



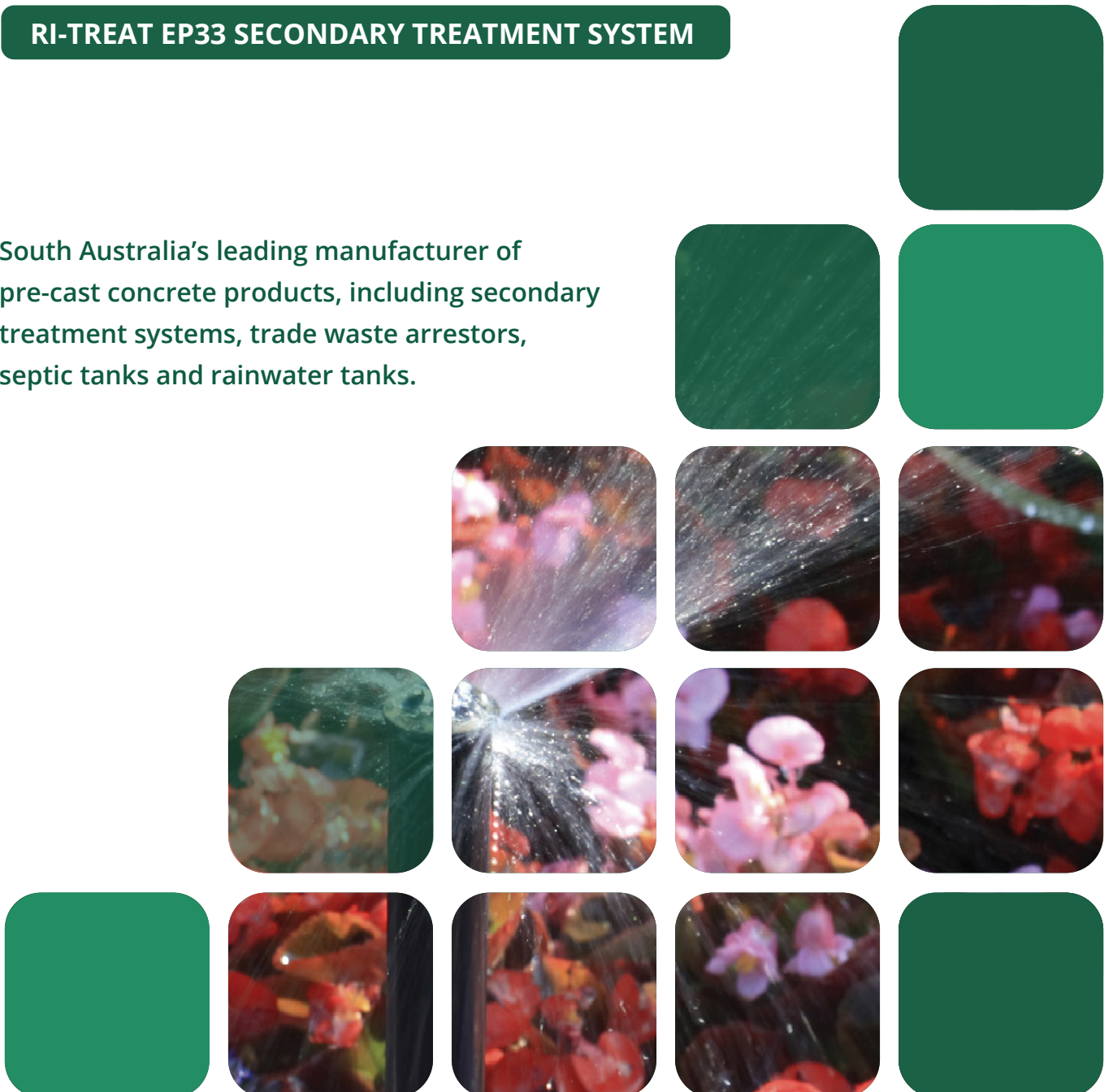
Ri-Industries

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

Owner/Operator Operational Manual

RI-TREAT EP33 SECONDARY TREATMENT SYSTEM

South Australia's leading manufacturer of
pre-cast concrete products, including secondary
treatment systems, trade waste arrestors,
septic tanks and rainwater tanks.





Ri-Industries

Contents

IMPORTANT NOTES	3
GENERAL INFORMATION	4
SYSTEM OPERATION & TROUBLESHOOTING ..	5
GUIDELINES FOR IRRIGATION USE	6
SUITABLE CLEANING PRODUCTS	7
ELECTRICAL & CIRCUIT DIAGRAMS	8
SUITABLE PLANTS	13
RI-TREAT & RI-SCAPE BRISTLE FILTER	15

ri-industries.com.au

24-30 Davis Street, Wingfield,
South Australia, 5013

(08) 8444 8100

Important Notes

The maintenance and operation of the Ri-Treat EP33 secondary treatment system (STS) is subject to SA Health regulations under state law. Servicing of the unit, including any warranty work, must be carried out by an accredited service agent.

Maintenance & servicing

- Owners and operators of on-site STS must maintain a valid maintenance and service contract for their system.
- STS servicing must be performed by a trained professional who has completed a course specified by SA Health.
- Servicing must comply with the manufacturer's instructions and the conditions of the relevant authority's approval (e.g., Council/SA Health).
- Service providers must submit a copy of each service record to the relevant authority and notify them if they cease servicing the system.

Warranty

The warranty will be void if the unit is not installed, maintained, or operated according to the manufacturer's requirements. Examples include:

- Failure to install the tank in strict accordance with the Ri-Industries Installation and Maintenance Manual for the Ri-Treat EP33.
- Any form of structural modification.
- Failure to service the aerobic unit in compliance with SA Health guidelines for onsite wastewater systems and the manufacturer's specified requirements.
- Failure to undertake servicing and repairs by an approved SA Health servicing contractor or failure to maintain records of all services and repairs.
- Overloading the system by not following the guidelines outlined in the General Information section of the Ri-Industries Owner/Operator Operational Manual for the Ri-Treat EP33.
- Use of unsuitable cleaning products, as specified in the Ri-Industries Householders Operational Manual.
- Damage to the unit caused by (but not limited to) planting too close to the tank or external forces such as storms, fires, and floods.
- Failure to provide full system details during the transfer of ownership or land development.

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 if used correctly and properly maintained.

Under SA Health regulations, the unit should be serviced every three months by a certified service agent to ensure consistent system performance. Due to its design, and depending on usage, the Ri-Treat EP33 may require a pump-out every three to five years.

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 will operate continuously without issues if used correctly. However, the most common problems that may arise over time include:

- Overloading with solid waste
- Overloading with wastewater
- Contamination of the system

Prohibited materials

A system overload can be caused due to several factors. The following materials should never enter the system:

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

Water usage

Excessive water use can also negatively affect system performance, particularly if there is continuous high-water flow over several weeks. If this occurs, check for:

- Leaking taps
- Stormwater pipes connected to the system (test by filling gutters with water)

For further advice on the suitability of the Ri-Treat EP33, consult your local service agent or Ri-Industries. Please also refer to warranty details.

System Operation and Troubleshooting

The system is self-maintaining unless problems arise due to overloading or contamination. Normally, the alarm system will activate only if there is a failure of either the aeration pump or the irrigation pump. An alarm reset switch is typically located indoors.

After resetting the alarm, do not ignore the issue, as the alarm indicates a problem that requires immediate attention. If problems occur, the following troubleshooting guide may help:

Troubleshooting Guide	
Problem	Remedy
Air blower does not operate – alarm activates	Reset the alarm. If the alarm deactivates, use as normal. If not, check the power supply to the system. If power is connected, reset the circuit breaker and reset the alarm. If the alarm reactivates, contact your local service agent immediately.
Irrigation pump – alarm activates	Check the power supply. If power is connected, reset the circuit breaker and reset the alarm. If the alarm reactivates, contact your local service agent immediately.
Irrigation system does not spray properly	Check the filter in the line and clean if necessary. Check and clean any faulty sprays. If further problems occur, contact your local service agent immediately.

Normally, the Ri-Treat EP33 will not need to be shut down except during a major service. If the system is not used for up to one month, it may take some time to re-establish itself but will return to normal operation within seven days.

If the system is to be inoperative for six months or more, it is recommended that it be shut down to conserve power and prolong the lifespan of its components. The unit should be thoroughly washed out and refilled with water to prevent it from floating. This process should be supervised by a service agent.

To restart the unit, follow the original startup procedure. Enzymes (such as Dynamic Lifter) may be used to accelerate reactivation by adding one to two cups down the toilet.

Guidelines For Irrigation Use

Below are general guidelines for the use of irrigation with the Ri-Treat EP33 system:

- Prevent any form of bleach, antibacterial solutions, or toilet cleaners from entering the system.
- Do not irrigate grassed or lawned areas, as children may play on them and the treated water is not suitable for this purpose. Sub-surface irrigation is recommended for these areas.
- Do not use irrigation on areas where fruit and vegetables are grown, as the treated water is not suitable for edible plants.
- A list of recommended plants that can be irrigated with treated water is included in this document.
- The surface irrigation disposal area must be dedicated solely to effluent disposal. It should be landscaped with salt-tolerant shrubs and trees and designed to discourage pedestrian and vehicle access.
- The irrigation disposal area must not be located on land subject to waterlogging or flooding. The reclaimed effluent must be evenly distributed without spray-drift, pooling, or runoff. Where necessary, modifications such as bounding, mounding, or terracing should be implemented to prevent runoff.
- No effluent should be discharged until the surface irrigation disposal area is fully completed, including landscaping and planting areas, to prevent pooling or runoff. Plants in this area must be salt- and nutrient-tolerant to support transpiration of reclaimed effluent.
- In accordance with legislation, the surface irrigation disposal area must display at least four (4) warning signs, one on each side, to inform occupants that reclaimed water is used for irrigation. These signs must:
 - Have a white background with red lettering.
 - Use text at least 20mm in height
 - Include the following wording:
WARNING – RECLAIMED WATER
NOT SUITABLE FOR HUMAN CONTACT/CONSUMPTION



Suitable Cleaning Products

Avoid using any form of bleach, antibacterial solutions, or toilet cleaners that could enter the system. If bleach does enter, it will disrupt the system's efficiency by killing beneficial bacteria, potentially causing odours.

Additionally, washing multiple loads of laundry in a short period (e.g., more than two loads within 24 hours) can overload the system, leading to ineffective operation and odour issues. To maintain efficiency, spread out laundry loads over time.

Recommended cleaning products for use with the Ri-Treat EP33 and septic tanks include:

- Vinegar
- Bicarbonate of soda
- Soap (including washing powder, dishwashing liquid, and ordinary body soap)
- Biodegradable cleaning liquids

Cleaning items to use sparingly:

- Disinfectants

Always read product labels carefully, as some products labelled "septic safe" may still harm the system.

If in doubt, contact your service agent or Ri-Industries on 8444 8100.

For further details, please refer to the warranty information.



Electrical

All electrical connections must be carried out by licensed and experienced tradespersons.

Within the premises' switchboard, it is recommended to use an independent and dedicated 16 Amp (minimum) circuit, serviced with its own ELCB (residual current device) to supply power to the Ri-Treat EP33.

Alarm system components

The alarm system consists of three units:

1. Auxiliary control box (located on secondary tank 1)

- Contains a double GPO for the two Mac 100 air blowers.
- Has cables connecting the auxiliary panel to the main alarm panel for alarm system operation and power supply.
- Includes a 7.2Ah SLA battery for alarm operation during power outages.

2. Main control box (located on secondary tank 2)

- Contains the PLC (Programmable Logic Controller), sensor interfaces, and the alarm cancel button.
- Has a double GPO for the two Mac 100 air blowers.
- Features a "dial home" device that can send an SMS to up to 10 configurable mobile numbers with an alarm message and location details in case of a fault.
- These 10 numbers can also remotely cancel the alarm via SMS.

3. Audible/visual alarm (mounted outdoors near the unit)

- Includes an illuminating LED and sonalert sounder to alert if the system has a fault.

Installation instructions

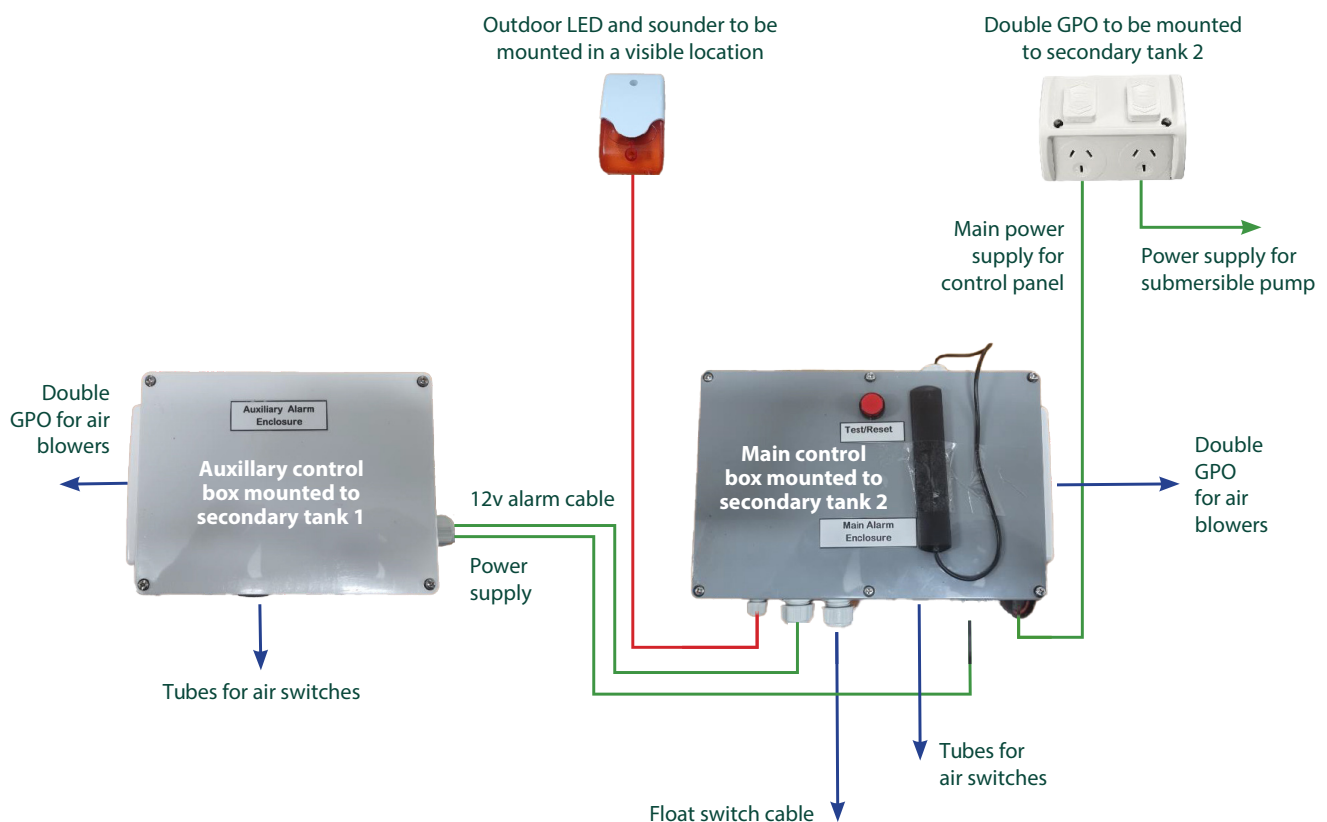
Secondary tank 2

- Within the plastic blower box, fix the weatherproof double GPO (supplied, mounted on a stainless bracket) to the concrete lid using the supplied dyna bolts.
- Run an independent power cable from the main switchboard to this weatherproof GPO (cable not supplied). This will power the submersible pump and alarm system.
- Mount the main control box with stainless bracket to the concrete lid using the dyna bolts supplied.
- The double GPO mounted on the control box supplies power to the two Mac 100 air blowers.
- Connect the two 6mm air tubes to the air switches on the side of the control box.

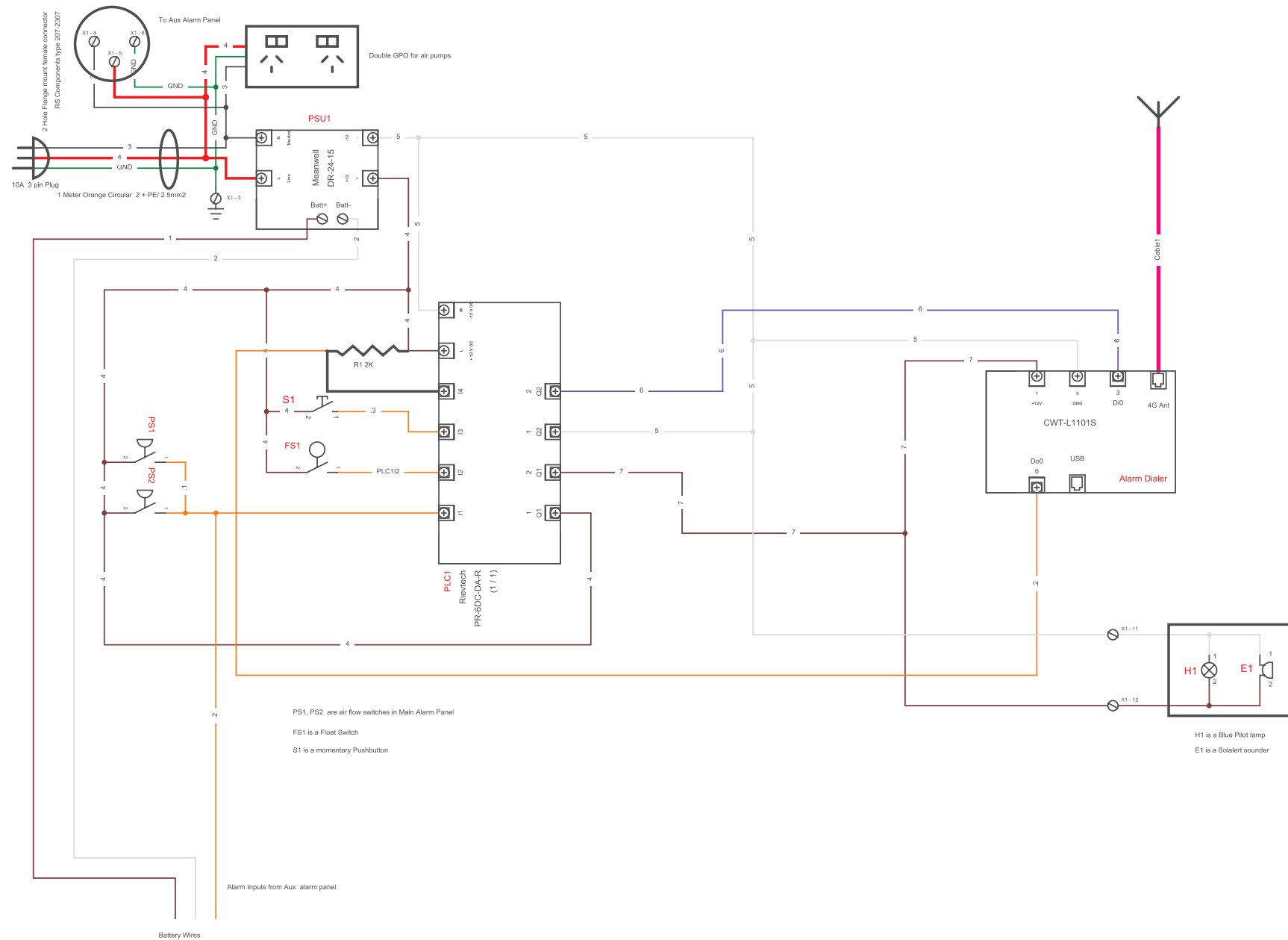
Secondary tank 1

- Within this blower box, fix the auxiliary control box to the concrete lid using the stainless bracket and supplied dyna bolts.
- The double GPO on the control box powers the two Mac 100 air blowers.
- Connect the two 6mm air tubes to the air switches on the side of the control box.
- A 6m orange cable with male and female 3-pin RS connectors is supplied. Run this cable between the two tanks in a conduit (conduit not supplied) and connect the plugs between the main alarm panel and auxiliary alarm panel to transfer power between the 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. It is recommended that this wiring runs in a separate conduit from the orange power cable.
- The alarm panel is designed for indoor or outdoor mounting and can be installed on a wall outside or near the tank (cable not supplied).
- Use two gel-filled crimp connectors to connect the audible-visual alarm panel to the main control box on secondary tank 2.

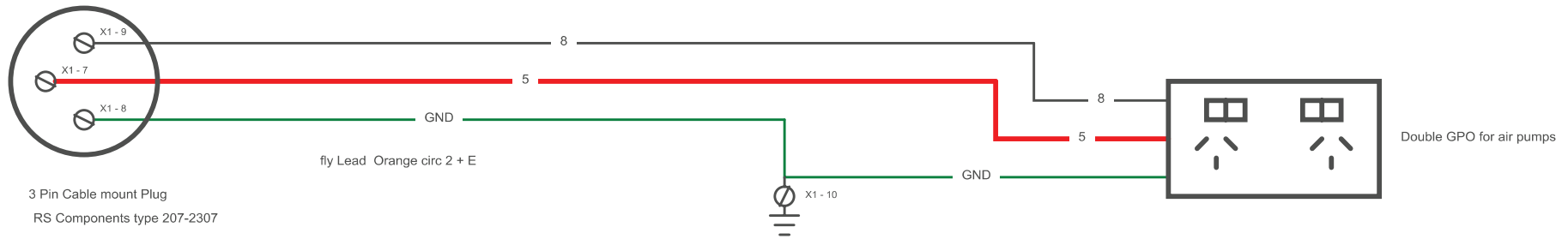
Electrical layout to be installed by a qualified electrician



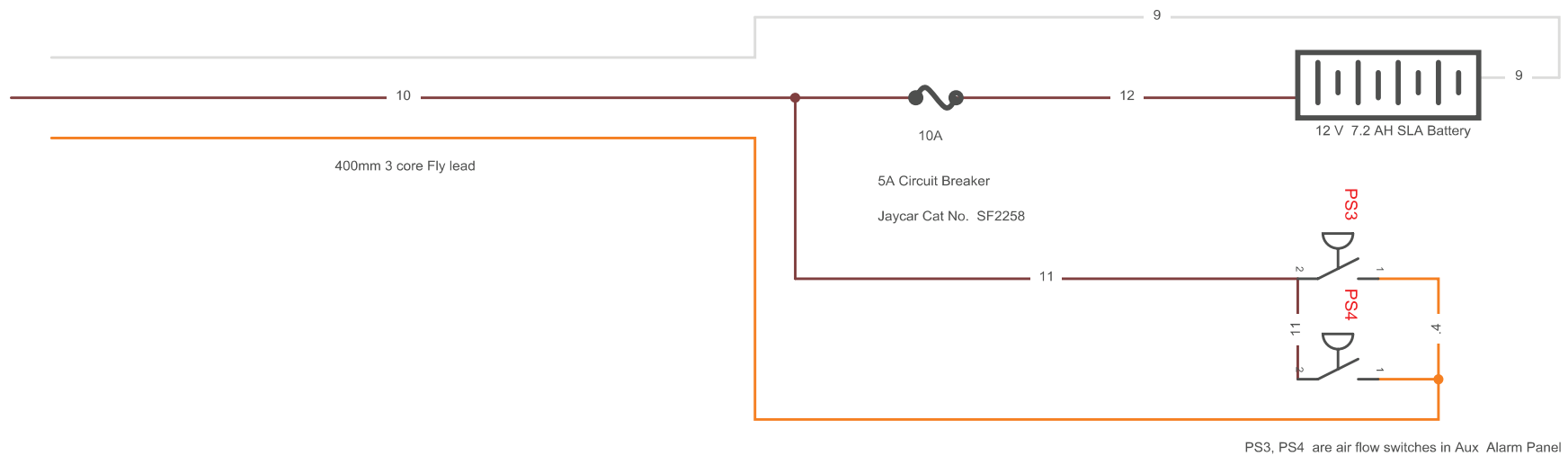
Main control box wiring diagram



Auxiliary alarm panel



3 Pin Cable mount Socket
RS Components type 207-2327



Setting up the auto dialler

The Ri-Industries auto dialler is located in the main control box and is designed for the Ri-Treat EP33. It operates on the 4G cellular network to notify owners and maintenance personnel when an alarm is triggered.

The alarm system also includes a local warning lamp and loud sounder to alert people nearby.

Alarm triggers

The alarm is activated by the following failures:

- Failure of any installed air blowers
- High float alarm (when fitted)
- Power failure

Alarm notifications

- The auto dialler has a backup battery that powers 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 notification if an alarm occurs.
- These phone numbers can also remotely silence the lamp and sounder by sending an SMS command to the auto dialler.
- The unit only sends SMS alarms between 6am and 8pm. If an alarm occurs between 6am and 8pm, an SMS will be sent, and the local lamp and sounder will activate.
- Alarms that occur outside these hours will be stored and sent at the next available time.
- The sounder will operate for one hour, then silence for three hours on a repeating cycle until the alarm is turned off remotely via SMS.

To temporarily disable the alarm sounder, send the word **Stop** (capital S, no quotes) via SMS to the system phone number. This will silence the alarm for 24 hours, preventing unnecessary disturbances to neighbours.

Alarm reset and test functions

- The unit will generate an alarm if an issue persists for more than three hours and will monitor the alarm status every hour to prevent multiple SMS messages for short-term issues like minor power outages.
- A manual reset button is located on the front of the main control box.
 - Pressing the button once will silence the local lamp and sounder for 24 hours (same as the SMS Stop command).
 - Holding the button for 10 seconds will send a test SMS to the pre-programmed numbers and activate the indicator light for 10 seconds, indicating that an SMS attempt 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		
Botanical Name	Common Name	Approx Height
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 Cunninghamiana	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
Melaleuca 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		
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

Suitable Plants

Shrubs		
Botanical Name	Common Name	Approx Height
Cassia Spp.	Swamp Mahogany	1-3 metres
Chamelaucium Uncinatum	Geralton 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 metre
Iris Pseudacorus	Yellow Flag Iris	0.5-1 metre
Nerium Oleander	Oleander	2-3 metres
Melaleuca Decussata	Cross Leaved Honey Myrtle	1-2metres
Phormium Tenax	New Zealand Flax	2-2.5metres
Perennials / ground cover		
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		
Bougainvillaea 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 comes standard in our Ri-Treat and Ri-Scape tanks and can be incorporated into septic and holding tanks to enhance effluent quality.

We recommend cleaning the filter quarterly and replacing it annually or as needed.

Poor maintenance or factors such as garbage disposals or excessive laundry may require more frequent inspections, servicing, or replacement of the filter.

Features

- Effectively filters out hair, lint, tissue, seeds, and other debris that can clog pumps and soakage trenches
- Provides excellent filtration performance
- Offers over 300 cubic inches of open area to minimise clogging
- Flexible design allows installation in hard-to-reach tees, baffles, and similar components
- Constructed from twin 2.5 mm stainless wire with black UV-stable polypropylene bristles for superior filtration and durability

Installation and removal

To install:

1. Push the Ri Bristle Filter into the top of the PVC tee inside the tank until the 90-degree wire handle rests on the top of the tee.
2. The filter is now installed, as shown in the picture.

To remove for cleaning or replacement:

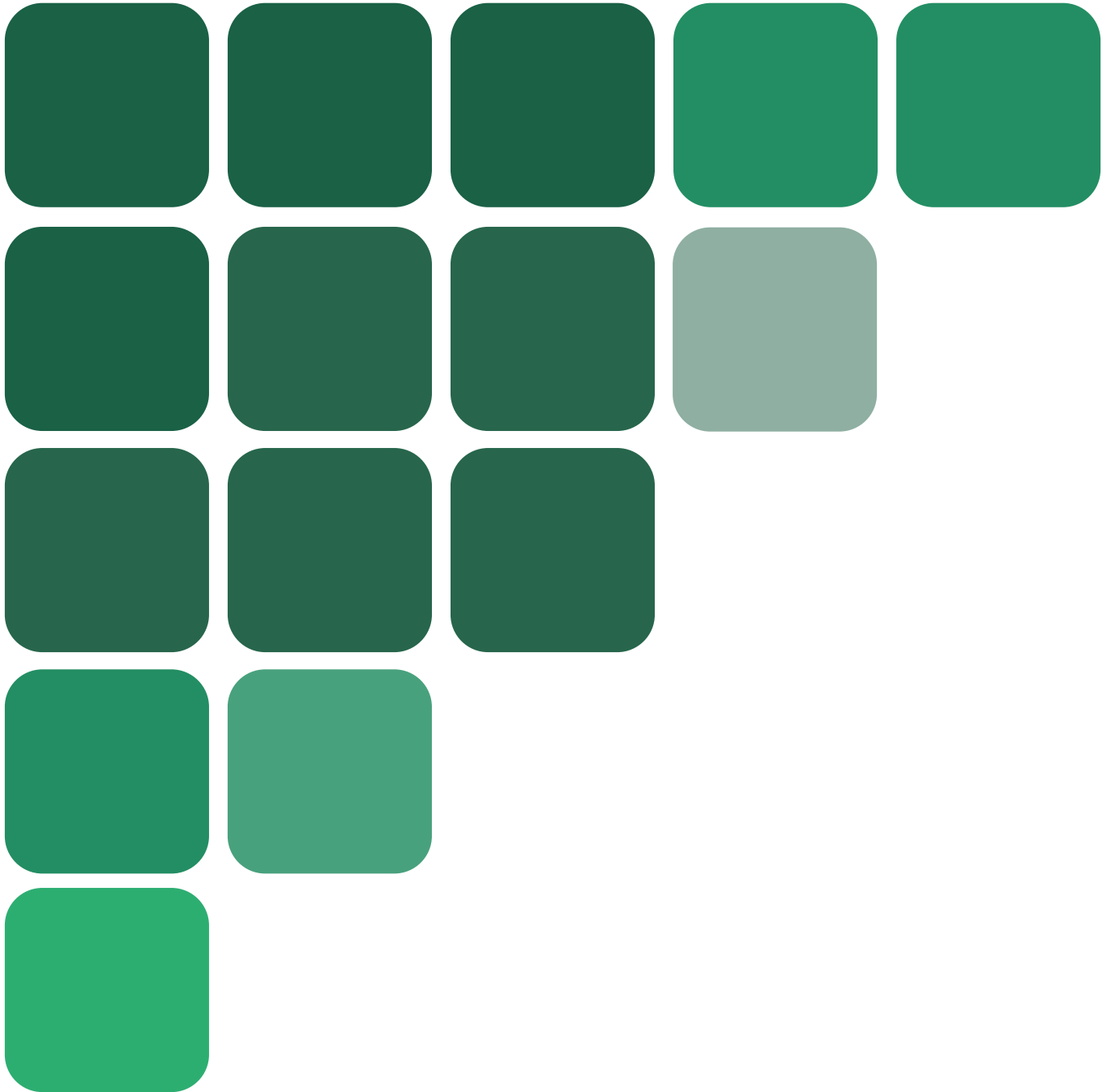
1. Pull up on the wire handle to remove the filter.
2. Hose down the filter over the inlet chamber to clean it.
3. If replacing, place the used filter in a plastic bag for proper disposal.

To order

Please contact Ri-Industries

- sales@ri-industries.com.au
- 8444 8100





Ri-Industries

24-30 Davis Street, Wingfield,
South Australia, 5013

(08) 8444 8100
sales@ri-industries.com.au

ri-industries.com.au

ABN 81 007 647 323 | APRIL 2025

