm is activated, eliminate the problem ASAP.

FAULT FINDING

Careful attention should be paid to the points mentioned in this handbook, for efficient system operation.

However, on rare occasions some minor mishaps, which can be easily rectified, do occur. Please do not panic as the system is designed to give enough leeway, with normal household usage, before untreated wastewater is discharged.

FAULT - Tripping of a circuit breaker in fuse/meter box;

Probable cause:

- Irrigation pump failure.
- Air blower failure.
- Power supply damage/failure.

Action: - Press alarm panel to "mute". Call for "Enviro Tech" to resolve.

FAULT - Irrigation does not appear to be working - (Indicated by 'High water' alarm)

Probable cause:

- Blocked irrigation filter.
- Kink in irrigation line.
- Blockage in irrigation line.
- Loose connection/joiner in irrigation line.
- Blocked dripper, sprinkler heads.
- Irrigation pump failure.

Action: - Check irrigation lines and filters to ensure that all are free if blockages. Also check for kinks, breaks, splits in pipe, poorly fitting connections and obvious signs of leakage. Check irrigation area to ensure that drippers/sprinklers are functioning normally. Clean and repair as required. If irrigation lines and area appears to be in good working order, call for "Enviro Tech" to resolve.

FAULT - PERSISTENT ODOUR

Probable cause: -

- Air blower failure – (Indicated by '*Low Air*' alarm).
- Chemical imbalance.
- Excessive chemicals and/or disinfectants.
- Excessive water usage.
- Vent blockage.

Action: - If '*Low Air*' alarm is on, switch alarm panel to mute. Call for "Enviro Tech" to resolve. If '*Low Air*' alarm is off, check electrical box to confirm that air blower is running. If unable to hear blower operating, call for "Enviro Tech" to resolve.
Check chemicals for system compatibility, (chlorine-based disinfectants such as bleach, anti-bacterial products, concentrates and phosphorous based cleaners can have a detrimental impact on system efficiency). Contact office for assistance if unable to identify incompatible chemicals.

If suspected blocked vent call for "Enviro Tech" to resolve. Do not undertake any plumbing works as all plumbing works must be carried out by a licensed plumber.

VERY IMPORTANT NOTICE

The use of proven high-quality materials ensures long life of the plant. Our experience has however, shown that despite our best intentions, we have no control over the power supply to your home.

Although the circuitry allows for variances in power supply; a power cut, substantial surge of power or voltage drop in your area may trip the circuit breakers and trigger the early warning system supplied.

HOW TO RESET SYSTEM CIRCUIT BREAKER

Some clients may live in areas that are prone to fluctuating power supplies. On rare occasions this may cause the EnviroTas-AS System to shut down, resulting in the alarm operating. The fluctuating power supply may cause the overload circuit breaker in your switchboard to trip to the *'off'* position (down position). This is not a fault of the system but rather a characteristic to protect the equipment within the system.

If, after a power cut or voltage fluctuation, the EnviroTas-AS system alarm dose not clear itself within 12 hours, it may be necessary for you, the customer, to reset the tripped circuit breaker.

To do this, open your switchboard and look for the circuit breaker marked 'EnviroTas' or whatever your electrician may have called it. There will be a dedicated circuit breaker. If it is in the down position it is off, to reset, lift the circuit breaker toggle to the up position. Upon doing this the blower will immediately re-start and the system will function normally.

- The alarm may take up to 12 hours to clear.

IF THE CIRCUIT BREAKER SWITCH WILL NOT STAY UP, PLEASE CALL YOUR SERVICE AGENT

REMEMBER: **THIS PROBLEM IS BEYOND OUR CONTROL.**

MAINTENANCE

To ensure that sewage treatment plants perform to the high standards set by the regulating bodies, a maintenance program is stipulated by these bodies in the interest of environmental health and safety. Failure to have stipulated service carried out could result in a breach of public health legislation and subsequent legal proceedings.

The following information covering the requirements and maintenance for the first, second and ensuring years of operation is provided for your guidance.

1. THE ENVIROTAS-AS System

At the first 3 months then at 6 monthly intervals, comprehensive inspections and service will occur including the following:

- Septic inlets & outlets are clear of obstructions, baffle integrity is sound and water levels are at correct operating levels; activated sludge return is over the inlet junction; inflow from sludge return is present; all junctions and pipework in good order; diffusers working correctly & all air lines are intact and in good condition.
- Sedimentation – check sludge present in bottom of chamber, scum present on water surface.
- Aeration water level in chamber at correct operating level, air diffusers working correctly & all air lines intact & in good condition.

- Electrical - Filter cleaned on air blower, the House Alarm panel is working; connections are firm & do not leak around filter or electrical box; valves sealed correctly plugs , air-nipples, leads & componentry all operating well & that the pump leads do not vibrate against the side of the box.

- Pump-Out – Submersible pump, vertical float switch are functioning correctly; high water alarm in correct position & clamp is sound; non return valve working freely, barrel union does not leak on discharge & pump leads do not vibrate against the side of the box.

- Tests on water quality (Dissolved Oxygen content. PH levels, Clarity, Chlorine content) – on site.

- Report to the Owner/Local Council as required.

AFTER SALES SERVICE: Our Company offers a range of maintenance options. Please contact our office for further information.

NOTE:

EnviroTas-AS requires only 2 services per annum (with below ground outfall)

EnviroTas-AS requires 4 services per annum (with above ground irrigation)

This is a legal requirement as defined under AS/NZS 1546.3:2017

RESPONSIBILITIES AND LEGAL REQUIREMENTS

In the interest of the homeowner and the public, certain requirements are imposed by the regulating bodies regarding the installation of sewage treatment plants; be they EnviroTas, Septic or other systems.

The following are provided as a guide only, (please check with the local regulating body for further information.)

- The EnviroTas-AS is to be constructed in the approximate position indicated in the plan.

- The system may not be used until the site has been inspected and Council considers that the effluent and sullage can be completely disposed of on the site without nuisance or likely danger to health.

- No fruit or salad vegetable growing on the property shall be irrigated with effluent from the system.

- There shall be no irrigated water run-off from the allotment to the adjoining properties, public places or reserves.

- A hard copy of this manual is provided with the system..

- A detailed service report is to be provided to the owner upon completion of each service. The date of each service shall be entered on the record sheet.

- The owner shall enter into a service contract with the manufacturer, distributor or their agents or any firm or contractor considered to be competent by the local Council.

- The service contractor shall adjust each unit, its ventilation and irrigation system, when directed to do so by the Department of Health, or local Council.

- The yard or garden areas of the allotment are turfed and/or landscaped to the satisfaction of Council and the Department of Health, before the system is used for irrigation purposes.

Detailed conditions of installation are stated on the approval (*Plumbing Permit*) given to you by the regulating body. Please read them carefully and ask for advice should it be necessary.

RESPONSIBILITY

The owner of the plant is ***entirely responsible*** for the operation and maintenance of the plant.

The existence of a service contract does not transfer the responsibility from the owner to the supplier or its agents.

EnviroTas will **not** accept responsibility for warranty or operation if the ENVIROTAS-AS is **not** serviced ***continuously*** after commissioning by an EnviroTas accredited technician.

GARDEN IRRIGATION

"Water use after treatment must comply with the requirements stipulated by your local government authority regarding the Land Application Area".

NOTE: During maintenance inspections by the maintenance technician a report will be forwarded to the local council on the condition of the irrigation area.

YOUR CO-OPERATION PLEASE
GENERAL TOPICS

ACCESS

For maintenance purposes, please ensure that FREE access is available to ALL manholes on the tank/s and to the ELECTRIC BOX. This is a requirement of the regulating authority.

Soil, plants, bark, etc. MUST be removed prior to a maintenance service.

BLOWER DAMAGE – A VERY COSTLY PROBLEM

Avoid this problem by creating channels to take rainwater away from the vicinity of the Electric Box.

DO NOT create a water catchment area around the EnviroTas-AS system as this could cause fusion of the Air Blower during periods of heavy rain.

HOUSEKEEPING

Irrigation lines, spray heads, etc. can clog up over extended periods of use. (dirt etc.)

Manufactures of such equipment recommend that these items be flushed at least 3 monthly.

To avoid any inconvenience to you and to keep costs down, please comply with the manufacturer's recommendations.

PLUMBING PROBLEMS

BLOCKAGES IN THE DRAINAGE LINES from the house to the system are plumbing problems. If your household fittings are not draining away, please check the inlet to the EnviroTas-AS for blockages.

Usually the lines can be cleared at this INLET point by inserting a rod down the inlet pipe.

Should this not be possible please call your local plumber or drainer.

THE LOSS OF A WATER SEAL in fittings, allowing gases to escape, should be initially referred to your local plumber for corrective measures.

AN INCORRECTLY CONSTRUCTED E Duct Vent could be the cause of this problem.

E DUCT VENTS should be constructed to ensure the proper dispersal of gaseous by-products prevalent in all forms of sewage treatment.

The vent should be positioned at least 600mm above the highest point in the house so that prevailing winds will carry away such gases.

IN THE HOUSE

Reduce foaming by adding a tablespoon of crushed bath soap (leftovers) to your washing powder.

After wiping down tiles and the like, rinse the cloth in a bucket then discard the contents in the yard, not in the system.

When the alarm sounds PLEASE refer to the fault-finding section in this handbook before calling us.

THIS WILL HELP KEEP DOWN COSTS

CHANGE OF OWNERSHIP

TO ENABLE US TO CONTINUE SERVICING THE SYSTEM, COULD YOU PLEASE ADVISE US SHOULD YOU SELL YOUR PROPERTY.

PLEASE NOTE THE PHONE NUMBER OF YOUR SERVICE CENTRE

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Delegated Authority
Department of Energy & Public Works
Queensland Government

WARRANTY
ENVIROTAS-AS

Structure	Warranty	Service Life
Concrete Tank	15 years	20 years
Internal Baffles (Concrete)	15 years	20 years
Concrete Top Lid	15 years	20 years
Concrete Access Covers	15 years	20 years
Fittings		
Pipework (PVC etc)	15 years	20 years
Fixings (Stainless etc)	15 years	20 years
Filter Media	15 years	20 years
Electrical Components		
Control Box	1 year	5 years
Alarm Panel	1 year	5 years
Irrigation Pump	1 year	3 years
Air Pump	1 year	3 years
Float Switch	1 year	3 years
Distribution Bed		
Irrigation area	2 years*	7 years
Irrigation components	1 year	5 years

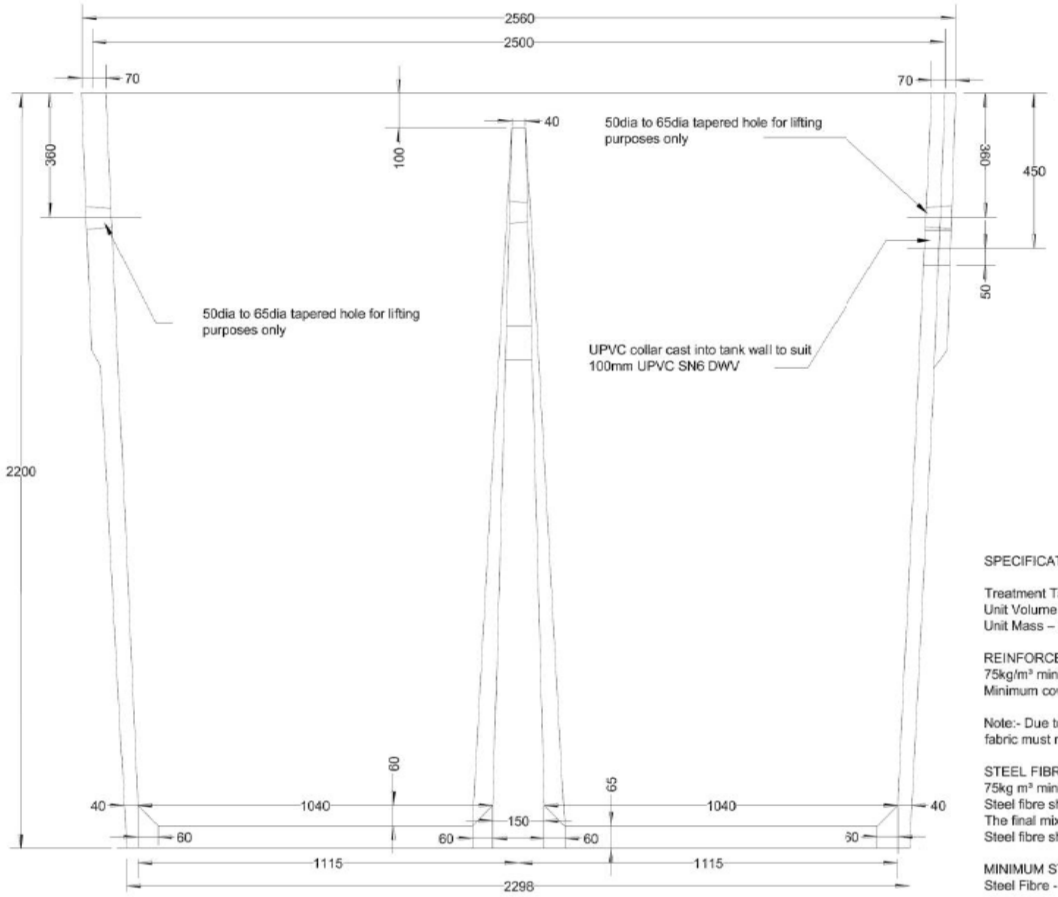
NOTE: Warranty is ***conditional*** upon an accredited EnviroTas-AS Service technician maintaining the system ***continuously*** after commissioning. Owners who tamper with the system or its components run the risk of voiding their warranty while incurring additional costs associated with restoring the system to its correct operational procedure.

All mechanical devices have an expected service life of approximately 3 years however this does vary between brands used at the time. Electrical components such as alarm panels have an estimated service life of 5 years. Service life is the time for mechanical and electrical parts to operate before breakdown/failure is expected.

No warranty is given for the irrigation system, components used, and all supply/discharge lines where the irrigation system has been installed by others.

EnviroTas-AS reserves the right to decline any warranty claim where the AWTS itself has been installed by others.

Attachment 3 – EnviroTAS AS System Schematic



CROSS SECTION - 'A'

SPECIFICATION

Treatment Tank
Unit Volume – 1.40/m³
Unit Mass – 3.4 tonne

REINFORCEMENT – Treatment Tank
75kg/m³ minimum fibre reinforcement as specified within AS/NZS 1546.1:2008 clause 5.3.3
Minimum coverage for fabric to comply with table 5.3 - wall(s) AS/NZS 1546.1:2008 (Minimum Concrete Cover).

Note:- Due to wall thickness being less than the minimum requirement for fabric as specified within table 5.3 - wall(s) AS/NZS 1546.1:2008, fabric must not be used for reinforcement purposes.

STEEL FIBRE
75kg m³ minimum 600MPa tensile strength as specified within AS/NZS 1546.1:2008 clause 5.2.4.2
Steel fibre shall be tested to achieve the requirements specified within clause 5.2.4.2
The final mix for casting must meet the requirement of AS/NZS 1546.1:2008 table 5.1
Steel fibre shall be of a 'non-corrosive' nature as specified within clause 5.4.4.2

MINIMUM STRENGTH (as stated within table 5.1 of AS/NZS 1546.1:2008)
Steel Fibre - 35 MPa at 28 days

AWTS SPECIFICATION
Septic capacity component shall comply with table C, Appendix C1 AS/NZS 1546.1:2008.
Septic pipework is typically 100mm UPVC as defined with clause 3.3.1 & 3.3.2 AS/NZS 1546.1:2008.

Envirocycle Model 10ANR				
TITLE Cross Section				
SIZE A4	CAGE CODE	DWG NO C		REV
SCALE 1:7	L Wilson	SHEET	Copyright	

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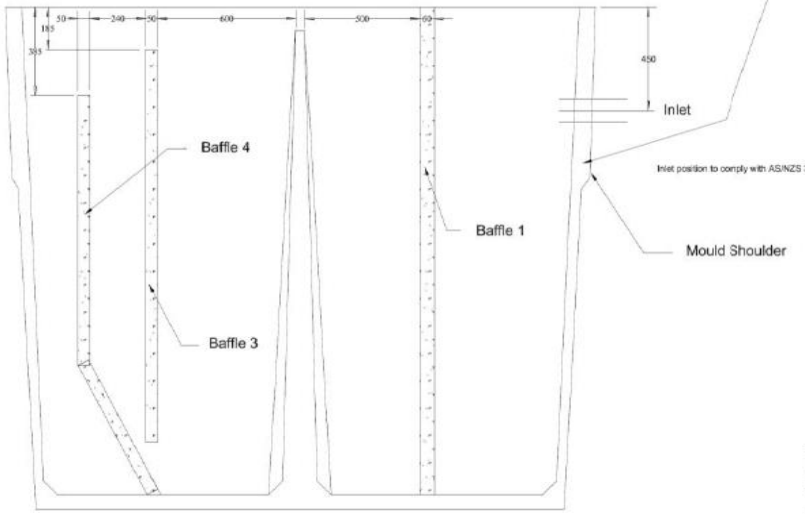
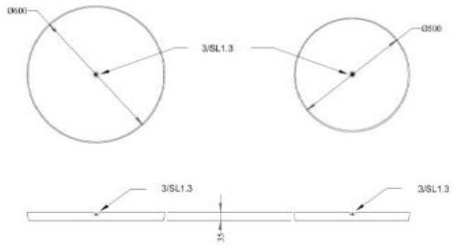
Queensland Government



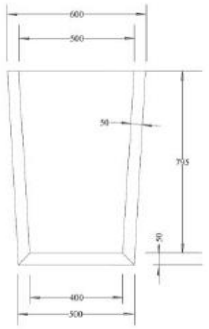
Note:- Wall thickness increases from 40mm at baffle to 60mm max away from baffle.
Minimum wall thickness to comply with AS/NZS 1546.1, table 6.3 (fibre) cast & vibrated.

Inlet position to comply with AS/NZS 3500.2.2.

INTERNAL BAFFLE CONFIGURATION



ACCESS COVER INSPECTION COVER



MOULD SHOULDER

SPECIFICATION

Treatment Tank
Unit Volume – 1.4Om³
Unit Mass – 3.4 tonne

REINFORCEMENT – Treatment Tank
75kg/m³ minimum fibre reinforcement as specified within AS/NZS 1546.1:2008 clause 6.3.3
Minimum coverage for fabric to comply with table 5.3 - wall(s) AS/NZS 1546.1:2008 (Minimum Concrete Cover).

Note:- Due to wall thickness being less than the minimum requirement for fabric as specified within table 5.3 - wall(s) AS/NZS 1546.1:2008, fabric must not be used for reinforcement purposes.

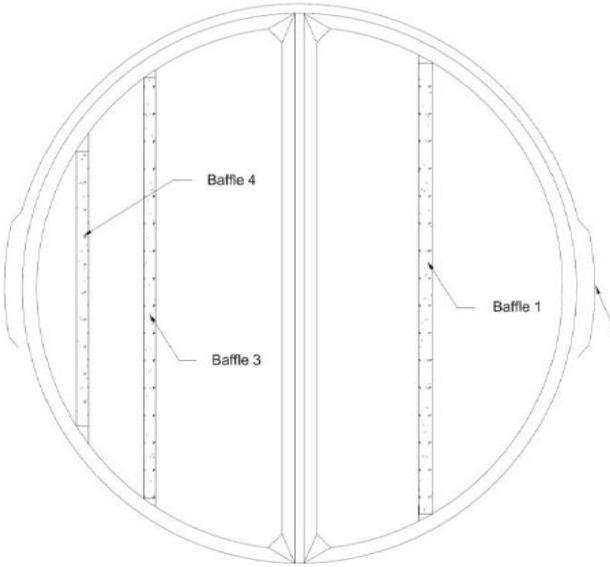
ACCESS/INSPECTION COVERS
Inspection Cover
Unit Volume - 0.009m³
Unit Mass – 22kg

Access Cover
Unit Volume - 0.006m³
Unit Mass – 14kg

STEEL FIBRE
75kg m³ minimum 600MPa tensile strength as specified within AS/NZS 1546.1:2008 clause 5.2.4.2
Steel fibre shall be tested to achieve the requirements specified within clause 5.2.4.2
The final mix for casting must meet the requirement of AS/NZS 1546.1:2008 table 5.1
Steel fibre shall be of a 'non-corrosive' nature as specified within clause 5.4.4.2

MINIMUM STRENGTH (as stated within table 5.1 of AS/NZS 1546.1:2008)
Steel Fibre - 35 MPa at 28 days

AWTS SPECIFICATION
Septic capacity component shall comply with table C, Appendix C1 AS/NZS 1546.1:2008
Septic pipework is typically 100mm UPVC as defined with clause 3.3.1 & 3.3.2 AS/NZS 1546.1:2008.



Refer to 'Mould Shoulder' this drawing for details

Envirocycle Model 10ANR

TITLE

Baffles 3 & 5

SIZE	CAGE CODE	DWG NO	REV
A4		D	
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