



Industries

**Owner/Operator
Operational Manual
for the Ri-Treat EP33
Secondary Treatment System**

**For servicing of your STS unit
please telephone the service agent.**

South Australia's leading manufacturer of pre-cast concrete products
including Ri-Treat, trade waste arrestors,
septic tanks and rainwater tanks

www.ri-industries.com.au



Contents

Important notes & warranty	3
General information	4
Alarms	5
Guidelines for use	6
Suitable cleaning products	7
Electrical and circuit diagrams	8
Suitable plants	13



**Leaders in pre-cast concrete products
that enhance the environment**

Ri-Industries was established 1947. We are totally committed to achieving excellence in all that we do, which is why South Australian residents and businesses repeatedly buy our products and regularly recommend us.

www.ri-industries.com.au

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Important notes & warranty

- The maintenance and operation of the Ri-Treat EP33 secondary treatment system is subject to regulations under state law. The unit must be serviced by an authorised service agent.
- Any warranty work must be completed by an authorised service agent.

Maintenance and servicing

- Owners/operators of on-site secondary treatment systems (STS) shall ensure that they hold maintenance and service contracts for their system.
- Owners/operators shall ensure that all maintenance and servicing is undertaken by an appropriately trained person with experience in servicing these wastewater systems.
- STS servicing must be undertaken by an appropriately trained person. This person must have completed a training course as specified by SA Health.
- Servicing must be undertaken in accordance with the manufacturer's instructions and the conditions of the relevant authority's approval (eg. Council/SA Health).
- Service providers must forward a copy of each service record to the relevant authority and notify that authority if they cease to service the system.

Warranty

The warranty will be void based on failing to install and maintain/operate unit as per the manufacturer's requirements. For example:

- Tank is not installed in strict accordance with the Ri-Industries Installation and Maintenance Manual for the Ri-Treat EP33
- Structural modifications in any form
- Aerobic unit is not serviced in accordance with SA Health guidelines for owner/operator of an onsite wastewater system and in accordance with manufacturers' specified requirements
- Failure to undertake servicing and repairs by an approved SA Health servicing contractor and failure to maintain records for all services and repairs
- Owner/operator overloads the system by failing to meet all guidelines as specified in the General Information section of the Ri-Industries Owner/Operator Operational Manual for the Ri-Treat EP33
- Owner/operators use of unsuitable cleaning products as specified in the Ri-Industries Owner/Operator Operational Manual
- Damage caused to the unit from external forces such as but not limited to mother nature storm/fire/flood or planting proximity to tank
- Failure to ensure full details are passed over at the transfer of ownership and/or development of land.

Copies of the Owner/Operator Operational Manual and the Installation & Maintenance Manual can be found online at www.ri-industries.com.au

General information

The Ri-Treat EP33 will operate effectively for many years provided that the system is used in the correct manner, and that the system is properly maintained.

Under South Australian Department of Health law the unit should be serviced every three months by a South Australian Department of Health certified service agent to ensure consistent performance of the system. Due to its design and depending upon the manner in which the system is used, the Ri-Treat EP33 may require a pump-out after three to five years of operation.

The recommended operating temperature range when fully buried is for an ambient air temperature of between –1°C and 41°C.

The Ri-Treat EP33 shall operate continuously without problems provided that the system is correctly operated. The most likely problem to occur with this system over time is likely to be the result of:

- overloading with solids waste
- overloading with waste water
- contamination of the system

There are a number of possible causes of overloading the system. The following materials should never be allowed to enter into the system:

- Concentrated or excessive amounts of bleaches, detergents and disinfectants
- Rags and sponges
- Baby wipes or flushable wipes
- Any printing paper or newspaper
- Condoms or tampons / sanitary pads
- Food scraps, gravel, dirt or stones
- Oils, grease (a grease trap is required), paints and solvents

'Excessive' use of water can also adversely effect the performance of the system. This can particularly be the case where there has been excessive flow of water over a number of weeks. Check for the possibility of a leaking tap, or for a storm water pipe connected to the system by filling the gutters with water.

If you have any questions as to the suitability of the Ri-Treat EP33, consult your local service agent or Ri-Industries for further advice.

Please refer to the warranty details.

Alarms

The system will be self maintaining unless problems arise from **overloading** or **contamination**. Normally the alarm system will only activate if there is a failure of either the aeration pump, or the irrigation pump. An alarm reset switch is normally located indoors. After resetting the alarm, do not ignore the problem, as an alarm is an indication of a problem with the system, and immediate action is required. If problems do occur the following list may help:

Problem	Remedy
Air blower does not operate - alarm operates	<p>Reset the alarm, if alarm deactivates, use as normal. If not check power supply to the system.</p> <p>If power is connected reset the circuit breaker and reset the alarm.</p> <p>If alarm reactivates contact your local service agent immediately.</p>
Irrigation pump - alarm operates	<p>Check the power system. If power is connected reset the circuit breaker and reset the alarm.</p> <p>If alarm reactivates contact your local service agent immediately.</p>
Irrigation system does not spray properly	<p>Check filter on line - clean if necessary.</p> <p>Check and clean faulty sprays.</p> <p>If further problems occur contact your local service agent immediately.</p>

Normally the Ri-Treat EP33 will not need to be shut down apart from during a major service. In situations where the system is not used for up to a period of one month, the system may take some time to re-establish itself, but will eventually do so within 7 days.

If the system is to be inoperative for periods of six months or more, it is recommended that the system be shut down altogether to conserve power and prolong the service life of all components. We recommend that the unit be thoroughly washed out and refilled with water to avoid the unit floating. This should be supervised by the service agent. To recommence using the unit, the system shall undergo the same startup procedure as before. Enzymes (for example Dynamic Lifter) may be used to speed up the start up. 1 or 2 cups down the toilet should reactivate this process.

Guidelines for use

Detailed below are some general guidelines for the use of irrigation for the Ri-Treat EP33.

- **At all times avoid any form of bleach, antibacterial solutions or toilet cleaners entering the system.**
- Irrigation of grassed or lawned areas should not be undertaken. This is not recommended as children may play on lawned areas and the treated water from the system is not suitable for this purpose.
- Irrigation should not be placed on areas where fruit and vegetables are grown. The treated water is not suitable to water these plants.
- Recommended plants that can be grown from the treated water are included in this document.
- The surface irrigation disposal area must be dedicated to the sole use of effluent disposal. The area must be landscaped, preferably with salt tolerant shrubs and trees and should be designed to discourage pedestrian and vehicle access.
- The surface irrigation disposal area must not be located on land subject to water logging and/or subject to flooding. The reclaimed effluent must be evenly distributed over the entire surface irrigation disposal area without spray-drift, pooling and/or run-off from the area. Where necessary, appropriate landform modification such as bounding, mounding and/or terracing to suit the proposed site, must be carried out to prevent run-off from the surface irrigation disposal area.
- No effluent shall be discharged until the surface irrigation disposal area is completed, including landscaping and planting to ensure that no pooling or runoff of reclaimed effluent occurs. Plants in the surface irrigation disposal area must be suitable for the transpiration of reclaimed effluent and be salt and nutrient tolerant.
- In accordance with legislation the surface irrigation disposal area must have at least four (4) warning signs, one on each side, clearly positioned to inform the occupants of the premises that reclaimed water is used for irrigation. These signs must be on a white background with **RED** lettering of at least 20mm in height and worded as follows:

**WARNING – RECLAIMED WATER
NOT SUITABLE FOR HUMAN CONTACT/CONSUMPTION**

Suitable cleaning products

At all times avoid any form of bleach, antibacterial solutions or toilet cleaners entering the system. Should any form of bleach enter the system this will cause the system to work inefficiently. The bleach will kill off all the 'good bacteria' and shall create an odour from the system. In addition should clothing be washed continually i.e. more than 2 loads at one time over a 24 hour period, then the system will not operate effectively and a possible odour may occur. It is recommended that clothing be washed over a period of time to ensure effective operation of the system.

Suitable cleaning products to use with the Ri-Treat EP33 and septic tanks

- Vinegar
- Bicarbonate of soda
- Soap - in the form of washing powder, dishwashing liquid and ordinary body soap
- Biodegradable cleaning liquids

Cleaning items that should be used sparingly

- Disinfectants

Read labels of cleaning products. Beware of products that state 'septic safe' as that is not always the case. IF IN DOUBT call your service agent or Ri-Industries on 8444 8100.

Please refer to the warranty details.



Electrical

All electrical connections must be carried out by tradespersons who are experienced and licensed for such work.

Within the premise's switchboard, we recommend the use of an independent and dedicated circuit of 16 Amp (minimum) being serviced with its own ELCB (residual current device) to supply power to your Ri-Treat EP33.

This alarm system consists of three units:

- 1. Auxiliary control box** *(situated on secondary tank 1)*
The auxiliary control box on secondary tank 1 has a double GPO for the two Mac 100 air blowers and cables connecting the auxiliary panel to the main alarm panel for the alarm system and power. It contains the 7.2ah SLA battery for alarm operation during power outages.
- 2. Main control box** *(situated on secondary tank 2)*
The main control box contains the PLC (Programmable Logic Controller), sensor interfaces and the alarm cancel button. It also has a double GPO (double powerpoint) for the two Mac 100 air blowers. It contains a "dial home" device which will send an SMS to up to 10 configurable mobile phone numbers with a configurable alarm message and location information in the event of an alarm. These 10 numbers can also cancel the alarm remotely via SMS to the site.
- 3. Audible/visual alarm** *(mounted outdoor near the unit)*
The audible/visual alarm contains an illuminating LED and sonalert sounder to sound an alert if the system has a fault.

Secondary tank 2

Within the plastic blower box, fix the weatherproof double GPO (supplied mounted to a stainless bracket) to the concrete lid with the dyna bolts supplied. Run an independent power cable from the main switchboard at the building to this weatherproof GPO (cable not supplied). This GPO will feed power to the submersible pump and alarm system.

The main control box with stainless bracket should be mounted to the concrete lid with the dyna bolts supplied. The double GPO mounted to the control box is the power supply for the two Mac 100 air blowers. On the side of this control box are two air switches - connect the two 6mm air tubes to these air switches.

Secondary tank 1

Within this blower box, fix the auxiliary control box with the stainless bracket to the concrete lid with the dyna bolts supplied.

The double GPO mounted to the control box is the power supply for the two Mac 100 air blowers. On the side of this control box are two air switches - connect the two 6mm air tubes to these air switches.

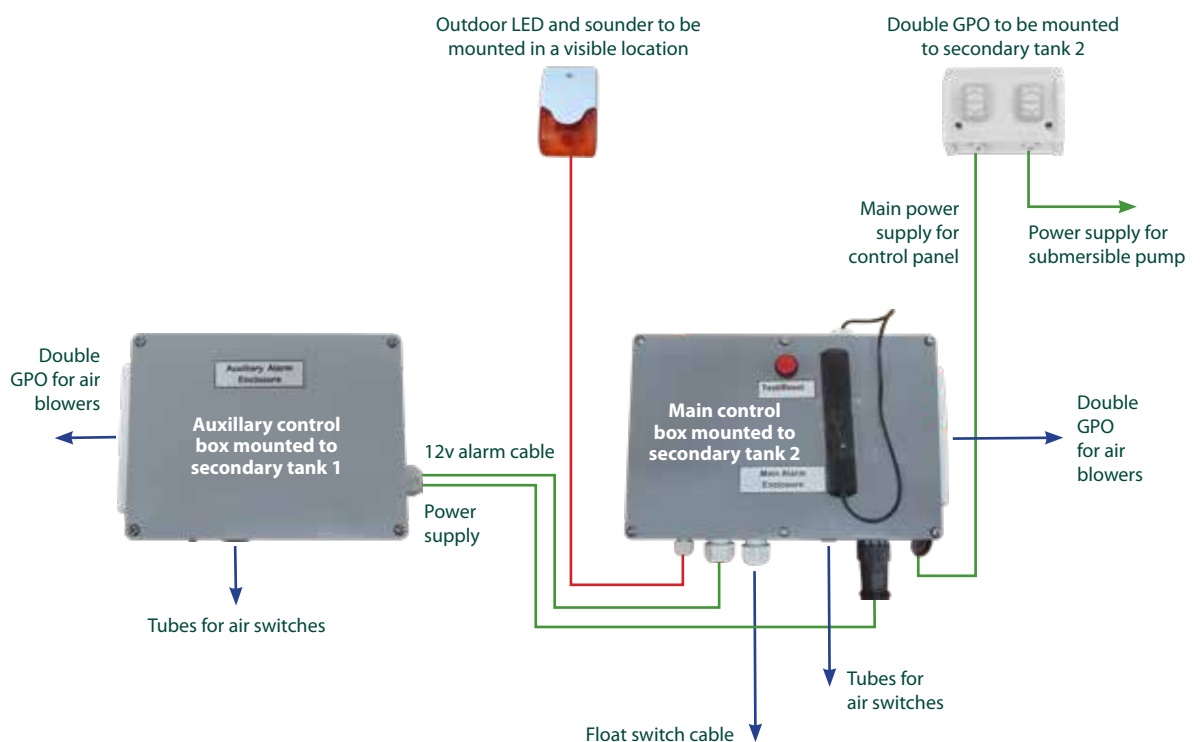
There is a 6m orange cable supplied with male and female 3-pin RS connectors. Run this between the two tanks in a conduit (conduit not supplied). The plugs then connect between the main alarm panel and auxiliary alarm panel. This cable runs power between the two panels.

Use the supplied gel-filled crimp connectors to extend the alarm wires from the main control box on secondary tank 2 to secondary tank 1. We recommend this should run in a separate conduit to the orange power cable.

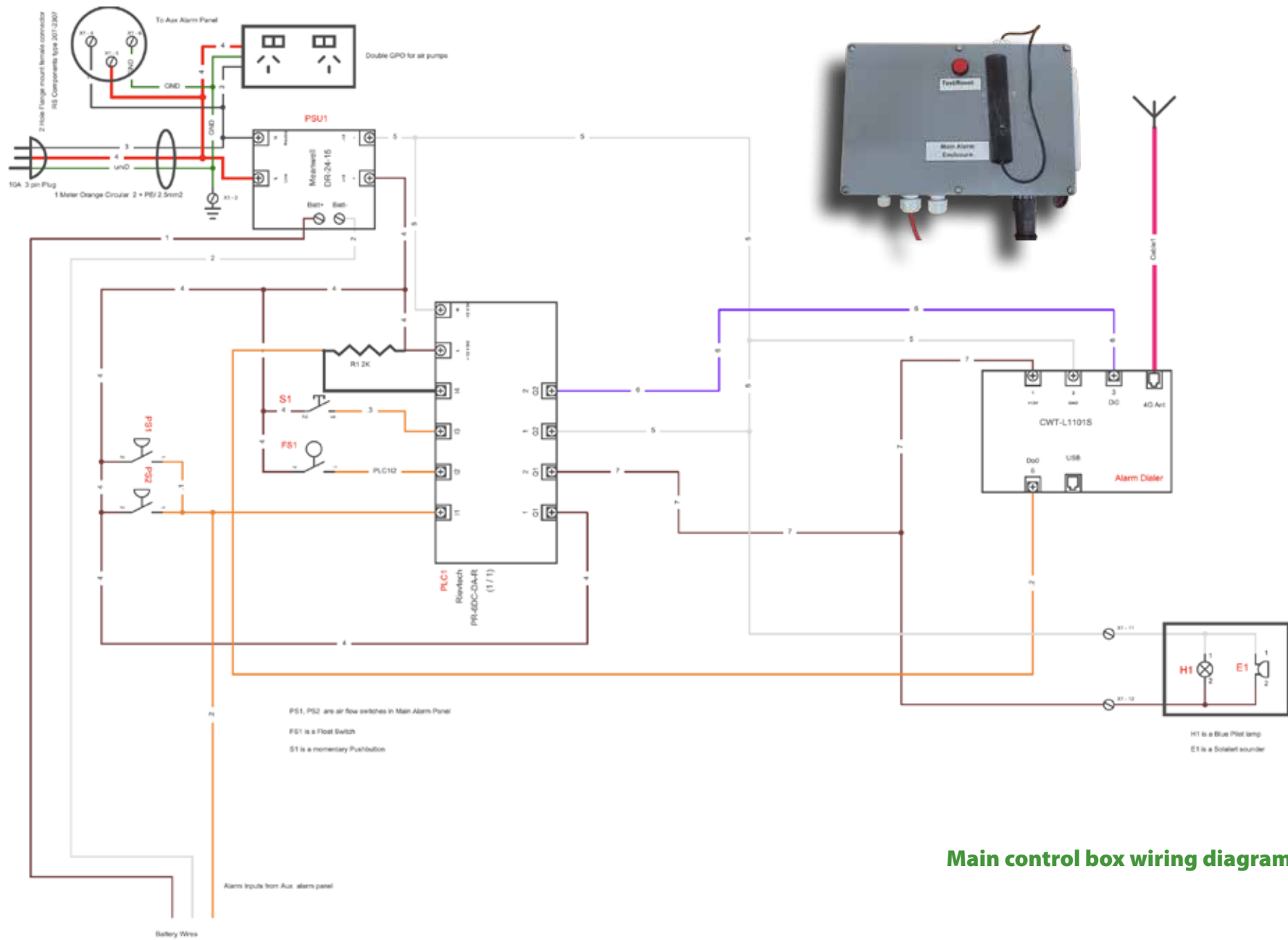
The alarm panel is an indoor/outdoor alarm panel and can be mounted on a wall outside or near the tank. The cable for this is not supplied.

Use two gel-filled crimp connectors to connect the audible-visual alarm panel to the main control box on secondary tank 2.

Electrical Layout to be installed by a qualified electrician

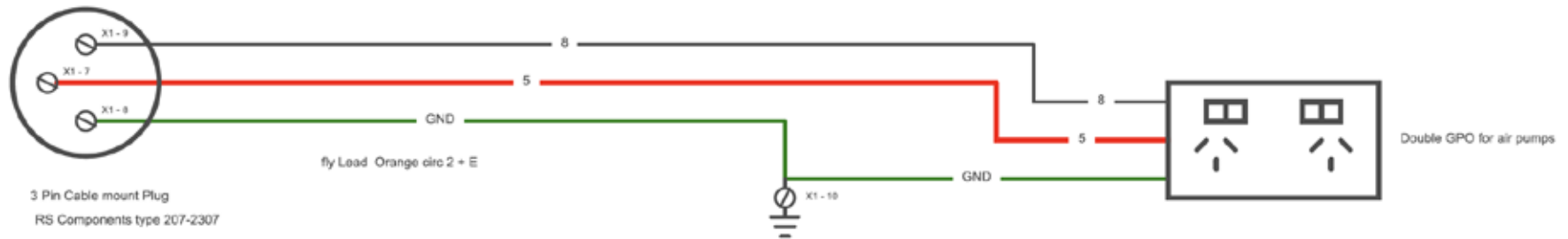


Electrical technical specifications

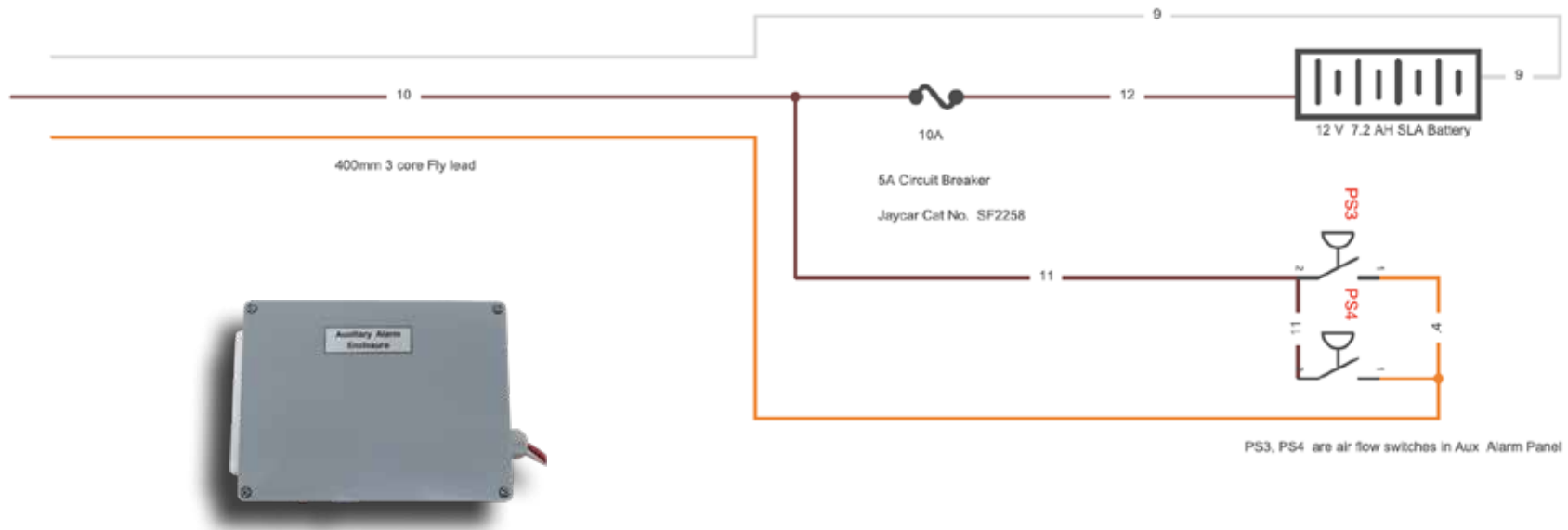


Main control box wiring diagram

Electrical technical specifications



3 Pin Cable mount Socket
RS Components type 207-2327



Auxiliary alarm panel

Setting up the auto dialer

The Ri-Industries auto dialer is located in the main control box and has been designed for the Ri-Treat EP33. It uses the 3G/4G cellular network to alert owners and maintenance personnel to a current alarm.

The alarm system also has a local lamp and a loud sounder to alert people in the vicinity to the presence of an alarm.

The alarm is generated by a number of failures:

- Failure of any of the installed air blowers
- High float alarm when fitted
- Power fail.

The auto dialer has a backup battery which will power the alarm system for approximately 30 hours. The battery is charged by an onboard charger.

Up to 10 mobile phone numbers can be programmed to receive an SMS if an alarm occurs and these same phone numbers can remotely silence the local lamp and sounder by sending an SMS command to the auto dialer.

The unit will only send SMS alarms between the hours of 6am and 8pm. Alarms occurring outside these hours will be remembered and sent at the next opportunity. If an alarm occurs inside these hours, an SMS will be sent and the local lamp/sounder will be activated. This will sound for 1 hour and silenced for 3 hours on a repeating cycle during the hours of 6am to 8pm until it is turned off by a remote SMS command. Sending the word "Stop" (capital S - no quotes) via SMS to the system phone number will stop the alarm/sounder for 24 hours. This prevents undue disruption to neighbours during an alarm condition.

The unit will generate an alarm that has been continuously present for more than 3 hours and will monitor the status of the alarm every hour to prevent the generation of multiple SMS messages on 'fleeting' alarms such as short power breaks.

There is also a manual reset button located on the front of the main control box. Pressing this button once will silence the local alarm lamp/sounder for a period of 24 hours, as will the SMS Stop command from one of the pre-programmed mobile phone numbers.

Pressing this button for 10 seconds continuously will generate a test SMS to the pre-programmed numbers and the light will illuminate for 10 seconds indicating that an attempt to send an SMS has been made.



Suitable plants

The list below is a guide to suitable plants for the surface irrigation disposal area. Please note, due to wide climatic and soil variations, you should check with your local plant nursery before finalising your plant choice.

Trees

<i>Botanical name</i>	<i>Common name</i>	<i>Approx. height</i>
Agonis Flexuosa	Willow Myrtle	5 - 6 metres
Acacia Baileyana	Cootamundra Wattle	3 - 5 metres
Banksia Spp.	-	3 - 10 metres
Casuarina Glauca	Swamp Oak	6 - 12 metres
Casuarina Stricta	Drooping She Oak	3 - 5 metres
Casuarina Cunninghiana	River She Oak	6 - 10 metres
Callistemon Viminalis	Red Bottlebrush	3 - 6 metres
Callistemon Salignus	White Bottlebrush	3 - 6 metres
Eucalyptus Robusta	Swamp Mahogany	6 - 9 metres
Eucalyptus Saligna	Sydney Blue Gum	15 - 20 metres
Eucalyptus Grandis	Flooded Gum	10 - 20 metres
Eucalyptus Camaldulensis	River Red Gum	15 - 20 metres
Eucalyptus Cosmophylla	Cup Gum	5 - 6 metres
Hymenosporum Flavum	Native Frangipani	3 - 6 metres
Leptospermum Laevigatum	Coast Tea Tree	5 - 6 metres
Melaleuca Armillaris	Bracelet Honey Myrtle	3 - 4 metres
Malaleuca Quinquenervia	Broad Paperbark	5 - 7 metres
Melaleuca Nesophila	Western Tea Myrtle	2 - 4 metres
Pittosporum Spp.	-	2 - 4 metres
Syzygium Paniculatum	Bush Cherry	8 - 10 metres
Tristania Laurina	Kanuka	3 - 5 metres

Shrubs

<i>Botanical name</i>	<i>Common name</i>	<i>Approx. height</i>
Abelia X Grandiflora	Abelia	2 - 3 metres
Acacia Floribund	Gossamer Wattle	2 - 4 metres
Acacia Longifolia	Sallow Wattle	2 - 4 metres
Acacia Iteaphylla	Flinders Range Wattle	2 - 3 metres
Cotoneaster Spp.	-	2 - 4 metres
Cortaderia Selloana	Pampas Grass	2 - 3 metres
Cyperus Alternifolius	Umbrella Grass	0.5 - 1 metre
Cyperus Papyrus	Papyrus	1 - 2 metres
Cassia Spp.	Swamp Mahogany	1 - 3 metres
Chamelaucium Uncinatum	Geraltan Wax	2 - 4 metres
Dryandra Formosa	-	1 - 3 metres
Eremopjhila Spp.	-	1 - 2 metres
Grevillea Spp.	-	1 - 3 metres
Hebe Spp.	Veronica	0.5 - 1 metres
Iris Pseudacorus	Yellow Flag Iris	0.5 - 1 metres
Nerium Oleander	Oleander	2 - 3 metres
Melaleuca Decussata	Cross Leaved Honey Myrtle	1 - 2 metres
Phormium Tenax	New Zealand Flax	2 - 2.5 metres

Perennials / Ground cover

<i>Botanical name</i>	<i>Common name</i>	<i>Approx. height</i>
Aster Novi-gelgii	Perennial Aster	0.5 - 1 metre
Canna	-	1 - 2 metres
Chrysanthemum Frutescens	Marguerite Daisy	1 metre
Chrysanthemum Maximum	Shasta Daisy	1 metre
Gazania Ringens	Black Eyed Susan	0.4 metres
Impatiens Spp.	-	0.4 metres
Salvia Uliginosa	Bog Salvia	0.4 metres
Viola Spp.	-	0.4 metres

Climbers

<i>Botanical name</i>	<i>Common name</i>	<i>Approx. height</i>
Bougainvillea Spp.	-	Variable
Clematis Spp.	-	Variable
Hardenbergia Violacea	Purple Coral Pea	Variable
Hibbertia Scandens	Snake Vine	Variable
Jasminum Grandiflorum	-	Variable
Jasminum Polyanthum	-	Variable
Jasminum Officinale	Common Jasmin	Variable
Kennedia Rubicunda	Dusky Coral Pea	Variable
Lonicera Japonica	Japanese Honeysuckle	Variable
Passiflora Spp.	Passion Flower	Variable
Vitis Coignetiae	Glory Vine	Variable



Ri-Treat and Ri-Scape bristle filter

The Ri bristle filter is fitted as a standard item in our secondary treatment systems and can be incorporated with our septic tanks and holding tanks for better quality effluent.

We recommend cleaning the filter quarterly, with replacement annually or as required.

Poor maintenance or factors such as garbage disposals and excessive laundry may result in more frequent inspections/servicing or replacement of the filter.

Features

- Keeps out hair, lint, tissue, seeds and other items that can clog pumps and soakage trenches.
- Provides excellent filtration.
- Offers over 300 cubic inches of open area to reduce clogging.
- Flexible filters can be used in hard-to-reach Tees or baffles, etc.
- Made from twin 2.5mm galvanised wire with black UV-stable polypropylene bristles for superior filtration of your septic tank.

Installation and removal

To install

Push the Ri bristle filter into the top of the PVC tee inside the tank until the 90-degree wire handle touches the top of the tee. The filter is now 'installed', as shown in the picture.

To remove for cleaning or replacement

Remove the filter by pulling up on the filter handle. We recommend hosing down the filter over the inlet chamber. If replacing, put the used filter in a plastic bag for proper disposal.





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